Journal of Food Law & Policy

Volume 5 | Number 1 Article 1

2009

Journal of Food Law & Policy - Spring 2009

Journal Editors

Journal of
FOOD LAW
& POLICY

Volume Five Number One Spring 2009

CONTENTS

FOOD JUSTICE AS CRIME PREVENTION

*Avi Brisman**

I.

In December 2008, Governor David Paterson (D-NY) proposed an 18 percent tax on nondiet sodas and fruit drinks containing less than 70 percent natural fruit juice.[1] While the tax was part of a broader budget proposal designed to address New York State's fiscal crisis[2]—a plan that that included new taxes and tax hikes on 137 items and services[3]—state officials promoted the "obesity tax," as the soft drink levy came to be called, as a public health measure.[4]

In February 2009, Governor Paterson backed away from the soda tax, indicating that he did not expect the New York State Legislature

---

* J.D., University of Connecticut School of Law; M.F.A., Pratt Institute; B.A., Oberlin College. Former Law Clerk to the Honorable Alan S. Gold, United States District Court for the Southern District of Florida, and to the Honorable Ruth V. McGregor, then Vice Chief Justice. would like to thank Elizabeth Griffiths, Assistant Professor, Department of Sociology, Emory University for her comments on an earlier version of this Article. I would also like to thank Emily Milholen Reynolds for her assistance in preparing this Article for publication.

1. Sewell Chan, *A Tax on Many Soft Drinks Sets Off a Spirited Debate*, N.Y. TIMES, Dec. 17, 2008, at A36; Brendan Scott, *Spend Shocker*, N.Y. POST, Dec. 17, 2008, at 7.

2. *See* Fredric U. Dicker, *Paterson Dishes Up Same Old Me$$*, N.Y. POST, Dec. 17, 2008, at 6; Nicholas D. Kristof, Op-Ed., *Miracle Tax Diet*, N.Y. TIMES, Dec. 17, 2008, at A43.

3. Governor Paterson's proposal included an "iTunes tax" of four percent on videos and music downloads from the internet; a four percent tax on taxis, limos, and bus rides; a four percent tax on movies, concerts, and sporting events; a four percent tax on cable television and satellite services; a four percent tax increase on "personal services," such as haircuts, pedicures, massages, and gym memberships; a four percent sales tax on clothing and shoes under $500; as well as higher fees for vehicle registration and new or renewed drivers' licenses. Scott, *supra* note 1, at 7.

4. Chan, *supra* note 1, at A36.

to pass his proposal.[5] In March 2009, Governor Paterson dropped the proposal due to public, industry and legislative opposition.[6]

Whether this tax on sugary sodas and fruit drink "-ades," which have been linked to obesity in children and diabetes in women,[7] would have improved New Yorkers' health the way the cigarette tax helped reduce instances of lung cancer and heart disease[8] was the source of much debate. Some nutritionists argued that it was a worthwhile experiment given the extent of the "obesity epidemic."[9] Others were more tepid, maintaining that taxing food does not change long-term behavior, and that combating obesity requires better education and lifestyle changes. Still others maintained that the measure did not go far enough and that what was needed were "Twinkie taxes," as well as agriculture reforms that ended subsidies for corn that winds up as high fructose corn syrup in sodas.[10]

---

5. Nicholas Confessore, *Paterson Lowers Expectations on Soda Tax, Calling Approval Unlikely*, N.Y. TIMES, Feb. 14, 2009, at A17.

6. Nicholas Confessore, *Paterson Reaches Deal With Legislative Leaders to Drop Soda Tax and Other Fees*, N.Y. TIMES, Mar. 12, 2009, at A22; Anemona Hartcollis, *City's Health Commissioner, in a Medical Journal Article, Calls for a Tax on Soda*, N.Y. TIMES, Apr. 9, 2009, at A22; *see also* Sewell Chan, *New Targets in the Fat Fight: Soda and Juice*, N.Y. TIMES, Sept. 1, 2009, at A22.

7. Chan, *supra* note 1, at A36; Kristof, *supra* n.2, at A43; Theresa A. Hastert, Susan H. Babey, Allison L. Diamant, and E. Richard Brown (UCLA Center for Health Policy Research), *Low-Income Adolescents Face More Barriers to Health Weight*, Health Policy Research Brief 1, 1 (Dec. 2008), *available at* http://www.healthpolicy.ucla.edu/pubs/files/Teen_Barriers_PB_1208.pdf (citing Malik VS, Schulze MB, Hu FB. *Intake of Sugarsweetened Beverages and Weight Gain: A Systematic Review*, 84 AM. J. CLIN. NUTR. 274, 274-288 (2006)).

8. Chan, *supra* note 1, at A36; Kristof, *supra* note 2, at A43.

9. *See* Chan, *supra* n.1, at A36; *see also* Kelly D. Brownell &Thomas R. Frieden, *Ounces of Prevention–The Public Policy Case for Taxes on Sugared Beverages*, 360(18) N. ENG. J. MED. 1805, 1805-08; Susan Dominus, *Mother's Fight Against Junk Food Puts a School on Edge*, N.Y. TIMES, June 16, 2009, at A15; Editorial, *Selling Obesity at School*, N.Y. TIMES, Apr. 27, 2009, at A22; *Fast Food: Protecting the Poor from Big Macs*, THE WEEK, Aug. 15, 2008, at 19; FAIDRA PAPAVASILIOU, CHRISTA ESSIG, PEGGY BARLETT & ALICE ROLLS, ATLANTA LOCAL FOOD INITIATIVE, IS HEALTHY EATING POSSIBLE IN DEKALB COUNTY? AN ASSESSMENT OF FOOD AVAILABILITY, ACCESS, AND COST IN TWO NEIGHBORHOODS. (2007). [on file with author]; Kim Severson, *Calories Do Count*, N.Y. TIMES, Oct. 29, 2008, at D1, D9; Julie Steenhuysen, *Lovin' It: McBranding hooks preschoolders, study finds*, REUTERS, Aug. 6, 2007, *available at* http://www.reuters.com/article/topNews/idUSN0642878120070806; Nareissa Smith, *Eatin' Good? Not in this Neighborhood: A Legal Analysis of Disparities in Food Availability and Quality at Chain Supermarkets in Poverty-Stricken Areas*, 14 MICH. J. RACE & L. 197, 205 (2009); Rachel L. Swarns, *Michelle Obama's Agenda Includes Healthful Eating*, N.Y. TIMES, Mar. 11, 2009, at D1, D2.

10. *See* Kristof, *supra* note 2, at A43; *see also* Lewis Friedman, Letter to the Editor, N.Y. TIMES, Dec. 19, 2008, at A26 (arguing that taxing only nondiet beverages

Opponents, such as the American Beverage Association (the lobby for the nonalcoholic beverage industry), contended that the measure was simply a "money grab" that would have hurt jobs[11]—a perspective that was shared by some lower income individuals who were already feeling the stresses and constraints of the current recession.[12] Others couched their opposition in the language of rights and individual freedom, asserting that "government intrusion in citizens' private lives could damage our liberties in the same way that high-fructose corn syrup may have had on our body-mass measurements."[13] And some were simply unconcerned, claiming that "soda always sells."[14]

Governor Paterson's soda tax did not represent the first sortie in the "war on obesity."[15] Nor has it been the last.[16] Congress is currently considering a proposal to tax sugary soft drinks at a rate of a penny an ounce.[17] The last few years have also borne witness to a

---

sends the message that other beverages, which contain aspartame and phosphoric acid, are not harmful).

11. Chan, *supra* note 1, at A36 (noting that "the beverage industry accounts for 160,000 jobs that generate $6.7 billion wages in New York State . . . . ").

12. *See* Erin Calabrese & Jen T. Tse, *Working Class: We're at Breaking Point*, N.Y. POST, Dec. 17, 2008, at 6; *see generally* Editorial, *A Health Tax*, N.Y. TIMES, June 3, 2009, at A26 (stating that Governor Paterson dropped the eighteen percent tax on sugary drinks "after lobbyists charged that a tax would land unfairly on lower-income individuals").

13. Mark A. Kellner, Letter to the Editor, N.Y. TIMES, Dec. 20, 2008, at A26.

14. Chan, *supra* note 1, at A36.

15. Eduardo Porter, *About That Doughnut*, N.Y. TIMES, Aug. 30, 2008, at A18; *see also* Robin Marantz Henig, *Losing the Weight Stigma*, N.Y. TIMES MAG., Oct. 5, 2008, at 24 (claiming that "[t]he public-health crusade of the moment is a no-holds-barred war on obesity."). Henig notes, however, that some object to the depiction of obesity as a medical emergency requiring a crusade. The "fat-acceptance" movement asserts that one is not unhealthy just because one is fat and that it is possible to be healthy no matter how fat one is. *Id. See also* Deborah L. Rhode, *The Injustice of Appearance*, 61 STAN. L. REV. 1033, 1052 (2009) (claiming that "[d]iscrimination based on obesity is particularly problematic from a class standpoint"); Rachel P. Wildman, et al., *The Obese Without Cardiometabolic Risk Factor Clustering and the Normal Weight With Cardiometabolic Risk Factor Clustering*, 168 ARCH. INTERN. MED. 1617, 1617-24 (2008) (finding that "a considerable proportion of overweight and obese US adults are metabolically healthy, whereas a considerable proportion of normal-weight adults express a clustering of cardiometabolic abnormalities"); *see generally* LINDA BACON, HEALTH AT EVERY SIZE: THE SURPRISING TRUTH ABOUT YOUTH WEIGHT (Benbella Books 2008).

16. *See, e.g.*, Jesse McKinley, *Cost of Cigarette Litter May Fall on San Francisco's Smokers*, N.Y. TIMES, May 19, 2009, at A14 (noting San Francisco Mayor Gavin Newsom's ongoing efforts to tax drinks with high levels of fructose corn syrup).

17. *See, e.g.*, Editorial, *A Healthy Tax*, *supra* note 12; William Neuman, *Tempest In a Soda Bottle*, N.Y. TIMES, Sept. 17, 2009, at B1, B4; Mike Stobbe, *Fight obesity? Add*

number of measures aimed at reducing the country's soaring rates of obesity and diabetes[18]—rates that are higher in low-income, urban neighborhoods populated by African-Americans and Latinos.[19] Examples include the Los Angeles City Council's unanimous decision to impose a one-year moratorium on the opening of new fast food restaurants in the poor, minority area of South Los Angeles,[20] New

---

sales tax to soda tab, ASSOCIATED PRESS, Sept. 17, 2009, *available at* http://news.yahoo.com/s/ap/20090916/ap_on_he_me/us_med_soda_tax.

18. Nicholas Bakalar, *More Americans on the Road to Obesity*, N.Y. TIMES, Aug. 11, 2009, at D7; Roni Baryn Rabin, *Bad Habits Asserting Themselves*, N.Y. TIMES, June 9, 2009, at D5; William S. Eubanks II, *A Rotten System: Subsidizing Environmental Degradation and Poor Public Health with Our Nation's Tax Dollars*, 28 STAN. ENVTL. L.J. 213, 284 (2009); MARK WINNE, CLOSING THE FOOD GAP: RESETTING THE TABLE IN THE LAND OF PLENTY 110-36 (Boston: Beacon Press 2008). *see generally* Elisabeth Rosenthal, *Fast Food Hits Mediterranean; a Diet Succumbs*, N.Y. TIMES, Sept. 24, 2008, at A1, A12 (reporting that in 2004, 66% of adults older than twenty years of age were overweight and that 31.9% of children ages 2-19 were overweight in 2006).

19. David S. Freedman, et al., *Racial/ethnic Differences in Body Fatness among Children and Adolescents*, 16 OBESITY 1105, 1105-1111 (2008); Andrea Freeman, *Fast Food: Oppression through Poor Nutrition*, 95 CAL. L. REV. 2221, 2228 (2007); Henig, *supra* note 15, at 24; Tracie McMillan, *The Action Diet: The Food Justice Movement Aims to Change More Than What New York Kids Eat*, CITY LIMITS, July/Aug. 2004, *available at* http://www.citylimits.org/content/articles/articleView.cfm?articlenumber=1156; Tracie McMillan, *Urban Farmers' Crops Go From Vacant Lot to Market*, N.Y. TIMES, May 7, 2008, at F1; Terry Pristin, *Fresher Food, With Some Help*, N.Y. TIMES, June 17, 2009, at B6; *see also* Lisa Bralts-Kelly, *Creating a People-Powered Food System, in* A CALL TO FARMS: CONTINENTAL DRIFT THROUGH THE MIDWEST RADICAL CULTURE CORRIDOR 11, 11-12 (Heavy Duty Press 2008), *available at* http://www.heavyduty press.com/books/farms_pdf.

20. *Fast Food: Protecting the Poor from Big Macs*, THE WEEK, Aug. 15, 2008, at 19. Like Governor Paterson's proposed tax on nondiet sodas and sugary fruit drinks, this type of endeavor has also proven divisive. *Compare* Marice Ashe, Lisa M. Feldstein, Mary M. Lee & Montrece McNeill Ransom, *Land Use Laws and Access to Tobacco, Alcohol, and Fast Food*, 35 J.L. MED. & ETHICS 60, 60 (2007) (comments by Feldstein) (describing how "land use planning tools can maximize access to healthy foods and establish restrictions on the density and location of fast food stores"), *and* Erica Barnett, *How to Fertilize Urban Food Deserts*, WORLD CHANGING, http://www.worldchanging.com/archives/007372.html (last visited Apr. 11, 2009) (maintaining that "[o]ne possible way to cut the high rates of disease in food deserts is an outright ban on fast food restaurants, which tend to proliferate in areas where other food options are limited."), *with Fast Food: Protecting the Poor from Big Macs*, THE WEEK, Aug. 15, 2008, at 19 (reporting that some consider the Los Angeles City Council's one-year moratorium on the opening of new fast food restaurants in poor areas to be "paternalistic," "infantiliz[ing]," and "racist."). For a study finding that South Los Angeles, like other African-American communities, "have disproportionately been the objects of increased marketing and advertising for unhealthful foods while also receiving less targeted marketing for healthy products," see David C. Sloane, et al., *Improving the Nutritional Resource Environment for Healthy Living*

York City's ban on trans fats in frying at food service establishments,[21] as well as requirements in New York City and California requiring restaurants to post calorie counts on their menus[22]—initiatives that have spurred Congress to propose legislation to make calorie listings uniform nationwide.[23] While such efforts could well be part of the solution to the crisis of obesity and its risk of chronic medical conditions,[24] the operative word here is *part*. Just as soda

---

Through Community-based Partnership Research, 18 J. GEN. INTERN. MED. 568, 568-75 (July 2003).

21. Keith Bradsher, *A New, Global Oil Quandary: Costly Fuel Means Costly Calories*, N.Y. TIMES, Jan. 19, 2008, at A1, A9.

22. Editorial, *2,000 Is Really Enough*, N.Y. TIMES, Oct. 20, 2008, at A30 [hereinafter *2,000 Is Really Enough*]; Porter, *supra* note 14, at A18; Severson, *supra* note 7, at D1, D8. For a discussion of California's efforts to forbid the sale of sodas and junk food in schools, see Betsy Taylor, *How Do We Get From Here to There?*, *in* SUSTAINABLE PLANET: SOLUTIONS FOR THE TWENTY-FIRST CENTURY 233, 233-51 (JULIET B. SCHOR & BETSY TAYLOR, EDS., Boston: Beacon Press, 2002).

23. Severson, *supra* note 9, at D8, D9 (discussing the Labeling Education and Nutrition Act (LEAN) and the Menu Education and Labeling Act); *see also 2,000 Is Really Enough*, *supra* note 19, at A30 (critiquing LEAN). For other examples of efforts, initiatives, measures, and proposals to reduce the rising rates of obesity and other weight-related disorders, see, e.g., Jane E. Brody, *America's Diet: Too Sweet by the Spoonful*, N.Y. TIMES, Feb. 10, 2009, at D7; Jane E. Brody, *Sweeteners: Real Aid or Excuse to Indulge?*, N.Y. TIMES, Feb. 17, 2009, at D7; Kelly D. Brownell &Thomas R. Frieden, *Ounces of Prevention–The Public Policy Case for Taxes on Sugared Beverages*, 360(18) N. ENG. J. MED. 1805, 1805-08; Susan Dominus, *Mother's Fight Against Junk Food Puts a School on Edge*, N.Y. TIMES, June 16, 2009, at A15; Maureen Dowd, *Hold The Fries*, N.Y. TIMES, June 17, 2009, at A27; Editorial, *Cool Way to Lose Weight?*, N.Y. TIMES, Apr. 12, 2009, at WK7; Editorial, *Selling Obesity at School*, N.Y. TIMES, Apr. 27, 2009, at A22; Julia Moskin, *Another Push for Better Nutrition for the City*, N.Y. TIMES, Feb. 7, 2009, at A16; William Neuman, *For Your Health, Froot Loops*, N.Y. TIMES, Sept. 5, 2009, at B1, B5; Tara Parker-Pope, *How the Food Makers Captured Our Brains*, N.Y. TIMES, June 23, 2009, at D1, D6; Tara Parker-Pope, *Kid Goes Into McDonald's and Orders . . . Yogurt?*, N.Y. TIMES, June 16, 2009, at D5; Tara Parker-Pope, *Study Zeroes In on Calories, Not Diet, for Loss*, N.Y. TIMES, Feb. 26, 2009, at A16; Kim Severson, *Once-reviled sugar makes a comeback*, INTERNATIONAL HERALD TRIBUNE, Mar. 23, 2009, at 5; Helene Stapinski, *They Scream Against Ice Cream*, N.Y. TIMES, Aug. 19, 2009, at D1, D7; Alice Waters & Katrina Heron, *No Lunch Left Behind*, N.Y. TIMES, Feb. 20, 2009, at A31; WINNE, *supra* note 18, at 115-16; Kate Zezima, *Food Stamps, Now Paperless, Are Getting Easier to Use at Farmers' Markets*, N.Y. TIMES, July 20, 2009, at A10.

24. Obesity increases the risk of many diseases and health conditions, including coronary heart disease, Type 2 diabetes, cancer (e.g., endometrial, breast, colon), hypertension, dyslipidemia, stroke, liver disease, gallbladder disease, sleep apnea, respiratory problems, osteoarthritis, and gynecological problems (such as abnormal menses and infertility). U.S. Dep't of Health and Hum. Servs., Ctr. for Disease Control, *Overweight and Obesity: Introduction*, *available at* http://www.cdc.gov/nccdphp/dnpa/obesity; *see* also JL Baker, LW Olsen & TI Sorensen, *Childhood Body-Mass Index and the Risk of Coronary Heart Disease in Adulthood*, 357 N. ENGL. J. MED. 2329, 2329-2337 (2007); Pam Belluck, *Another Potential Benefit of Cutting Calories:*

taxes, fast food moratoria, and calorie count requirements represent *part* of the recipe for addressing this growing public health concern affecting children, adolescents, and adults in the United States, especially African-Americans and Latinos, obesity and its risk of other diseases and health conditions represent only *part* of the problem. In other words, solving the obesity predicament entails the aforementioned legislation and policy measures geared towards reducing the consumption of fast food and soda. But it also involves (or should involve) efforts to encourage regular family meals, as well as measures unrelated to diets of unhealthful foods, such as reducing the number of hours spent watching television and playing video games, and increasing levels of physical activity (including participation in organized sports)–all of which have been connected to the healthy body weights.[25] More significantly, reducing the disproportionate prevalence of obesity in low-income, minority populations necessitates conceptualizing the problem as more than just one of weight and body mass or even public health, for that matter. It demands conceiving of obesity as a *symptom* of the structural oppression that results in racial and economic injustice,[26] as well as "food

---

Better Memory, N.Y. TIMES, Jan. 27, 2009, at D3; Robert Roy Britt, *Obesity Caught Like Common Cold*, LIVESCIENCE, Jan. 26, 2009, *available at* http://www.livescience.com/health/090126-obesity-virus.html; CL Ogden, MD Carroll & KM Flegal, *High Body Mass Index for Age Among US Children and Adolescents, 2003–2006*, 299 JAMA 2401, 2401-2405 (2008); Eubanks, *supra* note 18, at 284-93; Michael Pollan, *Big Food vs. Big Insurance*, N.Y. TIMES, Sept. 10, 2009, at A43; Roni Caryn Rabin, *Obese Teenagers Are as Likely to Die Prematurely as Heavy Smokers, Study Finds*, N.Y. TIMES, Mar. 4, 2009, at A15; Norbert Stefan, et al., *Identification and Characterization of Metabolically Benign Obesity in Humans*, 168 ARCH. INTERN. MED. 1609, 1609-1616 (2008); *see generally* Rosenthal, *supra* note 15, at A1 (describing how obesity and related maladies, such as diabetes, high blood pressure, high cholesterol, heart disease, and cancer, have become more prevalent in the Mediterranean as a result of the growth of chocolate shops, pizza places, ice cream parlors, soda machines, and fast-food joints, which have come to replace the Mediterranean diet).

25. Hastert et al., *supra* note 7, at 1-4; *see also* Henig, *supra* note 15, at 24 (reporting that "[p]overty, minority-group status, too much fast food, a sedentary lifestyle, lack of access to health insurance or to [sic] nonjudgmental medical care–all are more common among fat people, and all are linked to poor health outcomes at any weight."); *see generally* McMillan, *supra* note 19 (stating that "[p]ublic recreational space is not only scarce but shrinking; schoolchildren have lost significant playground real estate to portable classrooms. Physical education is mandatory in New York State public schools, but precious little class time is actually spent engaging in physical activity. Where there are parks, many are still not safe to ramble in.").

26. *See generally* Freeman, *supra* note 19, at 2222 (contending that although the harm caused by over-consumption of fast food cuts across race and class lines, its pronounced and extreme effect on low-income people of color represents a form of

injustice"—"[u]nequal access to foods that are good for both you and your body, and that help to sustain life."[27]

"Food justice"—the inverse of "food injustice"—is the idea that no individual, group of people, or community should live without an adequate supply of nutritious, affordable food because of economic constraints or social inequalities.[28] The food justice framework treats the lack of food sources in poor communities as a human rights issue and seeks fairer distribution of food, regardless of the recipient's ability to pay. Frequently, food justice movements and coalitions operate on local and community scales (e.g., by promoting urban-grown food, by linking directly with farmers in the region to develop regional food systems, by encouraging buy-local campaigns, and by advocating for fair wages for those who grow, cook, and sell food), but still seek to affect broader regulatory and policy changes in the state and global food systems—systems that have become increasingly subject to corporate control.[29]

---

structural oppression that activists must incorporate into a struggle for racial and economic justice. . . . Food oppression is structural because it is not the product of individual acts of discrimination, but stems rather from the institutionalized practices and policies of government and the fast food industry. Government policies engendering food oppression range from providing public assistance insufficient to cover the cost of fresh food to collaboration with the fast food giants to ensure that their products dominate lunch-room counters and dinner tables.); McMillan, *supra* note 19 (explaining that a "founding premise" of food justice is "that bulging waistlines and unhealthy living aren't just symptoms of an individual's lack of discipline, but of broader structural concerns: food access, consumer culture, lack of open space.").

27. *February Newsletter* (People's Grocery), Feb. 2008, at 1, 3, *available at* http://www.peoplesgrocery.org/fmd/files/February%20Newsletter-%20English.pdf.

28. *See* Avi Brisman, *It Take Green to Be Green: Environmental Elitism, "Ritual Displays," and Conspicuous Non-Consumption*, 85 N.D. L. REV. 329, 360-61 [hereinafter *Green*]; Guadalupe T. Luna, *"Women in Blue Jeans:" Connecting the Past with Agricultural Transformations in the Present*, 23 WIS. J.L. GENDER & SOC'Y 313 (2008); People's Grocery, *Why We Call It "Food Justice," available at* http://peoplesgrocery.org/brahm/peoples-grocery/why-we-call-it-food-justice; *see also* Urban & Environmental Policy Institute, Occidental College, Los Angeles, CA, http://departments.oxy.edu/uepi/cfj/lafjn.htm (stating that food justice means "everyone having enough to eat; healthy food for our children; food that doesn't contain harmful things that we don't know about; freedom to grow our own food; ability to buy food directly from farmers; fair wages for those who grow, cook and work with food.").

29. *See* Gerda R. Wekerle, *Food Justice Movements: Policy, Planning, and Networks*, 23 J. PLAN. EDUC. & RES. 378, 378-86 (2004) (citing AMORY STARR, NAMING THE ENEMY: ANTI-CORPORATE MOVEMENTS CONFRONT GLOBALIZATION (Zed Books 2000)); *see also* War on Want, *Food Justice, available at* http://www.waronwant.org/overseas-work/food-justice (discussing how food justice entails fighting neo-liberal interna-

While food justice represents a more capacious approach to attacking obesity and its risk of morbidity and mortality—as well as a framework for making inroads in the (related) struggles for racial and economic justice—this Article argues for food justice on different grounds: crime prevention and crime reduction. In other words, while working for food justice may be important for public health reasons, this Article maintains that certain food justice initiatives may help to prevent and/or reduce crime.

This Article begins with a brief description of (the food injustice of) "food deserts"—whole neighborhoods and communities where the only food shopping options are "fringe" retailers—businesses whose sole purpose is not selling foodstuffs—such as convenience stores, liquor stores, gas stations, drug stores, small bodegas, and fast food restaurants.[30] Building on ethnographic research in the neighborhood of Red Hook, Brooklyn, where this author has been conducting fieldwork since June 2007, this Article describes how one neighborhood non-profit organization, Added Value, sought to address its "grocery gap."[31] This Article then suggests how the various programs, projects, and initiatives of Added Value implicate some criminological theories about the causes of crime. In so doing, this Article calls for food justice advocates to join forces with criminologists, policymakers, and criminal justice practitioners to bring about initiatives that may help to eliminate food deserts and reduce food injustice, as well as prevent and/or reduce crime.

II.

A. Overview of Food Deserts

As noted above, food deserts are residential areas that lack convenient access to the components of a fresh and healthful diet.[32]

---

tional trade policies that adversely affect small farmers' abilities to grow and sell food—especially those farmers in Brazil and Sri Lanka).

30. *See* Brisman, *Green*, *supra* note 28; *infra* Part II, note 36 and accompanying text.

31. JOHN DICKER, THE UNITED STATES OF WAL-MART 185 (Penguin Books 2005) (defining the grocery gap as "a pervasive lack of quality, affordable food in low-income communities").

32. *See, e.g.*, Linda F. Allwitt & Thomas D. Donley, *Retail Stores in Poor Urban Neighborhoods*, 31 J. CONSUMER AFF. 139, 139-164 (1997); Marice Ashe, Lisa M. Feldstein, Samantha Graff, Randolph Kline, Debora Pinkas & Leslie Zellers, *Local Venues for Change: Legal Strategies for Healthy Environments*, 35 J.L. MED. & ETHICS 138, 141 (2007); Marice Ashe, Lisa M. Feldstein, Mary M. Lee & Montrece McNeill Ran-

They are overwhelmingly concentrated in low-income areas,[33] far from supermarkets with affordable, healthful food.[34] Residents of

som, *Land Use Laws and Access to Tobacco, Alcohol, and Fast Food*, 35 J.L. MED. & ETHICS 60, 60 (2007) (comments by Feldstein); Steven Cummins & Sally Macintyre, *"Food Deserts"–Evidence and Assumption in Health Policy Making*, 325BRIT. MED. J. 436, 436-438 (2002); Steven Cummins & Sally Macintyre, *The Location of Food Stores in Urban Areas: A Case Study in Glasgow*, 101 BRIT. FOOD J. 545 (1999); Nanci Hellmich, *Study: Black Neighborhood Stores Have Poor Food Choices*, USA TODAY, Aug. 5, 2003; Phil R. Kaufman, *Rural Poor Have Less Access to Supermarkets, Large Grocery Stores*, 13 RURAL DEV. 19, 19-25; Daniel T. Lichter & Martha L. Crowley, *Poverty in America: Beyond Welfare Reform*, 57 POPULATION BULL. 1, 1-36 (2002); Luna, *supra* note 28; Tracie McMillan, *Urban Farmers' Crops Go From Vacant Lot to Market*, N.Y. TIMES, May 7, 2008, at F1, F8; Jon Mooallem, *Guerrilla Gardening*, N.Y. TIMES MAG., June 8, 2008, at 76, 79; Pristin, *supra* note 19, at B6; MARK ROBERT RANK, ONE NATION, UNDERPRIVILEGED: WHY AMERICAN POVERTY AFFECTS US ALL 41 (Oxford University Press 2005) (citing Chanjin Chung & Samuel L. Myers, Jr., *Do the Poor Pay More for Food? An Analysis of Grocery Store Availability and Food Price Disparities.*, 33 J. CONSUMER AFFAIRS 139, 139-164 (1999)); Rhode, *supra* note 15, at 1052; *West Oakland, California's First Farmers' Market*, NPR radio program (Feb. 1, 2005). For a discussion of history of the usage of the term, "food desert," *see, e.g.*, Steven Cummins & Sally Macintyre, *"Food deserts"–evidence and assumption in health policy making*, 325 BRIT. MED. J. 436-38 (2002).

33. Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 201-215 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007); Benjamin Fried, *For the Health of It*, MAKING PLACES (Oct. 2005), *available at* http://www.pps.org/info/newsletter/october2005/markets_health; *see generally* Eubanks, *supra* note 18, at 296 (describing "food deserts" as places "where food is difficult to come by and the food that is available consists of saturated fats and little to no nutrition"); Nancy D. Perkins, *Livability, Regional Equity, and Capability: Closing in on Sustainable Land Use*, 37 U. BALT. L. REV. 157, 167 (2008) (citing Kimberly Morland & Steve Wing, *Food Justice and Health in Communities of Color*, in GROWING SMARTER: ACHIEVING LIVABLE COMMUNITIES, ENVIRONMENTAL JUSTICE, AND REGIONAL EQUITY 171, 173 (Robert D. Bullard ed., 2007)) (describing how "[s]prawl contributes to nutrition disparities as well, the result of grocery store flight from inner-city areas. Poor minority residents have witnessed the departure of large retail grocers and their replacement by small convenience stores and mom-and-pop operations.").

34. *See* Erica Barnett, *How to Fertilize Urban Food Deserts*, WORLD CHANGING, http://www.worldchanging.com/archives/007372.html (last visited Apr. 11, 2009). "The urban 'food desert' [is] a neighborhood in which residents typically must travel twice as far to reach the closest supermarket or other mainstream grocer as people in better appointed neighborhoods . . . ."); *see generally* David I. Greenberg, *Easy Terms, Hard Times: Complaint Handling in the Ghetto*, *in* NO ACCESS TO LAW: ALTERNATIVES TO THE AMERICAN JUDICIAL SYSTEM 379, 382 (Laura Nader ed., 1980) (noting that "[t]he shopping radius of poor people is quite narrow."). Note that the actual distance from supermarkets containing fresh, healthful fruits, vegetables, and meats is relative. "In cities, where fewer people own automobiles, it might mean having to walk a mile. . . . In rural communities, it could mean a 30-mile drive." Associated Press, *Coping with Life in 'Food Deserts,'* *available at* http://www.

food deserts are thus forced to choose between making long, time-consuming, and costly trips to supermarkets with fresh, nutritious food[35] or staying in their neighborhood, which means patronizing fast-food restaurants and relying on "fringe" retailers—convenience stores, corner groceries, drug stores, gas stations, and liquor stores—

---

msnbc.msn.com/id/5353901/ (citing Troy Blanchard, a sociologist at Mississippi State University). Note also that the distance from food deserts to full-service grocery stores with wide and abundant selections can be measured qualitatively or quantitatively. This Article describes food deserts in qualitative terms, but for an example of a quantitative measurement, see, e.g., Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 206 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007) (classifying "food desert populations" as "those residents of a county residing ten or more miles from a supermarket or supercenter. Our choice of a ten-mile radius assumes a point-to-point drive time of approximately twenty minutes, traveling at an average rate of speed of thirty miles per hour," and classifying "nonmetropolitan counties as food deserts if the proportion of the county's population in a food desert is greater than the median proportion for the region of the United States in which the county is located"); Mark Winne, Replenishing Our Food Deserts, 33(8) STATE LEGISLATURES 26, 27 (Sept. 2007) (defining "food deserts" as counties in which "all of their residents lived more than 10 miles from the nearest supermarket").

35. *See, e.g.*, Cynthia A. Baker, *Bottom Lines and Waist Lines: State Governments Weigh in on Wellness*, 5 IND. HEALTH L. REV. 185, 195 (2008) ("For families living in . . . food deserts, it is ultimately too expensive, too difficult, and too time consuming to have fresh healthy food in the refrigerators and cupboards."); Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 213 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007) ("Residents living in food desert areas will pay higher prices for groceries or incur a greater travel cost to access the large food retailer that may offset the savings available at these stores. . . . [S]mall grocers and gas and convenience stores are the likely alternatives in the absence of access to supermarkets and supercenters. More importantly, healthy alternatives, such as fruit and vegetable markets, are less prevalent in food desert areas. This absence is especially troubling for vulnerable segments of the population such as low-income individuals and the disabled who compromise a greater share of the population in food deserts. For these persons it may not be feasible to shop at a large food retailer because of travel cost and time considerations. This issue is especially problematic in the South where the percentage of households without a vehicle is greatest."); *see generally* Regina Austin, *Super Size Me and the Conundrum of Race/Ethnicity, Gender, and Class for the Contemporary Law-Genre Documentary Filmmaker*, 40 LOY. L.A. L. REV. 687, 702 (2007) ("Because of societal changes, more of our meals are eaten out; this is true even for poorer Americans whose choices beyond fast food restaurants are limited. In poorer communities, patronage of fast-food outlets is impacted . . . by the scarcity of supermarkets and grocery stores . . . .").

to provide basic food items.[36] As one commentator explains, the food offered by these "fringe" retailers is "usually the worst type of food, and when the only food available is pre-packaged, and full of preservatives, there are bound to be health risks."[37]

"Fringe" retailers rarely offer fresh fruits, vegetables, and meats, and when such items are available, they are frequently of limited

---

36. *See, e.g.*, Erica Barnett, *How to Fertilize Urban Food Deserts,* WORLD CHANGING, http://www.worldchanging.com/archives/007372.html (last visited Apr. 11, 2009); Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America, in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 201-215 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007); Miranda Perry Fleischer, *Charitable Contributions in an Ideal Estate Tax,* 60 TAX L. REV. 263, 281, note 82 (2007); Jessica Jane French, *Food Deserts: How a Community Group in Detroit is Changing Ideas About Food,* Oct. 2, 2007, *available at* http://jessicajanefrench.greenoptions.com/2007/10/02/food-deserts-how-a-community-group-in-detroit-is-changing-ideas-about-food/ ; Dennis Gaffney, *This Food Came Off the Back of a Truck, And It's Legal and Healthy,* N.Y. TIMES, May 25, 2007, at C14; Papavasiliou, et al., *supra* note 9; Elizabeth Royte, *Street Farmer,* N.Y. TIMES MAGAZINE, July 5, 2009, at 22, 22-25.

37. Jessica Jane French, *Food Deserts: How a Community Group in Detroit is Changing Ideas About Food,* Oct. 2, 2007, *available at* http://jessicajanefrench.greenoptions.com/2007/10/02/food-deserts-how-a-community-group-in-detroit-is-changing-ideas-about-food/; *see also* Erica Barnett, *How to Fertilize Urban Food Deserts,* WORLD CHANGING, http://www.worldchanging.com/archives/007372.html (last visited Apr. 11, 2009) (arguing that "the urban 'food desert' . . . is not just a problem of social or economic justice; it's about public health as well. . . . [There is] a serious nutrition gap between those who live in areas of plenty and those who lack access to the basics. And poor nutrition leads to poor health and premature death"); Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America, in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 213-14 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007) (concluding that: The key implication of the food desert dynamic is that populations such as the poor already experiencing high risk of poor dietary intake and nutrition-related illness may experience even greater risks as a result of living in a food desert. Food deserts may compound ongoing and severe nutritional problems and further exacerbate the socioeconomic gradient in health status. More specifically, food deserts may limit the capacity of populations to meet recommended servings of fruits and vegetables because fresh produce is rarely available in convenience and gas station food retailers. . . . If food deserts do indeed influence nutritional intake, the social and economic costs of food deserts are substantial. Increased public health care expenditures through Medicaid and lost productivity due to poor health may hamper economic development and limit the viability of nonmetropolitan communities.); Benjamin Fried, *For the Health of It,* MAKING PLACES (Oct. 2005), http://www.pps.org/info/newsletter/october2005/markets_health (last visited Apr. 11, 2009) (explaining that the lack of access to good food in food deserts contributes to "stark health problems—higher rates of heart disease, cancer, and diabetes, and diminished childhood cognitive development").

quantity, of poor quality, and grossly overpriced.[38] According to the U.S. Department of Agriculture, groceries cost on average ten percent more in food deserts than at suburban grocers.[39] While food deserts are frequently conceived of as urban phenomena, they also exist in rural areas. This Article focuses on urban food deserts and illustrates this problem by looking at the Red Hook section of Brooklyn, New York, to which this Article now turns.[40]

---

38. *See, e.g.*, Marice Ashe, Lisa M. Feldstein, Mary M. Lee & Montrece McNeill Ransom, *Land Use Laws and Access to Tobacco, Alcohol, and Fast Food*, 35 J.L. MED. & ETHICS 60, 60 (2007) (comments by Feldstein); Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 202, 213-14 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007); Kelli K. Garcia, *The Fat Fight: The Risks and Consequences of the Federal Government's Failing Public Health Campaign*, 112 PENN ST. L. REV. 529, 577 (2007); Miranda Perry Fleischer, *Charitable Contributions in an Ideal Estate Tax*, 60 TAX L. REV. 263, 281, note 82 (2007); Dennis Gaffney, *This Food Came Off the Back of a Truck, And It's Legal and Healthy*, N.Y. TIMES, May 25, 2007, at C14; Gregg Krupa, *Groceries Cost More for Poor: Dearth of Inner-city Supermarkets Limits Choices*, THE DETROIT NEWS, Aug. 21, 2001, http://www.detnews.com/specialreports/2001/poverty/821lead/821lead.htm; http://www.detnews.com/specialreports/2001/poverty/821lead2/821lead2.htm; http://www.detnews.com/specialreports/2001/poverty/821lead3/821lead3.htm; http://www.detnews.com/specialreports/2001/poverty/821lead4/821lead4.htm (last visited Apr. 11, 2009); Papavasiliou, et al., *supra* note 9; Nancy D. Perkins, *Livability, Regional Equity, and Capability: Closing in on Sustainable Land Use*, 37 U. BALT. L. REV. 157, 167 (2008) (citing Kimberly Morland & Steve Wing, *Food Justice and Health in Communities of Color*, *in* GROWING SMARTER: ACHIEVING LIVABLE COMMUNITIES, ENVIRONMENTAL JUSTICE, AND REGIONAL EQUITY 171, 173 (Robert D. Bullard ed., 2007)).

39. *See* Associated Press, *Coping with Life in 'Food Deserts,'* http://www.msnbc.msn.com/id/5353901/ (last visited Apr. 11, 2009); *see also* Gregg Krupa, *Groceries Cost More for Poor: Dearth of Inner-city Supermarkets Limits Choices*, THE DETROIT NEWS, Aug. 21, 2001, http://www.detnews.com/specialreports/2001/poverty/821lead/821lead.htm; http://www.detnews.com/specialreports/2001/poverty/821lead2/821lead2.htm; http://www.detnews.com/specialreports/2001/poverty/821lead3/821lead3.htm; http://www.detnews.com/specialreports/2001/poverty/821lead4/821lead4.htm (last visited Apr. 11, 2009).

40. This Article's focus on an urban food desert should not be interpreted as sign that the food desert problem is any less severe or less important in rural areas. In fact, at least one report finds that the majority of U.S. food deserts are in rural areas. Associated Press, *Coping with Life in 'Food Deserts,'* http://www.msnbc.msn.com/id/5353901/ (last visited Apr. 11, 2009).

For a discussion of the adverse effects of "food deserts" in rural areas, *see, e.g.*, Erica Barnett, *How to Fertilize Urban Food Deserts*, WORLD CHANGING, http://www.worldchanging.com/archives/007372.html (last visited Apr. 11, 2009) (explaining that: The problem isn't confined to blighted urban areas. In the Western states, 44 percent of the average county's population has poor access to grocery stores; in the Midwest, 34 percent; in the South, 24 percent; in the Northeast, just 10 percent. Food deserts are even cropping up in suburbia, as people move onto

former farmland and find themselves many miles distant from the makings of a nutritious meal. The impact on suburban residents, however, is often eased by the easy highway access provided to most suburbs, as well as the means to own the car that will get them to the grocery store down the road. Urban and rural food deserts, by contrast, can be similar in having little or no easy access to mass transit, leaving poorer residents – who may lack the means to own a car – with fewer options for getting to a market.); Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 201-215 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007) (discussing how the rural poor may "pay more for groceries because of lack of access to large supermarkets that offer more competitive prices than smaller grocers"–a problem exacerbated by the lack of public transit systems available to non-metropolitan residents); Katharine B. Silbaugh, *Wal-Mart's Other Woman Problem: Sprawl and Work-Family Balance*, 39 CONN. L. REV. 1713, 1717-18 (2007) (describing how: The development of Wal-Mart 'Supercenters,' which sell groceries, has led to . . . 'Food Deserts'–areas where Wal-Mart has driven satellite grocery stores out of business, and all consumers need to travel great distances to get the most basic items. . . . For some set of consumers, the creation of these means they have no practical access to groceries. For the elderly, this means their independence is threatened by the most familiar attribute of sprawl: they need a car to do everything.); *see generally* Cynthia A. Baker, *Bottom Lines and Waist Lines: State Governments Weigh in on Wellness*, 5 IND. HEALTH L. REV. 185, 195 (2008) (noting that "[p]roviding access to fresh food in urban and rural food deserts . . requires significantly different solutions to the same problem."); Dennis Gaffney, *This Food Came Off the Back of a Truck, And It's Legal and Healthy*, N.Y. TIMES, May 25, 2007, at C14 (noting that "food deserts" can occur in either urban or rural areas); Phillip R. Kaufman, James M. MacDonald, Steve M. Lutz, and David M. Smallwood, *Do the Poor Pay More for Food? Item Selection and Price Differences Affect Low-Income Household Food Costs*. U.S. Department of Agriculture. Agricultural Economic Report No. 759 (1997), *available at* http://www.ers.usda.gov/publications/aer759/AER759.pdf. Note that the problem of "food deserts" is also not specific to the United States. For a discussion of food deserts in the United Kingdom, see Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 201-02 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007) (noting that in the U.K., "the absence of food retailers [is] the central issue driving the recognition of food desert populations," whereas in the United States, the issue of food deserts concerns the quality and pricing of food products available in U.S. convenience stores and supermarkets); see also Steven Cummins and Sally Macintyre, *A Systematic Study of an Urban Foodscape: The Price and Availability of Food in Greater Glasgow*, 39(11) URBAN STUDIES 2115, 2115-30 (2002); S. Furey, C. Strugnell & H. McIlveen, *An Investigation of the Potential Existence of 'Food Deserts' in Rural and Urban Areas of Northern Ireland*, 18 AGRIC. & HUMAN VALUES 447-57 (2001); Amanda Whelan, Neil Wrigley, Daniel Warm and Elizabeth Cannings, *Life in a Food Desert*, 39(11) URBAN STUDIES 2083, 2083-2100 (2002); Neil Wrigley, *'Food Deserts' in British Cities: Policy Context and Research Priorities*, 39(11) URBAN STUDIES 2029, 2029-40 (2002); Neil Wrigley, Daniel Warm, Barrie Margetts and Amanda Whelan, *Assessing the Impact of Improved Retail*

B. Red Hook, Brooklyn and Added Value

Red Hook is a mixed-use neighborhood in South Brooklyn located on a peninsula in the New York Harbor.[41] Despite its view of the Statute of Liberty and proximity to the lower Manhattan financial district, Red Hook is isolated from the rest of Brooklyn and New York because it is surrounded by water on three sides and cut off from the rest of Brooklyn by the Gowanus Expressway.[42] Subway service exists only on the periphery of the neighborhood, making trips to Manhattan and other parts of Brooklyn a challenge.[43]

From the mid-eighteenth to mid-nineteenth centuries, Red Hook exhibited a vibrant and multi-ethnic waterfront lifestyle.[44] Although always considered a tough neighborhood—Al Capone started his criminal career there—Red Hook was perceived as a destination for European sailors looking to jump ship and was regarded as "brimming with life" by residents who enjoyed its movie houses, shopping district, and public pool and bathhouse.[45] But beginning

---

Access on Diet in a 'Food Desert': A Preliminary Report, 39(11) URBAN STUDIES 2061, 2061-82 (2002).

41. Philip Kasinitz & David Hillyard, *The Old-Timers' Tale: The Politics of Nostalgia on the Waterfront*, 24 J. CONTEMP. ETHNOGRAPHY 139, 139-164 (1995); Philip Kasinitz & Jan Rosenberg, *Missing the Connection: Social Isolation and Employment on the Brooklyn Waterfront*, 43 SOC. PROBS. 180, 180-196 (1996). Red Hook is comprised of four census tracks: 0055, 0057, 0059, 0085. Jeffrey Fagan & Victoria Malkin, *Theorizing Community Justice Through Community Courts*, 30 FORDHAM URB. L.J. 897, 914, note 71 (2003).

42. Philip Kasinitz & David Hillyard, *The Old-Timers' Tale: The Politics of Nostalgia on the Waterfront*, 24 J. CONTEMP. ETHNOGRAPHY 139, 139-164 (1995); Philip Kasinitz & Jan Rosenberg, *Missing the Connection: Social Isolation and Employment on the Brooklyn Waterfront*, 43 SOC. PROBS. 180, 180-196 (1996); Marcia Reiss, *Red Hook and Gowanus Neighborhood History Guide*, Brooklyn Historical Society (2000); Andrew White, Nora McCarthy, Elizabeth Diaz & Rajeev Yemeni, *Consider the Future: Strengthening Children and Family Services in Red Hook, Brooklyn*, CENTER FOR NEW YORK CITY AFFAIRS/MILANO GRADUATE SCHOOL (2003), *available at* http://www.newschool.edu/Milano/nycaffairs/pubs/considerthefuture.pdf.

43. Philip Kasinitz & Jan Rosenberg, *Missing the Connection: Social Isolation and Employment on the Brooklyn Waterfront*, 43 SOC. PROBS. 180, 180-196 (1996).

44. LEONARD BENARDO & JENNIFER WEISS, BROOKLYN BY NAME: HOW THE NEIGHBORHOODS, STREETS, PARKS, BRIDGES, AND MORE GOT THEIR NAMES (New York Univ. Press 2000); Philip Kasinitz & David Hillyard, *The Old-Timers' Tale: The Politics of Nostalgia on the Waterfront*, 24 J. CONTEMP. ETHNOGRAPHY 139, 139-164 (1995); Philip Kasinitz & Jan Rosenberg, *Missing the Connection: Social Isolation and Employment on the Brooklyn Waterfront*, 43 SOC. PROBS. 180, 180-196 (1996); Victoria Malkin, *Problem-Solving in Community Courts: Who Decides the Problem?*, *in* PROBLEM-SOLVING COURTS: JUSTICE FOR THE TWENTY-FIRST CENTURY? (Praeger: forthcoming).

45. Marcia Reiss, *Red Hook and Gowanus Neighborhood History Guide*, Brooklyn Historical Society (2000); *see generally* Doris R. Schwartz, *Nursing in Red Hook*. 49

in the 1950s, population exodus and economic disinvestment started to transform Red Hook into a socially isolated,[46] blighted, and violent neighborhood.[47] In the 1980s, Red Hook was considered one of the most crack-infested communities in the nation[48]—what Wacquant would refer to as a "hyperghetto."[49] It experienced further economic disinvestment and violence in the late 1980s and early 1990s and received notoriety in 1992 when Patrick Daly, a popular elementary-school principal, was killed by a stray bullet from a shoot-out between rival drug dealers.[50]

By 2000, the drug addiction and drug-related violence in Red Hook had abated from its highs in the 1990s—as it had throughout New York City.[51] But according to the 2000 Census, Red Hook was still a disadvantaged neighborhood with more than seventy percent of its 11,000 residents living in public housing projects (called the Red Hook Houses—one of the largest public housing projects in New York).[52] Of this predominantly minority neighborhood (95% of those living in the Red Hook community consider themselves African-American or Latino), close to a third of the men and women in the labor force were unemployed, nearly a quarter reported receiving public assistance, and over sixty percent of families with young children reported incomes below the federal poverty line.[53] In 1999,

---

AMER. J. NURSING 435, 435-438; Philip Kasinitz & David Hillyard, *The Old-Timers' Tale: The Politics of Nostalgia on the Waterfront*, 24 J. CONTEMP. ETHNOGRAPHY 139, 139-164 (1995).

46. WILLIAM J. WILSON, THE TRULY DISADVANTAGED (1987); *see also* Loïc Wacquant & William J. Wilson, The Cost of Racial and Class Exclusion in the Inner City. 8 *The Annals of the Am. Acad. Pol. & Soc. Sci.* 25;

47. KENNETH T. JACKSON, ED., THE NEIGHBORHOODS OF BROOKLYN (New Haven, CT: Yale Univ. Press 1998); Marcia Reiss, *Red Hook and Gowanus Neighborhood History Guide*, Brooklyn Historical Society (2000).

48. Jeffrey Fagan & Victoria Malkin, *Theorizing Community Justice Through Community Courts*, 30 FORDHAM URB. L.J. 897, 916 (2003); Edward Barnes & George Howe Holt, *Crack: Downfall of a Neighborhood*, LIFE. July 1988, at 92.

49. Loïc Wacquant, *Deadly Symbiosis: When Ghetto and Prison Meet and Mesh*, 3 PUNISHMENT & SOC'Y 95, 95–134; *see also supra* note 46 Loïc Wacquant & William J. Wilson, The Cost of Racial and Class Exclusion in the Inner City. 8 *The Annals of the Am. Acad. Pol. & Soc. Sci.* 25.

50. GREG BERMAN & JOHN FEINBLATT, GOOD COURTS: THE CASE FOR PROBLEM-SOLVING JUSTICE (The New Press 2005); *supra* note 45.

51. Fagan & Malkin, *supra* note 48, at 917; Victoria Malkin, *Problem-Solving in Community Courts: Who Decides the Problem?*, *in* PROBLEM-SOLVING COURTS: JUSTICE FOR THE TWENTY-FIRST CENTURY? (Praeger: forthcoming).

52. Fagan & Malkin, *supra* note 48, at 914.

53. Andrew White, Nora McCarthy, Elizabeth Diaz & Rajeev Yemeni, *Consider the Future: Strengthening Children and Family Services in Red Hook, Brooklyn*, CENTER FOR NEW YORK CITY AFFAIRS/MILANO GRADUATE SCHOOL (2003), *available at* http://

the median annual household income in Red Hook was $27,777 (for the Red Hook Houses it was $10,372)—well below the New York City median of $38,293.[54]

In 2001, the neighborhood's only supermarket closed down, turning this already struggling neighborhood into a food desert.[55] When a community loses its only supermarket and becomes a food desert, concerned residents and community stakeholders (depending on extent to which they are organized and the resources they possess and/or can muster) often attempt to lure new businesses,[56] establish farmers' markets,[57] link directly with regional farmers,[58]

---

www.newschool.edu/Milano/nycaffairs/pubs/considerthefuture.pdf.; *see also* Jeffrey Fagan & Victoria Malkin, *Theorizing Community Justice Through Community Courts*, 30 FORDHAM URB. L.J. 897, 914 (2003).

54. *Supra* note 53.

55. *See, e.g.*, McMillan, *supra* note 19 (noting that a farmer's market replaced the supermarket); Jill Slater, *A Farm in the Asphalt Heart of Brooklyn*, Oct. 2005, http://www.seasonalchef.com/farmredhook.htm (last visited Apr. 11, 2009); *see also* Steve McFarland, *Added Value Reaps What it Sows at Harvest Festival* (Oct. 20, 2005), http://b61productions.com/news_hole/ (last visited Apr. 11, 2009); Zoe Singer, *Green Acres*, THE BROOKLYN PAPER, Oct. 21, 2002, *available at* http://www.brooklynpaper.com/stories/25/41/25_41addedvalue.html.

56. *See, e.g.*, Erik Eckholm, *In Market for Health and Urban Renewal*, N.Y. TIMES, May 25, 2007, A12; WINNE, *supra* note 18, at 85-109 (discussing efforts to "re-store" America's food deserts); Winne, *supra* note 34, at 26 (same); *see also* Steven P. Wallace & Valentine M. Villa, *Equitable Health Systems: Cultural and Structural Issues for Latino Elders*, 29 AM. J.L. & MED. 247, 263-64 (2003) (explaining that: Regardless of one's culture . . . following a diabetic diet is difficult if fresh foods are expensive or difficult to obtain, as they often are in inner-city areas. New construction of large supermarkets in the inner-cities increases the consumption of fruits and vegetables by the poor. Policies that encourage such construction, which may be conceptualized by some as economic development or zoning policies, are also important health policies that help ameliorate inequities.) (internal footnote omitted). Because "[t]he built environment has a powerful impact on health choices and outcomes," community residents and stakeholders—especially if they are politically connected—will try to encourage new development of supermarkets and stores. Marice Ashe, Lisa M. Feldstein, Mary M. Lee & Montrece McNeill Ransom, *Land Use Laws and Access to Tobacco, Alcohol, and Fast Food*, 35 J.L. MED. & ETHICS 60, 60 (2007) (comments by Ransom). As an incentive, a community may offer to change zoning restrictions and employ other creative land use planning tools. *Id.* Even with these incentives, however, new businesses may be especially wary of coming to a community that has just lost its large retail grocer.

57. *See, e.g.*, Marice Ashe, Lisa M. Feldstein, Mary M. Lee & Montrece McNeill Ransom, *Land Use Laws and Access to Tobacco, Alcohol, and Fast Food*, 35 J.L. MED. & ETHICS 60, 60 (2007) (comments by Feldstein); Kelli K. Garcia, *The Fat Fight: The Risks and Consequences of the Federal Government's Failing Public Health Campaign*, 112 PENN ST. L. REV. 529, 577 (2007); Gilbert Gillespie, Duncan L. Hilchey, C. Clare Hinrichs, and Gail Feenstra, *Farmers' Markets as Keystones in Rebuilding Local and Regional Food Systems*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES

launch community garden programs,[59] create microfarms on underutilized urban land,[60] as well as work with small stores to improve their stocks of fruits and vegetables[61] and create transportation alternatives, such as "grocery buses," to help neighborhood residents reach supermarkets with a larger array of healthful food choices.[62] In response to the food desert in Red Hook, Added Value, a community-based non-profit organization that had been founded a year before, decided to open a farmers' market across the street from the old store. The following year, in order to provide more low-cost nutritious food to the community, Added Value started the Red Hook Community Farm on an abandoned 2.75-acre New York City Parks Department playground and asphalt playing field near the Red Hook Houses.[63]

FOR SUSTAINABILITY 65, 65-83 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007); Papavasiliou, et al., *supra* note 9; WINNE, *supra* note 18, at 37-49.

58. Gillespie, et al., *supra* note 57, at 65-81; *see also* Wekerle, *supra* note 29, at 381, 382 (explaining that "[g]rowing food in the city, developing a regional food system, buy-local campaigns, or microenterprises may be seen as de-linking strategies, small initiatives that de-link local economies from the corporate-controlled global food system. . . . These various initiatives, including many more by other food agencies and organizations across the city and suburbs, address urban sustainability by focusing on demonstrations of the possibilities for local food production, by linking directly with farmers in the region, by providing city dwellers and youth with education in growing food and eating healthy food, and by inventing new services such as community kitchens that meet multiple needs.").

59. *See, e.g.*, Kelli K. Garcia, *The Fat Fight: The Risks and Consequences of the Federal Government's Failing Public Health Campaign*, 112 PENN ST. L. REV. 529, 577 (2007); Papavasiliou, et al., *supra* note 9.

60. *See, e.g.*, Erica Barnett, *How to Fertilize Urban Food Deserts*, WORLD CHANGING, http://www.worldchanging.com/archives/007372.html (last visited Apr. 11, 2009); David Streitfeld, *Rock Bottom For Decades But Showing Signs of Life*, N.Y. TIMES, Feb. 1, 2009, at 16; *see also* Jessica Jane French, *Food Deserts: How a Community Group in Detroit is Changing Ideas About Food*, Oct. 2, 2007, *available at* http://jessicajanefrench.greenoptions.com/2007/10/02/food-deserts-how-a-community-group-in-detroit-is-changing-ideas-about-food/ (stating that "[l]ocal groups have been responding to the lack of fresh food [in Detroit, MI] by producing their own," and describing the Detroit Black Community Food Security Network (DBCF-SN), which operates a two-acre site in a downtown area of the city). For further discussion of DBCF-SN, see Larry Gabriel, *Life in the Desert*, METRO TIMES (Detroit), Sept. 26, 2007, *available at* http://www.metrotimes.com/%5Ceditorial%5Cstory.asp?id=11830.

61. Papavasiliou, et al., *supra* note 9.

62. *Id.*

63. Unless otherwise cited, this Part's discussion of Added Value and the Red Hook Community Farm is based on ongoing ethnographic research (including interviews and participant observation) conducted by the author beginning in June 2007. Readers interested in learning more about Added Value and the Red Hook

Today, Added Value operates two farmers' markets,[64] where neighborhood residents can obtain high quality vegetables from the Red Hook Community Farm (including arugula, beans, beets, chard, Chinese cabbage, collard greens, cucumber, dandelion, herbs (such as basil, mint, oregano, sage, and thyme), kale, lettuce, peppers, radicchio, radishes, spinach, squash, tomatoes, and zucchini), as well as meat and dairy products from regional farmers.[65] The Red Hook Community Farm also supplies vegetables to local restaurants and runs a community-supported agriculture (CSA) program, where "members" pay a lump sum at the beginning of a growing season

---

Community Farm should consult Diane Cardwell, *No Red Barn, but That's a Farm in Red Hook*, N.Y. TIMES, Aug. 20, 2003, at B1; Louise Crawford, *Postcard from the Slope: Sustainable Future*, Only the Blog Knows Brooklyn, June 29, 2005, http://onlytheblogknowsbrooklyn.typepad.com/only_the_blog_knows_brook/2005/06/whi_red_hook_la.html (last visited Apr. 11, 2009); Jim Dwyer, *Sweat Equity Put to Use Within Sight of Wall St.*, N.Y. TIMES, Oct. 8, 2008, at A25; Sandra Endo, *Added Value Founders Bring Red Hook Residents Together With Green Thumb*, Nov. 27, 2004, http://www.ny1.com/ny1/content/index.jsp?&aid=45664&search_result=1&stid=9 (last visited Apr. 11, 2009); Bill Farrell, *Farm Stand Reaps 112G Seed Money*, DAILY NEWS (New York), July 12, 2004, at 3; Blaine P. Friedlander, Jr., *CCE Will Manage an Educational Produce Program for Young People in Brooklyn*, CORNELL CHRONICLE, June 29, 2004, *available at* http://www.news.cornell.edu/chronicle/04/7.29.04/Red Hook_grant.html; Mark Winston Griffith, *The "Food Justice" Movement: Trying to Break the Food Chains*, THE BLACK COMMENTATOR, *available at* http://www.blackcommentator.com/70/70_food_justice_pf.html; Keith H. Hammonds, *Investing in Social Change*, FAST COMPANY MAG., Dec. 19, 2007, *available at* http://www.fastcompany.com/magazine/71/socialcapital.html; Gillian M. Kalson, *A Farm Grows in Brooklyn*, THE INDYPENDENT, June 7-20, 2007, at 20; Nina Lalli, *Fresh Cuts: Brooklyn's Greenmarkets Hold Their Own Against Union Square*, VILLAGE VOICE, July 26, 2005, *available at* http://www.villagevoice.com/2005-07-26/restaurants/fresh-cuts/; Steve McFarland, *Added Value Reaps What it Sows at Harvest Festival* (Oct. 20, 2005), http://b61productions.com/news_hole/ (last visited Apr. 11, 2009); McMillan, *supra* note, 19; Tracie McMillan, *Urban Farmers' Crops Go From Vacant Lot to Market*, N.Y. TIMES, May 7, 2008, at F9; Jennifer Medina, *Bleak Landscapes, Green Produce*, N.Y. TIMES, Oct. 8, 2004, at B1, B10 [note: article appears to be called *Poor Neighborhoods See Rise in Farmers' Markets* in some editions of the NYT]; Robin Raisfeld & Rob Patronite, *The Red Hook Diet*, N.Y. MAGAZINE, Oct. 5, 2005, *available at* http://nymag.com/nymetro/food/features/14694/; Zoe Singer, *Green Acres*, THE BROOKLYN PAPER, Oct. 21, 2002, *available at* http://www.brooklynpaper.com/stories/25/41/25_41addedvalue.html; Jill Slater, *A Farm in the Asphalt Heart of Brooklyn*, Oct. 2005, http://www.seasonalchef.com/farmredhook.htm (last visited Apr. 11, 2009); Mark Thompson, *Farming Careers in the 'Hood?*, Oct. 2005, *available at* http://www.seasonalchef.com/farmredhook1.htm.

64. Diane Cardwell, *No Red Barn, but That's a Farm in Red Hook*, N.Y. TIMES, Aug. 20, 2003, at B1

65. Jim Dwyer, *Sweat Equity Put to Use Within Sight of Wall St.*, N.Y. TIMES, Oct. 8, 2008, at A25.

and commit to work a certain number of hours on the farm during the season.[66] Members then receive weekly allotments of vegetables and fruits, sharing in the risks and benefits of food production.

While providing local, healthful, and affordable food in sustainable and environmentally-friendly ways is central to Added Value's mission and its purpose in running the Red Hook Community Farm,[67] Added Value embodies food justice in ways other than just growing and selling food.[68] As Ian Marvy, one of the founders of Added Value explains, food justice encourages locally-based food systems that "involve[] local people from seed to sale. [Food justice] educates, organizes and mobilizes new social relations around food. It touches hands, hearts and pockets."[69] For Marvy and Added Value, education is paramount.[70] During the school year, Added

66. Individuals and families who cannot afford to pay upfront are allowed to pay in installments. The Red Hook Community Farm also allows low-income individuals to pay a smaller amount in exchange for a larger work commitment. For a brief description of CSAs, see Jennifer Wilkins and Marcia Eames-Shearly, *A Primer on Community Food Systems: Linking Food, Nutrition and Agriculture*, Cornell University Cooperative Extension (2004), *available at* http://www.hort.cornell.edu/department/faculty/eames/foodsys/pdfs/Primer.pdf.

67. The Red Hook Community Farm consists of raised beds on the asphalt left over from the former New York City Parks Department playground and playing field. Jim Dwyer, *Sweat Equity Put to Use Within Sight of Wall St.*, N.Y. TIMES, Oct. 8, 2008, at A25. As such, the fruits and vegetables grown on the Red Hook Community Farm cannot be labeled "organic," even though the risk of exposure to contaminants and other toxic hazards from prior uses of the land is infinitesimal and even though no fertilizers, pesticides, or food additives have been used in farming. Zoe Singer, *Green Acres*, THE BROOKLYN PAPER, Oct. 21, 2002, *available at* http://www.brooklynpaper.com/stories/25/41/25_41addedvalue.html.

68. *See* Royte, *supra* note 36, at 25 (noting the "intangible social benefits," as well as the ecological and economic benefits, of initiatives like Added Value's Red Hook Community Farm).

69. Jill Slater, *A Farm in the Asphalt Heart of Brooklyn*, Oct. 2005, http://www.seasonalchef.com/farmredhook.htm (last visited Apr. 11, 2009).

70. Although Marvy and Added Value focus on education related to food justice, urban farm-based food production, and the relationship of agriculture to the environment, as well as communication, leadership, and life skills more broadly, they would likely agree—as does the author of this Article—that education in general is important in neighborhoods like Red Hook. For a study examining the overall educational differences between food desert and nonfood desert communities, see Troy C. Blanchard & Todd L. Matthews, *Retail Concentration, Food Deserts, and Food-Disadvantaged Communities in Rural America*, *in* REMAKING THE NORTH AMERICAN FOOD SYSTEM: STRATEGIES FOR SUSTAINABILITY 201, 201-15 (C. Clare Hinrichs & Thomas A. Lyson eds., Univ. of Neb. Press 2007) (finding that residents of food desert counties were more likely to have received less than a high school education and less likely to have received a bachelor's degree than residents of nonfood desert counties).

Value hosts educational programs for school children to learn about social, economic, and environmental issues related to urban agriculture. Added Value staff visit local elementary, middle, and secondary schools to make presentations and teach children and adolescents about food justice, urban farming, and sustainable agricultural techniques, such as crop rotation,[71] "three sister planting,"[72] and no-till or low-till planting.[73] Teachers are encouraged to bring their classes to the farm for half-day and day-long service learning projects; some classes and schools even choose to develop long-term projects with the Red Hook Community Farm, whereby the students might plant organic cotton or wheat in order to understand growing cycles.

Outside the institutional context of school, Added Value offers numerous opportunities for neighborhood residents and visitors to learn about urban farm-based food production, farm-market development, and the effect of agriculture on the environment (and the benefits of local, organic produce) through hands-on learning and service activities. Volunteers, interns, and CSA members of all ages, generations, and backgrounds join Added Value staff in working on the farm, creating a space for the creative exchange of ideas, philosophies, and techniques–from planting and irrigation to cooking and composting to the politics of food.

In addition to its educational endeavors and initiatives, as well providing sustenance to and improving the health and well-being of Red Hook residents, Added Value seeks to create meaningful work opportunities for neighborhood adolescents. Like many low-income minority areas, there are not many jobs available for Red Hook youths in their mid-teens. Through its various programs, teenagers in the community learn about health, nutrition, and sustainable farming techniques, while planting and harvesting crops, working at the farmers' markets, and assisting with the CSA.[74] (Added Value's Digital Horizons program trains youth in media literacy and multi-

71. Crop rotation replenishes the soil and interrupts pest reproductive cycles, which helps reduce the need for pesticides. *See* Gillian M. Kalson, *A Farm Grows in Brooklyn*, THE INDYPENDENT, June 7-20, 2007, at 20.

72. "Three sister planting"–a traditional Iroquois practice–involves planting corn, beans, and squash together. "[T]he corn's stalk enables the bean plant to grow upward," while "the beans fix nitrogen in the soil that the corn depletes." *Id.* Squash keeps both beans and corn hydrated. *See id.*

73. "No-till planting" and "low-till planting" both save fuel and minimize soil erosion. *See id.*

74. *See* Gillian M. Kalson, *A Farm Grows in Brooklyn*, THE INDYPENDENT, June 7-20, 2007, at 20.

media production (e.g., digital photography, desktop publishing, and a blog).[75])

To better understand the significance of these youth programs—both for the adolescents in Red Hook and for this Article—consider a December 2008 editorial published in the *New York Times*, which called upon then-President-elect Barack Obama to create public works projects for young people to help resuscitate the economy. As the author of the Editorial argued:

> The part-time jobs that American teenagers once took for granted—but that millions can no longer find—provided a lot more than pocket money. Young people also learned basic workplace skills and developed work histories that made them attractive to future employers. Young people who fail to find early jobs are more likely to remain underemployed or unemployed into their 20s and beyond. The risks are compounded for low-income youth, who are more likely to leave school and have other problems when they do not find work. . . . The situation is far worse in low-income minority areas, where the youth employment rate appears to be hovering not much above 10 percent.[76]

Added Value's youth programs provide Red Hook adolescents with paychecks, but, as the Editorial suggests, they offer a lot more that simply pocket money or training in urban farming methods, for that matter. Added Value's programs stress youth empowerment and teach job communication, and leadership skills to enable the youth to continue in the workforce.[77] Many of the program participants emerge not only healthier and wealthier, but with confidence, discipline, and enhanced aptitude for creative thinking and problem solving. At the very least, and for lack of a better phrase, the programs keep the adolescents out of trouble. As Marvy himself describes, part of the impetus for starting the Red Hook Community Farm and for recruiting local teens to work was to meet and engage youth "'before they got involved with the juvenile justice system.'"[78]

Although Added Value's youth programs have not been subjected to randomized controlled studies to determine whether they indeed serve to prevent delinquency and crime and to keep adolescents out of the juvenile justice system, the programs do teach prosocial behavior and anecdotal evidence suggests that the programs mitigate or avert some of the causes of crime. Minimally, Added Value's youth programs and their operations at the Red Hook

75. Readers can visit the blog at http://www.added-value.org/digitalhorizons/.

76. Editorial, *Even Worse for Teens*, N.Y. TIMES, Dec. 8, 2008, at A28.

77. Diane Cardwell, *No Red Barn, but That's a Farm in Red Hook*, N.Y. TIMES, Aug. 20, 2003, at B1, B5.

78. *See* Endo, *supra* note 63.

Community Farm as a whole may speak to and find support in a number of criminological theories regarding the etiology of crime, to which this Article now turns.

III.

Unlike many other disciplines in the social and natural sciences, criminology lacks a single theory that all criminologists accept. Whereas Darwin's theory of evolution provides an organizing framework for biologists, and Newton's laws of motion and Einstein's theory of relativity have been embraced by virtually all physicists, criminology possesses no one paradigm that is empirically superior to all others (although criminologists frequently argue for one theory over another).[79] Rather, criminology holds a number of theories about crime. Some criminological theories adhere to the "social constructionist paradigm"—the idea that crime is not an objective condition, but phenomena that are defined and conceptualized differently by different social actors. These theories consider who defines proscribed behavior and for what purpose. Other criminological theories hold fast to the "positivist paradigm"—the presupposition that crime is an objective condition or social fact that can be known and explained through the scientific method.[80] These theories contemplate the causes of crime and ways in which crime may be controlled or reduced. Within this "positivist paradigm," some schools of thought examine the causes of crime at the macro level, while others look at crime at the micro level.[81] Some theories attempt to explain a broad range of facts not restricted to a particular place or time, while others may apply to one type of crime or to assorted types of crimes under a limited set of circumstances. Criminological theories may also differ with respect to the extent to which they attempt to identify proximate or distant causes of crime. In sum, criminological possesses a rich, imaginative variety of theories that may differ in their paradigmatic structure, level of analysis, range of explanation, and causal analysis.[82]

While criminologists may differ in their specific theoretical orientations, many, however, agree that crime, like much social behav-

79. *See* FRANCIS T. CULLEN & ROBERT AGNEW, CRIMINOLOGICAL THEORY: PAST TO PRESENT 1 (3rd ed. 2006).

80. *Id.*

81. *Id.*

82. *See* DAVID KAUZLARICH & HUGH BARLOW, INTRODUCTION TO CRIMINOLOGY 209-211 (9th ed. 2009).

ior, is a multifaceted phenomenon influenced and shaped by a number of factors. As such, it is appropriate to consider whether the types of measures taken by Added Value to bring about food justice might also help to prevent crime and/or reduce recidivism. This Part briefly describes a number of criminological theories and for each of them suggests how Added Value's efforts to address Red Hook's food desert and eradicate food injustice resonates with the particular theory's orientation and explanations for the causes of crime. The purpose is not to contend that Added Value's initiatives definitely serve to prevent crime or that certain schools of criminological thought should adopt food justice as a panacea or as its lodestar. Rather, the immediate goal is to lay the foundation or plant the seeds for further exploration of the linkages between criminological theory and food justice. The larger hope is that food justice will become a part of crime prevention—that proponents of food justice will reach out to lawmakers and policymakers concerned with crime, and that criminologists and criminal justice practitioners will look to food justice initiatives for ideas to prevent crime and reduce recidivism.

A. Biological Factors, Individual Traits, and Crime

Most criminological theories consider social-environmental factors in order to explain the causes of crime. That is, most criminological theories make little or no mention of individual differences between criminals and noncriminals. Some criminologists, however, argue that criminology should look beyond the social environment to biological factors and individual traits. These theorists argue that individuals may differ from one another in ways that influence the propensity to commit crime and that these differences may be partially biologically based. Thus, such criminologists have considered genetic influences on crime (e.g., whether crime is inherited to some degree), [83] the relationship of hormonal or chemical imbalances to

83. Genetic theories focusing on inherited traits, defects, or deficiencies have relied on twin studies, adoption studies, and molecular genetic studies. *See, e.g.*, CULLEN & AGNEW, *supra* note 79, at 31-32; KAUZLARICH & BARLOW, *supra* note 82, at 233-35; GEORGE B. VOLD, THOMAS J. BERNARD & JEFFREY B. SNIPES, THEORETICAL CRIMINOLOGY 68-87 (4th ed. 1998); *see also* Patricia A. Brennan, Sarnoff A. Mednick & Jan Volavka, *Biomedical Factors in Crime*, *in* CRIME 65, 65-90 (James Q. Wilson & Joan Petersilia eds., 1995); LEE ELLIS & ANTHONY WALSH, CRIMINOLOGY (Allyn 2000); DIANA FISHBEIN, BIOBEHAVIORAL PERSPECTIVES IN CRIMINOLOGY (Wadsworth 2001); ADRIAN RAINE, THE PSYCHOPATHOLOGY OF CRIME (Academic Press 1993);

criminal behavior,[84] and "biological harms" of nongenetic origin, including the mother's poor health habits during pregnancy (e.g., poor nutrition, alcohol consumption, and drug use), delivery complications during pregnancy, head injury, exposure to certain toxic substances (such as lead), and poor diet.[85]

Criminologists who seek to identify biological factors that lead to crime do not argue that these characteristics *cause* crime. They do not claim, for example, that a particular gene leads directly to crime. Rather, they explain that "certain biological conditions increase the likelihood that an individual will engage in maladaptive behavior patterns (e.g., violent or antisocial behavior), and that those behavior patterns can include actions that are legally defined as criminal."[86]

With respect to correlates between diet and criminal behavior, Hibbeln and his colleagues found that low concentrations of docosahexaenoic acid, a polyunsaturated omega-3 fatty acid, may increase predisposition to hostility and depression, and that abnormalities in essential fatty acid metabolism may be present in violent offenders.[87] To offer another example, Gesch and his colleagues, in an experimental, double-blind placebo-controlled, randomized trial of nutritional supplements on 231 young adult prisoners, comparing

---

DAVID ROWE, BIOLOGY AND CRIME (Roxbury 2002); Jasmine A. Tehrani & Sarnoff A. Mednick, *Genetic Factors and Criminal Behavior*, 64 FED. PROBATION 24, 24-27 (2000).

84. *See, e.g.*, Lee Ellis, *Monoamine Oxidase and Criminality: Identifying an Apparent Biological Marker for Antisocial Behavior*, 28 J. RES. IN CRIME & DELINQ. 227, 227-51 (1991); Lee Ellis & Anthony Walsh, *Gene-Based Evolutionary Theories in Criminology*, 35 CRIMINOLOGY 229, 229-76 (1997); *see also* VOLD, ET AL., *supra* note 81, at 68-87.

85. CULLEN & AGNEW, *supra* note 79, at 31-32; *see also* Patricia A. Brennan, Sarnoff A. Mednick & Jan Volavka, *Biomedical Factors in Crime*, *in* CRIME 65, 65-90 (James Q. Wilson & Joan Petersilia eds., 1995); DEBORAH H. DENNO, BIOLOGY AND VIOLENCE (Cambridge Univ. Press 1990); LEE ELLIS & ANTHONY WALSH, CRIMINOLOGY (Allyn 2000); ADRIAN RAINE, THE PSYCHOPATHOLOGY OF CRIME (Academic Press 1993); ADRIAN RAINE, PATRICIA A. BRENNAN, DAVID P. FARRINGTON & SARNOFF A. MEDNICK, BIOSOCIAL BASES OF VIOLENCE (Plenum 1997).

86. VOLD, ET AL., *supra* note 83, at 69; *see also* CULLEN & AGNEW, *supra* note 79, at 29-30 (explaining that for proponents of biological theories of crime, "biological factors are said to affect the central autonomic nervous system in ways that contribute to traits conducive to crime, such as impulsivity, sensation seeking, and irritability."). For an example of such an approach, see Diana H. Fishbein, *Biological Perspectives in Criminology*, 28 CRIMINOLOGY 27, 27-72 (1990).

87. Joseph R. Hibbeln, John C. Umhau, Markku Linnoila, David T. George, Paul W. Ragan, Susan E. Shoaf, Michael R. Vaughan, Robert Rawlings & Norman Salem, Jr., *A Replication Study of Violent and Nonviolent Subjects: Cerebrospinal Fluid Metabolites of Serotonin and Dopamine Are Predicted by Plasma Essential Fatty Acids*, 44 BIOLOGICAL SOC'Y 243, 243-249 (1998).

disciplinary offenses before and during supplementation, found that antisocial behavior in prisons, including violence, is reduced by vitamins, minerals and essential fatty acids, with similar implications for those eating poor diets outside prison walls.[88] Although Gesch and his colleagues were careful not to attribute antisocial behavior entirely to nutrition, they asserted that "the difference in outcome between the active and placebo groups could not be explained by ethnic or social factors, as they were controlled for by the randomised design."[89] They concluded that supplementing prisoners' diets with physiological dosages of vitamins, minerals and essential fatty acids (omega-6 and omega-3, which foster the growth of neurons in the brain's frontal cortex–the portion of the brain that controls impulsive behavior) caused a reduction in antisocial behavior to a remarkable degree, suggested that further reductions in antisocial behavior could be achieved by providing violent subjects with foods containing proportionally more fatty acids, and advocated additional research to understand how food may improve understanding of established risk factors.[90]

These studies lend credence to the suggestion in Part II that some of Added Value's food justice initiatives, such as its farmers' markets and CSA, may serve as crime prevention or crime reduction strategies–especially to criminologists and criminal justice practitioners who subscribe to theories based on biological factors and individual traits. Such theories are not particularly popular, however, and both policymakers and the public at large may balk at the notion of attempting to change violent, or potentially violent, behavior through food.

As Mihm contemplates,

> What would it mean if we found a clear link between diet and violent behavior? To start with, it might challenge the notion that violence is a product of free will . . . . The belief that people choose to be violent may be irrelevant if the brain isn't firing on all cylinders. This may especially be the case for impulsive acts of violence, which are less a choice than a failure to rein in one's worst instincts.[91]

---

88. B. Gesch, S. Hammon, S. Hampson, A. Eves & M. Crowder, *Influence of Supplementary Vitamins, Minerals and Fatty Acids on the Antisocial Behaviour of Young Adult Prisoners*. 181 BRIT. J. PSYCHIATRY 22, 22-28 (2002).

89. *Id.* at 26.

90. *Id.* at 26-27.

91. Stephen Mihm, *Does Eating Salmon Lower The Murder Rate?*, *N.Y. Times Magazine*, Apr. 16, 2006, at 18.

To offer a specific example of how the public might respond to the notion that crime is influenced by the biological factor of poor diet, recall that in the 1979 trial of Dan White for the shooting deaths of San Francisco Mayor George Moscone and Supervisor Harvey Milk, White's counsel offered the "Twinkie Defense," suggesting that junk food was partially to blame for his "diminished capacity."[92] The jury believed the argument that a poor diet contributed to White's compromised mental state and found him guilty of only voluntary manslaughter. Instead of the death penalty, White received a sentence of fewer than eight years, for which he served five years, one month, and nine days. Although White's allegedly poor diet actually played a minor role in his attorneys' attempt to explain White's depression,[93] the media jumped on the concept of the "Twinkie Defense." Outrage in the California state legislature over the White trial led to the abolition of the "diminished capacity" defense, but the term "Twinkie Defense" lives on and is used to describe "a seemingly absurd defense strategy that somehow works."[94] That the "Twinkie Defense" leaves a bad taste in the mouths of many may serve as an indication of public response to attempts to alter behavior through food. As Mihm contends, "there's something that many people may find unnerving about the idea of curing violent behavior by changing what people eat. It threatens to let criminals evade responsibility for their actions."[95] More controversial, Mihm goes on to suggest, "is the brave-new-world idea of using diet to enforce docility and conformity to the rules, a sort of state-sponsored version of that timeless parental demand to children everywhere: 'Eat your vegetables.'"[96]

Criminologists working in the biological vein believe the presence of certain biological factors may increase the *likelihood* that an individual will engage in criminal behavior. They do not, as noted above, claim that biological factors *determine absolutely* that an individual will commit crimes, as Mihm fears. Nevertheless, one can imagine food justice advocates (as well as policymakers and criminal

92. Michael R. Dreeben, *The Right to Present a Twinkie Defense.* 9 GREEN BAG 2d. 347, 347-352; Blake Fleetwood, *From the People Who Brought You the Twinkie Defense; The Rise of the Expert Witness Industry.* WASH. MONTHLY, June 1987, at 33; Carol Pogash, *The Myth of the "Twinkie Defense": The Verdict in the Dan White Case Wasn't Based on his Consumption of Junk Food,* SAN FRANCISCO CHRONICLE. Nov. 23, 2003, at D1.

93. *See* Dreeben, *supra* note 92, at 347-52.

94. *Id.* at 348, note 5.

95. Mihm, *supra* note 91, at 18.

96. *Id.*

justice practitioners) being vilified for arguing for food justice initiatives exclusively on the basis of biologically-oriented criminological theories. As such, food justice proponents interested in arguing for food justice on crime prevention and crime reduction grounds will also need to look to sociologically-oriented criminological theories, to which this article now turns.

B. Strain and Differential Opportunity Theories

Whereas biological theories search for differences between individuals and consider conditions within an individual that will increase the likelihood that the individual will break society's laws, sociological theories tend to emphasize causes and correlations found in the environment. Most criminological theories are sociological in nature and an in-depth consideration of all of them and whether they speak to the principles and philosophies of food justice is outside the scope of this Article. Thus, this Section and the ensuing one offer just a taste of the rich variety of sociologically-oriented theories that have been employed to explain the causes of crime.

One type of sociological theory of crime, generally considered a "social structural" theory of crime, begins with the assumption that the modern industrial (and now post-industrial) society of the United States emphasizes certain universal goals of success. As Robert K. Merton argued in his seminal article, *Social Structure and Anomie*, society provides both legitimate and illegitimate means for achieving these goals.[97] Technically, everyone who seeks to attain certain success-goals has the opportunity to do so (especially through education), but the reality, according to Merton, is that many lower-class youths who aspire to success (e.g., money or status) are denied the legitimate opportunities to do so.[98] Lacking legitimate channels to achieve success, these individuals may experience considerable strain or pressure, which, in turn, may lead some to engage in crime: "Frustration and thwarted aspiration lead to the search for avenues of escape from a culturally induced intolerable situation; or unrelieved ambition may eventuate in illicit attempts to acquire the dominant values. The American stress on pecuniary

97. Robert K. Merton, *Social Structure and Anomie*, 3(5) Am. Soc. Rev. 672, 672-82 (Oct. 1938).

98. *Id.*

success and ambitiousness for all thus invites exaggerated anxieties, hostilities, neuroses and antisocial behavior."[99]

Drawing on and extending Merton's "strain" theory, Richard Cloward and Lloyd Ohlin argued in their path-breaking book, *Delinquency and Opportunity*, that when lower-class individuals are prevented from achieving monetary success or status through legitimate channels, they may turn to illegitimate avenues (such as burglary, robbery, prostitution, or selling drugs), may substitute the goals of economic success and middle-class status for new goals (such as gaining status through fighting), or may reject cultural goals and norms and retreat into drug use.[100] Cloward and Ohlin do not believe that individuals venture into crime on their own. Rather they contend that such individuals will likely first form or join a delinquent subculture and they identify three types of delinquent subcultures–*criminal* (based on illegal money-making activities), *conflict* (characterized by fighting as a means of achieving status), and *retreatist* (marked by the prevalence of alcohol use, drug use, and addiction).[101] Neighborhoods "vary in the extent to which they provide [individuals] with alternative (albeit illegitimate) routes to higher status."[102] In other words, "local milieu" matters and only certain environments will support a criminal style of life.[103] The solution to

---

99. *Id.* at 680.

100. RICHARD CLOWARD & LLOYD OHLIN, DELINQUENCY AND OPPORTUNITY: A THEORY OF DELINQUENT GANGS (Free Press 1960). For general overviews of Cloward and Ohlin's theory, *see, e.g.*, ROBERT J. BURSIK, JR. & HAROLD G. GRASMICK, NEIGHBORHOODS AND CRIME: THE DIMENSIONS OF EFFECTIVE COMMUNITY CONTROL 134-42 (Lexington Books 1993); CULLEN & AGNEW, *supra* note 79, at 162-67; KAUZLARICH & BARLOW, *supra* note 82, at 253-54; VOLD, ET AL., *supra* note 83, at 167-69.

101. VOLD, ET AL., *supra* note 83, at 168.

102. CLOWARD & OHLIN, *supra* note 100; *see also* CULLEN & AGNEW, *supra* note 79, at 189.

103. CLOWARD & OHLIN, *supra* note 100; *see also* CULLEN & AGNEW, *supra* note 79, at 189. Cloward and Ohlin maintained that "[socially] disorganized neighborhoods do not develop integration of different age-levels of offender or integration of carriers of criminal and conventional values. The young . . . are deprived of *both* conventional and criminal opportunity"–conditions that lead to the emergence of conflict subcultures. CLOWARD & OHLIN, *supra* note 100; *see also* CULLEN & AGNEW, *supra* note 79, at 190. According to Cloward and Ohlin, "[t]here are many lower-class adolescents oriented toward success in the criminal world who fail.." CLOWARD & OHLIN, *supra* note 100; *see also* CULLEN & AGNEW, *supra* note 79, at 190. These individuals, "faced with failure in the use of *both* legitimate and illegitimate means . . . who experience this 'double failure' are likely to move into a retreatist pattern of behavior." CLOWARD & OHLIN, *supra* note 100; *see also* CULLEN & AGNEW, *supra* note 79, at 190.

youths joining criminal subcultures, according to Cloward and Ohlin, is to remove the barriers to legitimate opportunity and provide that opportunity.[104]

While empirical support for Cloward and Ohlin's differential opportunity theory has not been overwhelming,[105] the authors did have the occasion to test their recommendations for policy. In the early 1960s, Cloward and Ohlin designed a program grounded in differential opportunity theory called Mobilization for Youth (MFY)—the first large-scale delinquency prevention program sponsored by the federal government. As Bursik and Grasmick explain, MFY, which was set up in the Lower East Side of Manhattan

> was designed under the assumption that juvenile delinquency could be decreased if the opportunities that were provided to youths through local neighborhood institutions could be brought into line with the aspirations of these youths; the primary targets were institutions concerned with housing, education, sanitation, employment, and law enforcement. These institutional changes could be accomplished if the adult residents of a neighborhood increased their degree of participation in local affairs and eventually moved into positions of institutional leadership, thereby holding the reins of decision-making themselves. This participation in local decision-making processes was expected to increase the identification of adults with the local community which in turn would make them more likely to try to control the illegal activities of neighborhood youths. Therefore, delinquency was assumed to decrease with the increasing organization and integration of the community.[106]

Unfortunately, MFY did not develop according to Cloward and Ohlin's model. Political battles, criticism from conservative media (such as the *New York Daily News*), and concerns that the opportunity structures were controlled by forces outside the community meant that the program as originally designed never materialized. As such, it is difficult to gauge what effects MFY might have had on the rate of crime and delinquency in the Lower East Side.[107]

Some would assert that because MFY was a failure, differential opportunity theory is untenable. Others would contend that MFY could never have succeeded without larger changes in the structures

---

104. VOLD, ET AL., *supra* note 83, at 168.

105. *See* JAY LIVINGSTON, CRIME & CRIMINOLOGY 371 (2nd ed. 1996).

106. BURSIK & GRASMICK, *supra* note 100, at 167 (internal quotation and citation omitted).

107. For a brief discussion of the development and failure of MFY, see BURSIK & GRASMICK, *supra* note 100, at 166-69; LIVINGSTON, *supra* note 105, at 371-72; VOLD, ET AL., *supra* note 83, at 167-69. For an in depth history of the development of the MFY project, see JOSEPH H. HELFGOT, PROFESSIONAL REFORMING: MOBILIZATION FOR YOUTH AND THE FAILURE OF SOCIAL SCIENCE (Lexington 1981).

of power and opportunity. And still others occupy somewhat of a middle-ground position, maintaining that the spirit of MFY—providing opportunities to lower-class youth—is vital to delinquency interventions and prevention strategies. Arguing for food justice as crime prevention represents the last of these perspectives. While the youth programs run by Added Value at the Red Hook Community Farm are a far cry from the MFY project, they are united in the belief that if youth gravitate towards delinquent subcultures and gangs because of barriers to legitimate opportunity, removing these barriers and providing opportunities may curb economic crime, violent crime, and illicit drug use.

C. Social Bond Theory

Criminal behavior, and human behavior more generally, is the result of both motivations and restraints. Whereas differential opportunity theory considers various factors that may spur an individual to commit a crime, social bond theory contemplates what may influence conformity to social norms. Based on the assumption that everyone is motivated to deviate at one time or another, social bond theory thus does not concern itself with what motivates an individual to commit a crime; it only considers what stands in the way of committing such an act.[108]

Nye, an early proponent of social bond theory, recognized that while crime and delinquency could be the product of learning, it could also result from the absence of control.[109] Nye identified four types of social control: 1) *direct control*, which is based on the threat of sanction and the rewards to be gained for adherence to societal norms; 2) *indirect control*, based on affectional attachments to significant others (e.g., parents) or conventional persons; 3) *internalized control*, which is rooted in the individual's personality or conscience; and 4) control over the opportunities to satisfy needs (through both deviant and conventional activities).[110]

Following Nye, Hirschi posited that most people conform most of the time because of the strength of their bond to the conventional social order. The stronger the tie to the conventional social order, the more likely individuals will feel constrained from behav-

---

108. *See* TRAVIS HIRSCHI, CAUSES OF DELINQUENCY 16-19 (Univ. of Calif. Press 1969).

109. F. IVAN NYE, FAMILY RELATIONSHIPS AND DELINQUENT BEHAVIOR (John Wiley 1958).

110. *Id.*

ing in ways that will jeopardize their place in that social order. A weaker social bond does not guarantee deviance, but simply increases the probability of delinquent behavior.[111]

Hirschi identified four components of the social bond: 1) *attachment*; 2) *commitment*; 3) *involvement*; and 4) *belief*.[112] *Attachment* refers to the emotional ties that individuals, especially youths, have with others, such as parents, peers, and school. The idea is that if individuals have strong relationships with others, they will not want to act in ways that might threaten those relationships (e.g., expulsion from school or from an Added Value youth program, arrest and imprisonment). Those who are weakly attached to others are less sensitive to others' opinions and thus "free" to deviate when circumstances or pressures dictate. *Commitment* refers to the degree to which individuals hold stakes in conformity. Individuals who want to participate in a given activity (such as a sports team or an Added Value youth program) will adhere to certain rules of conduct, as will individuals with aspirations for some conformist goal (e.g., attaining a college education). *Involvement* is somewhat synonymous with "time"—the number of hours and days per week that an individual is engaged in conventional activities. Here, Hirschi suggests that the more time an individual spends in the pursuit of conventional activities (such as urban farming), the less time one can devote to delinquent behaviors. Finally, *belief* refers to the strength of respect for society's laws. If youths have been socialized to believe that they should obey the rules of society, they should be less inclined to commit violations of the law.[113]

Hirschi does not specify a causal order to the four elements, but he does imply that attachment should be considered causally prior to the other components and that the four components should be interrelated. Thus, for example, the stronger one's ties to one's family or religious institution, the more likely one may hold conventional values and be committed to and involved with conventional pursuits.[114]

Hirschi's social bond theory has been subjected to, and corroborated by, significant and extensive empirical research (although the degree and extent of confirmation have depended on study

---

111. HIRSCHI, *supra* note 108.

112. *See* Barbara J. Costello & Paul R. Vowell, *Testing Control Theory and Differential Association: A Reanalysis of the Richmond Project Data*, 37 CRIMINOLOGY 815, 815-842 (1999).

113. *Id.*

114. *Id.*

methodology).[115] Such research has generally been more supportive of Hirschi's proposition regarding the connections between weak school and parental attachments to the probability of delinquency than lack of belief in society's laws and involvement in sports and extracurricular school activities to the likelihood of deviance. This does not mean, however, that Hirschi's theory is incorrect in these regards, or that Added Value's youth programs (or any other organization's programs and activities, for that matter) have little affect on the probability of delinquency. Obviously, such programs would have to be subjected to evaluation in order to assert a definitive crime prevention benefit. But Added Value's programs present the types of controls and ties to allow other food justice advocates to argue for similar initiatives of social bond theory grounds.

D. Crime Prevention Through Environmental Design (CPTED)

Crime Prevention Through Environmental Design (CPTED) is an approach to deterring crime based on the design and use of the built environment. (Thus, strictly speaking, CPTED is not a criminological theory, but a crime prevention technique). The goal of CPTED is to affect offender decisions that precede criminal behavior and reduce the opportunities for street crime through environmental design.[116]

Because the decision whether to offend is often influenced by the would-be offender's perceived risk of being caught, CPTED based-strategies emphasize enhancing the perceived risk of detection

---

115. *See, e.g.*, Barbara J. Costello & Paul R. Vowell, *Testing Control Theory and Differential Association: A Reanalysis of the Richmond Project Data*, 37 CRIMINOLOGY 815, 815-842 (1999); Kimberly L. Kempf, *The Empirical Status of Hirschi's Control Theory* (1993), *reprinted in* 4 NEW DIRECTIONS IN CRIMINOLOGICAL THEORY: ADVANCES IN CRIMINOLOGICAL THEORY 143-185 (Freda Adler & William S. Laufer eds., Transaction Publishers 2000); Marvin Krohn, CONTROL AND DETERRENCE THEORIES OF CRIMINALITY (1995), *reprinted in* CRIMINOLOGY 373-399 (Joseph F. Sheley ed., 3rd. ed. 2000); M.D. Wiatrowski, D.B. Griswold & G. Elder, *SOCIAL CONTROL THEORY AND DELINQUENCY*, 46 AM. SOC. REV. 525, 525-41 (1981).

116. CPTED was first developed by C. Ray Jeffrey and Oscar Newman. *See, e.g.*, C.R. JEFFERY. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (1972); O. NEWMAN, DEFENSIBLE SPACE: CRIME PREVENTION THROUGH URBAN DESIGN (1972). It was subsequently advanced by Richard Gardiner. *See* R.A. GARDINER, DESIGN FOR SAFE NEIGHBORHOODS: THE ENVIRONMENTAL SECURITY PLANNING AND DESIGN PROCESS (1978). Since the 1970s, CPTED has gained international acceptance and has been the subject of significant scholarship. For an excellent, thorough, semi-annotated bibliography of CPTED sources, see http://www.thecptedpage.wsu.edu/Resources.html.

and apprehension. These strategies include "natural surveillance," "territoriality" or "territorial reinforcement," "access control" or "natural access control," and "image."

Natural surveillance involves maximizing the visibility of people, parking areas and building entrances through proper lighting (especially at night), window placement, reduction of physical barriers that create blind spots, and generally any architectural design that enhances the likelihood that a would-be offender might be observed.[117] Natural surveillance often accompanies "target hardening," which involves prohibiting access or entry to a given location with mechanical and operational features such as window locks and dead bolts for doors.

Territoriality or territorial reinforcement entails using the physical design of a particular place to create or extend a sphere of influence. The idea is that would-be offenders may be discouraged from committing criminal or nuisance behavior if they believe that businesses or neighborhoods possesses ownership and control over a particular space. Thus, these strategies involve employing landscape plantings and pavement designs, for example, to declare a sense of place and proprietorship.[118]

Natural access control, or simply access control, focuses on the entry and exit points into and of buildings, neighborhoods, parks, and parking lots.[119] This may be accomplished by designing entrances, gateways, sidewalks, and streets to clearly indicate public routes and to discourage access to private areas with fences and staffed entrance gates.[120]

Finally, "image" refers to the message that is conveyed about the management and maintenance of an area. It is closely related to territoriality and is based on the idea that a well-maintained area is one that the owners care about and will thus defend against crime; a poorly maintained area, on the other hand, announces that the owners or management do not care about the property and may overlook criminal activity. Examples of image strategies include painting over graffiti and community clean-ups.[121]

---

117. Greg Saville & Mona Mangat, *SafeGrowth: Creating Safety & Sustainability through Community Building and Urban Design* (Community Paper Safety Series), at 4, LISC COMMUNITY SAFETY INITIATIVE/METLIFE FOUNDATION (2007), *available at* http://www.policefuturists.org/pdf/LISC_SafeGrowth_final.pdf.

118. *Id.* at 4, 6.

119. *Id.* at 4.

120. *Id.*

121. *Id.*

Second generation CPTED attempts to broaden "first generation" CPTED in two ways: first, by considering and working to alleviate social/cultural conditions that give rise to offender motivation; and second, by considering and generating community building efforts that are based on resident networks and commitment to creating safe and sustainable communities (beyond simple changes to the physical environment, such as adding street lights and trimming hedges). In other words, whereas first generation CPTED was concerned with "modifying the physical environment to help people take control of spaces where they work and live,"[122] second generation CPTED incorporates "the social motives for crime and the cultural dynamics that give rise to those crime concerns,"[123] or, as Donnermeyer and DeKeseredy explain, second generation CPTED "focus[es] . . .on conditions within communities that enable violence, and how to reduce/eliminate the enablers" through community capacity building efforts.[124] Second generation CPTED thus adds a capacity building dimension to first generation CPTED's focus on physical change–second generation CPTED contemplates social and physical change, rather than just changes in the built environment.

Like first generation CPTED, second generation CPTED is oriented around four guiding principles that help shape strategy and planning. But whereas territoriality lies at the root of first generation CPTED, social cohesion is the core or focal point of second generation CPTED.[125] Second generation CPTED employs the following principles: "social cohesion" or simply "cohesion," "connectivity," "culture," and "capacity threshold" or "community threshold."[126]

Cohesion strategies "enhance relationships between residents, merchants and key participants in a neighborhood" and include community mentoring programs, school-based social competency

---

122. Saville & Mangat, *supra* note 117, at 6.

123. *Id.* at 7.

124. Joseph F. Donnermeyer & Walter DeKeseredy, *Toward a Rural Critical Criminology*, 23 S. RURAL SOC. 4, 20 (2008).

125. Saville & Mangat, *supra* note 117, at 7.

126. *Id.*; *see also* A. Brassard, *Integrating the Planning Process and Second-Generation CPTED*, 2 THE CPTED J. 46-53; W.S. DeKeseredy, S. Alvi, C.M. Renzetti & M.D. Schwartz, *Reducing Violence Against Women in Public Housing: Can Second Generation CPTED Make a Difference?*, 3 THE CPTED J. 27-37; Walter S. DeKeseredy, Joseph F. Donnermeyer & and Martin D. Schwartz, *Toward a gendered Second Generation CPTED for preventing woman abuse in rural communities*, 22(3) SEC. J. 178, 178-89 (2009) [hereinafter *Second Generation CPTED*].

training programs, and neighborhood watch groups.[127] The goal is to create a "network of engaged citizens" capable of solving neighborhood problems and resolving conflict.[128]

Whereas cohesion strategies work to enhance the relationships between individuals within a given place, connectivity strategies focus on joining different places, neighborhoods, social groups of like-minded individuals, or groups of individuals sharing similar experiences.[129] The goal is to prevent neighborhoods and community groups from operating in isolation of one another.[130]

The third principle or strategy—culture—refers to activities such as sports, music festivals, and artistic events that foster community pride. These "placemaking" strategies give residents reason to care about their community, their neighbors, and their streets.[131]

Finally, capacity threshold, drawing on the concept of social ecology, includes "social stabilizing" strategies and "balanced land use" strategies.[132] The former involve "safe congregation areas, positive events for young people or active community social organizations" and seek to minimize activities that often tip an area into crime and disorder, such as illegal pawn shops or bars.[133] Balanced land uses build on this notion of a tipping point and thus work to reduce the number of abandoned homes in a neighborhood, which can be a magnet for crime, vandalism, and other nuisance behavior.[134]

For the most part, the connections between first generation CPTED and food justice are rather anemic. Community gardens and urban farms—especially those that transform abandoned lots into agricultural spaces, like the Red Hook Community Farm—could be regarded as examples of territorial reinforcement or "image" strategies in the sense that they convey the impression that the neighborhood possesses ownership and control over the particular

127. Saville & Mangat, *supra* note 117, at 7.

128. *Id.*; *see also* JAMES GILLIGAN, PREVENTING VIOLENCE (Thames and Hudson 2001); G. Saville & T. Clear, *Community Renaissance with Community Justice*, THE NEIGHBORWORKS J. 18, 19-24 (2000).

129. DeKeseredy, et al., *Second Generation CPTED*, *supra* note 126.

130. Saville & Mangat, *supra* note 112, at 7.

131. *Id.*; DeKeseredy, et al., *Second Generation CPTED*, *supra* note 126.

132. Saville & Mangat, *supra* note 117, at 8.

133. *Id.*

134. *Id.*

space.[135] But food justice advocates may have a difficult time depicting food justice principles in first generation CPTED-terms.[136]

Second generation CPTED, on the other hand, presents much better avenues for collaboration between food justice advocates and criminologists or criminal justice practitioners. As DeKeseredy, Donnermeyer, and Schwartz explain, "[s]econd [g]eneration CPTED is about developing and improving forms of defensible space through engaging in community level activities that create forms of locality-based discourses concerning norms, beliefs and values about various security issues which can function to deter potential offenders"[137] Because proponents of second generation CPTED claim that teaching positive communication skills and conflict resolution enhances community cohesiveness[138]–the types of tools taught in Added Value's youth programs–one could envision food justice advocates and adherents to second generation CPTED uniting over similar such projects. Essentially, the Red Hook Community Farm and the programs conducted there by Added Value generate a degree of cohesion within the community, as well as serve a social stabilizing function;[139] the Added Value-run "Harvest Festival"– an annual celebration of urban agriculture, youth empowerment, food justice, and sustainability replete with pumpkin carving, face painting, live music, farm tours, spoken word poetry, and cooking dem-

---

135. *See generally* John Wright, *Clearcutting the East Village, in* AVANT GARDENING: ECOLOGICAL STRUGGLE IN THE CITY & THE WORLD 127, 128 (PETER LAMBORN WILSON & BILL WEINBERG, EDS., Brooklyn, NY: Autonomedia, 1999) (noting "[t]he magic ability of community gardens to deter crime, increase property values, reweave the fabric of community and bring hope to run-down areas").

136. If food justice advocates were successful in closing the grocery gap and bringing a major supermarket to their community, supporters of first generation CPTED might argue for certain types of design in order to discourage criminal behavior. *See generally* Erik Eckholm, *In Market for Health and Urban Renewal*, N.Y. TIMES, May 25, 2007, at A12 (noting that 24-hour lighting around a supermarket can "'do a lot for the sense of safety and community in [a] neighborhood'" (quoting Wendell R.Whitlock, chairman of the association that own Progress Plaza, a tattered shopping center in the mainly black, poor part of North Philadelphia.)). But chances are that proponents of first generation CPTED would not support food justice advocates' push for a supermarket simply so that they (the first generation CPTED supporters) could promote first generation CPTED design strategies.

137. DeKeseredy, et al., *Second Generation CPTED*, *supra* note 126.

138. *See generally* DeKeseredy, et al., *Second Generation CPTED*, *supra* note 126; Gilligan, *supra* note 128; Saville & Clear, *supra* note 128.

139. *See generally* James A. Carlson, *Milwaukee Man Touts Benefits of Urban Farming to Youth Groups, Schools*, ASSOCIATED PRESS, Sept. 10, 2007, *available at* http://www.usatoday.com/money/economy/2007-09-10-1109354617_x.htm (reporting how urban farming can lead to a healthier community).

onstrations—represents the type of placemaking and cultural strategies that second generation CPTED practitioners emphasize.

In comparison to first generation CPTED, second generation CPTED is a fairly new concept.[140] Despite its relative youth—or perhaps because of it—second generation CPTED may serve as a particularly fertile avenue or means for food justice advocates to appeal to policymakers and criminal justice practitioners.[141]

E. Reentry and Recidivism

When theorizing about crime, criminologists frequently contemplate and seek to understand initial instances of criminal behavior. Thus, many criminological theories are geared towards explaining the factors and circumstances that first lead an individual to "cross the line" into the criminal world. But many criminological theories—including the ones discussed above in Sections A, B, and C—are also applicable to recidivists—individuals who re-offend after serving their sentences.[142] (Thus, this Section does not discuss a particular criminological theory, but describes circumstances or phenomena that are relevant to a number of theories.) What complicates understanding and explaining recidivism is that many ex-offenders face obstacles to crime-free living greater than and on top of those that may have contributed to the initial instance(s) of criminal behavior. These hurdles—known as "collateral consequences"—include barriers to employment, prohibitions against receiving welfare, food stamps, public housing, federal college loans and grants, as well as denial of the right to vote, to be adoptive and foster parents, and to drive.[143]

---

140. Saville & Mangat, *supra* note 117, at 7.

141. Indeed, because second generation CPTED has attracted the interest of criminologists and sociologists researching crime in rural areas, it may also appeal to food justice advocates working to eradicate food deserts in rural areas. *See* DeKeseredy, et al., *Second Generation CPTED*, *supra* n.126; Joseph F. Donnermeyer & Walter DeKeseredy, *Toward a Rural Critical Criminology*, 23 S. RURAL SOC. 4, 20 (2008).

142. Note that individuals need not re-offend to recidivate. Many recidivists are those who commit a technical violation of their parole conditions, such as missing a meeting with a parole officer or failing to submit to a drug test.

143. Avi Brisman, *Double Whammy: Collateral Consequences of Conviction and Imprisonment for Sustainable Communities and the Environment*, 28 WM. & MARY ENVTL. L. & POL'Y REV. 423, 423-75 (2004) [hereinafter *Double Whammy*]; Avi Brisman, *Toward a More Elaborate Typology of Environmental Values: Liberalizing Criminal Disenfranchisement Laws and Policies*, 33(2) NEW ENGLAND JOURNAL ON CRIMINAL & CIVIL CONFINEMENT 283, 283-457 (2007) [hereinafter *Elaborate Typology*].

While collateral consequences deeply affect the individual ex-offender–roughly two-thirds of ex-offenders are rearrested within three years of leaving prison[144]–they also impact the ex-offender's family and community. As Nora V. Demleitner explains in her article, *"Collateral Damage": No Re-entry for Drug Offenders*: "Many communities to which . . . offenders return suffer disproportionately from lack of cohesion, unemployment, homelessness and family instability. By increasing the number of obstacles facing ex-offenders, their chances of succeeding in this environment are further reduced, with detrimental consequences for these communities."[145] As such, some have advocated returning to the practice of rehabilitating inmates while they are incarcerated, including providing them with job skills to facilitate reentry upon release.

One area in which prisons have started to train convicts is in "green collar" jobs. As correctional institutions have joined the green movement–implementing measures to limit their impact on the environment by reducing waste and conserving energy and water[146]–some facilities have also invested in green-collar job readiness programs to prepare inmates for release. These programs frequently include training in raising "beneficial bugs" that prey on

144. Brisman, *Double Whammy*, *supra* note 143, at 427-28; Brisman, *Elaborate Typology*, *supra* note 143, at 310.

145. Nora V. Demleitner, *"Collateral Damage": No Re-entry for Drug Offenders*, 47 VILL. L. REV. 1027, 1048 (2002).

146. *See, e.g.*, Abigail Curtis, *Maine DOC aims for energy efficiency*, BANGOR DAILY NEWS, Aug. 12, 2009, at B1, http://www.correctionsone.com/finance-and-budgets/articles/1865050-Maine-DOC-aims-for-energy-efficiency/ (last visited Sept. 17, 2009) (describing energy-saving initiatives in the Maine Department of Corrections); Green Corrections, *Green Corrections*, CORRECTIONS COMMUNITY, Dec. 17, 2008, http://community.nicic.org/blogs/green_corrections/archive/2008/12/17/green-corrections.aspx (last visited Apr. 11, 2009) (defining "green corrections" as "developing and practicing environmentally friendly business practices, with both planning/constructing and existing facilities to increase environmental awareness in the field of corrections; and by investigating green-collar job readiness programs and strategies to make penal industries and correctional agencies more environmentally friendly and self-sustaining," and discussing how some corrections institutions have been producing green products, as well as reducing operating costs by "becoming green"); Phuong Le, *Green Prisons Farm, Recycle to Save Energy, Money*, ASSOCIATED PRESS, Nov. 1, 2008, *available at* http://www.msnbc.msn.com/id/27488083/ (describing how the Cedar Creek Corrections Center in Littlerock, WA, havs been raising bees, growing organic tomatoes and lettuce, composting 100% of food waste, and even recycling shoe scraps–turning them into playground turf); *Sun Edison Sets Up Solar Power at Ironwood Prison*, ENVIRONMENTAL PROTECTION, June 2, 2008, http://www.eponline.com/articles/63422/ (last visited Apr. 11, 2009) (explaining how the prison has installed solar panels to send energy back to the grid–enough to power 4,100 homes/year).

insect pests or feed on troublesome weeds;[147] raising bees; growing organic vegetables; composting; gardening/horticulture.[148]

In general, *any* job preparedness programming in prison may help facilitate reentry and reduce recidivism. According to James Jiler, director of the GreenHouse project of the Horticultural Society of New York—a "jail-to-street" program that trains inmates of Rikers Island in gardening, landscaping, and horticulture and which has been documented as reducing recidivism:

---

147. Avi Brisman, *Fair Fare?: Food as Contested Terrain in U.S. Prisons and Jails*, 15 GEO. J. ON POVERTY L. & POL'Y 49, 90 (2008) [hereinafter *Fair Fare*]; Press Release, University of Florida, Seminole County Inmates Raise "Beneficial Bugs" for UF and USDA Researchers (Nov. 8, 2004), *available at* http://news.ufl.edu/2004/11/08/prison-bigs/; Chuck Woods, *Bailed Out by BUGS*, AMERICAN VEGETABLE GROWER, Dec. 2005, *available at* http:// www.allbusiness.com/agriculture-forestry/crop-production-vegetable/978091-1.html.

148. *See, e.g.*, Dave Block, *Composting Prison Food Residuals*, BIOCYCLE, Aug. 1997, at 37, 37-39; Nancy Allen, *Composting Food Scraps at Georgia Prison*, BIOCYCLE, Apr. 1994, at 90; Brisman, *Fair Fare*, *supra* note 141, at 90; Green Corrections, *Green Corrections*, CORRECTIONS COMMUNITY, Dec. 17, 2008, http://community.nicic.org/blogs/green_corrections/archive/2008/12/17/green-corrections.aspx (last visited Apr. 11, 2009); John Froschauer, Prisons Go Green to Save Energy, ASSOCIATED PRESS, Nov. 1, 2008, *available at* http://www.msnbc.msn.com/id/27488083/; Rome Neal, *The Greenhouse Project*, CBS/ASSOCIATED PRESS, Apr. 20, 2003, *available at* http://www.cbsnews.com/stories/2003/04/21/sunday/main550366.shtml; Julie Carry Smyth, *Inmages grow, gather veggies, to feed the hungry*, ASSOCIATED PRESS, Aug. 18, 2009, *available at* http://news.yahoo.com/s/ap/20090818/ap_on_re_us/us_food_banks_inmates (last visited Sept. 17, 2009); *Waste Wood, Food Rejects Make Great Combo at County/State Prison Site*, BIOCYCLE, July 2001, at 19; *see also* April Dembosky, *Fun on the Farm Down Home in Long Island City*, N.Y. TIMES, Aug. 20, 2008, at E1, E5.

For more on "green collar" jobs in general, *see, e.g.*, Vanessa Gera, *Green Activists Find New Ally in US Unions*, ASSOCIATED PRESS/YAHOO! NEWS, Dec. 14, 2008, *available at* http://finance.yahoo.com/news/green-activities-find-new-ally-apf-13826552.html; Jon Gertner, *Capitalism to the Rescue*, N.Y. TIMES MAG., Oct. 5, 2008, at 54, 54-61, 82-83; Peter S. Goodman, *A Splash of Green for the Rust Belt*, N.Y. TIMES, Nov. 2, 2008, at BU1, BU7; Marguerite Holloway, *The Green Power Broker*, N.Y. TIMES, Dec. 14, 2008, at CY1, CY10; Steven Greenhouse, *Millions of Jobs of a Different Collar*, N.Y. TIMES, Mar. 26, 2008, at H1, H4; VAN JONES, THE GREEN COLLAR ECONOMY: HOW ONE SOLUTION CAN FIX OUR TWO BIGGEST PROBLEMS (HarperCollins 2008); Douglas MacMillian, *Switching to Green-Collar Jobs: A Growing Number of Professionals are Taking Their Talents and Moving Them to Jobs that Can Improve the Environment*, BUSINESS WEEK, Jan. 10, 2008, *available at* http://www.businessweek.com/managing/content/jan2008/ca2008018_005632.htm; Keith Schneider, *Majoring in Renewable Energy*, N.Y. TIMES, Mar. 26, 2008, at H4; Keith Schneider, *Salt Lake City Is Finding A Payoff in Conservation*, N.Y. TIMES, Nov. 7, 2007, at H10; Matthew L. Wald, *Emphasis on Weatherization Represents Shift on Energy Costs*, N.Y. TIMES, Dec. 30, 2008, at A14, A17; *see generally* Marian Burros, *Uniting Around Food To Save an Ailing Town*, N.Y. TIMES, Oct. 8, 2008, at D1, D2; David Gonzalez, *Greening the Bronx, One Castoff at a Time*, N.Y. TIMES, Apr. 21, 2008, at B1, B6.

> People generally are going to be released, and they're going to be part of the community once again. Why are you returning people to the community angry, bitter, resentful and anti-social? Because, they're going to commit crimes once again and you may be part of that crime. It's much better to send people home with a skill.[149]

But training in green collar jobs is especially helpful while individuals are incarcerated because "green collar jobs require less licensing than some blue collar jobs."[150] In contrast, states often impose certain occupational licensing restrictions for ex-offenders, which may exclude such individuals from gaining employment in hundreds of job categories (both blue collar and white collar), including accounting, barbering, beer and liquor distribution, education, dentistry, funeral services (e.g., undertaking and embalming), health care, law, medicine, nursing, physical therapy, plumbing, private security and real estate.[151] While such occupational licensing restrictions are controversial and efforts have been undertaken to ensure a closer connection between the prior conviction and the occupation to be licensed,[152] the comparable ease of obtaining employment in the green collar economy means that ex-offenders will have one less barrier to negotiate in the process of reentry.[153]

What, then, is the connection between green-collar job readiness programs in prison, reentry, collateral consequences, and recidivism, and food justice initiatives such as community gardens and

---

149. Rome Neal, *The Greenhouse Project*, CBS/Associated Press, Apr. 20, 2003, *available at* http://www.cbsnews.com/stories/2003/04/21/sunday/main550366.shtml. For an in-depth discussion of the GreenHouse project, as well as the GreenTeam program for ex-offenders, see JAMES JILER, DOING TIME IN THE GARDEN: LIFE LESSONS THROUGH PRISON HORTICULTURE (Oakland, CA: New Village Press 2006).

150. Green Corrections, *Green Corrections*, CORRECTIONS COMMUNITY, Dec. 17, 2008, http://community.nicic.org/blogs/green_corrections/archive/2008/12/17/green-corrections.aspx (last visited Apr. 11, 2009) (citing RAQUEL PINDERHUGHES, GREEN COLLAR JOBS: AN ANALYSIS OF THE CAPACITY OF GREEN BUSINESS TO PROVIDE HIGH QUALITY JOBS FOR MEN AND WOMEN WITH BARRIERS TO EMPLOYMENT (2007)).

151. Brisman, *Double Whammy*, *supra* note 143, at 426, 432-35; Brisman, *Elaborate Typology*, *supra* note 143, at 312.

152. *See* Brisman, *Double Whammy*, *supra* note 143, at 432-35; *see also* Clyde Haberman, *Ex-Inmate's Legacy: Over Bias and Catch-22 Bureaucracy*, N.Y. TIMES, Aug. 29, 2008, at B5.

153. In addition to providing inmates with job skills that they might actually be able to employ upon release, there is evidence that the greening of corrections has improved public perception of the correctional system, which may help ex-offenders avoid some of the stereotyping, stigmatization and negative labeling that accompanies a prison record. *See* Block, *supra* note 148, at 37-39; Brisman, *Fair Fare*, *supra* note 147, at 91.

urban agriculture like the Added Value-run Red Hook Community Farm?

First, while work opportunities for adolescents at urban farms may help prevent crime for the reasons discussed above, employment opportunities for ex-offenders trained in green collar jobs may help reduce rates of recidivism. Food justice advocates seeking to gain approval for urban agricultural initiatives might wish to argue that such farms, aside from offering nutritious and affordable food, will improve economic prospects for a wide range of individuals at risk for either first-time offending or recidivism.

Second, even if green-collar job readiness programs in prison do not lead to vocations for ex-offenders in urban farms or community gardens, the experiences in such programs may help individuals to develop avocations that they continue upon reentry. If the neighborhoods to which ex-offenders return possess gardens and farms, then the recently released prisoner trained in horticulture or landscaping may find a community—a supportive environment that fosters the cohesion, togetherness, and sense of belonging that ex-offenders often desperately need and frequently do not find.[154]

154. For a discussion of the therapeutic benefits of gardening, especially in urban environments, see, e.g., Rachel Kaplan, *Some Psychological Benefits of Gardening*, 5 ENV'T. & BEHAVIOR 145, 145-52 (1973); Rachel Kaplan & Stephen Kaplan, *Preference, Restoration, and Meaningful Action in the Context of Nearby Nature*, *in* URBAN PLACE: RECONNECTING WITH THE NATURAL WORLD 271, 288-90 (Peggy F. Barlett ed., 2005) [hereinafter URBAN PLACE]; RACHEL KAPLAN & STEPHEN KAPLAN, THE EXPERIENCE OF NATURE: A PSYCHOLOGICAL PERSPECTIVE (1989); Barbara Deutsch Lynch & Rima Brusi, *Nature, Memory, and Nation: New York's Latino Gardens and Casitas*, *in* URBAN PLACE, *supra*, at 191, 192-94 (noting the therapeutic effects of cultivation, in general, and to the New York City Latino population, in particular); Catherine McGuinn & Paula Diane Relf, *A Profile of Juvenile Offenders in a Vocational Horticulture Curriculum*, 11 HORT. TECH. 427, 430, 433 (2001) (noting the success of horticulture rehabilitation-vocational training programs); Susan M. Stuart, *Lifting Spirits: Creating Gardens in California Domestic Violence Shelters*, *in* URBAN PLACE, *supra*, at 61, 85 (describing the psychosocial and therapeutic benefits of gardening to residents and staff of grassroots domestic violence shelters in California); Malve von Hassell, *Community Gardens in New York City: Place, Community, and Individuality*, *in* URBAN PLACE, *supra*, at 91, 92 (describing community gardens as not only green space but as providing opportunities for community life, education, and political action); see generally Patricia Leigh Brown, *A Rare Kind of Food Bank, and Just Maybe the Hippest, Flourishes*, N.Y. TIMES, Sept. 26, 2006, at A17; Tina Kelley, *A Rare Lush Landscape in the Bronx Is Also a Place to Belong*, N.Y. TIMES, Aug. 30, 2008, at B2.

IV.

This Article has argued that eliminating food deserts and working towards food justice has the potential for positive public health outcomes and, in the process, to possibly prevent and reduce crime. But in concluding this Article, a word of caution is in order.

Smith claims that "[f]ood and eating practices have, in recent years, become central to concerns in western societies about the body, health and risk."[155] Such heightened concern is evidenced by increased attention to where food comes from and the conditions under which it was grown, harvested, produced, or prepared–by the increasing popularity of local and organic produce and meats, and emerging considerations of food labor practices.[156] Such concerns have also lead to the proposals and measures discussed in Part I, such as Governor Paterson's "obesity tax" on nondiet sodas and fruit drinks, Los Angeles City Council's moratorium on new fast food restaurants in certain areas, New York City's ban on trans fats

155. Catrin Smith, *Punishment and Pleasure: Women, Food and the Imprisoned Body*, 50 AM. SOC. REV. 197, 199 (2002).

156. *See, e.g.*, Brisman, *Fair Fare*, *supra* note 147, at 92; Brisman, *Green*, *supra* note 28; *see also* Peter Applebome, *A Spirit Moves on the Land: Locally Grown Produce*, N.Y. TIMES, Nov. 27, 2008, at A32; Cara Buckley, *Hope's Two Acres*, N.Y. TIMES, MB1, MB6; Glenn Collins, *Customers Prove There's a Market for Fresh Produce*, N.Y. TIMES, June 11, 2009, at A24; Glenn Collins, *Displaying More Than the Menu*, N.Y. TIMES, Feb. 26, 2009, at A25, A28; Susan Dominus, *Mother's Fight Against Junk Food Puts a School on Edge*, N.Y. TIMES, June 16, 2009, at A15; Editorial, *Sow Those Seeds!*, N.Y. TIMES, Feb. 15, 2009, at WK9; Nicholas D. Kristof, *Food For The Soul*, N.Y. TIMES, Aug. 23, 2009, at WK10; Nicholas D. Kristof, *Lettuce From The Garden, With Worms*, N.Y. TIMES, June 28, 2009, at WK10; Kathryn Matthews, *To Market, to Market, For Local Food, Local Chat*, N.Y. TIMES, C32, C33; James E. McWilliams, *Free-Range Trichinosis*, N.Y. TIMES, Apr. 10, 2009, at A23; Anne Raver, *Growing Cottage Flowers In Gowanus*, N.Y. TIMES, Aug. 6, 2009, at D1, D4; Kim Severson, *$300 a Night? Yes, but Haying's Free*, N.Y. TIMES, Aug. 26, 2009, at D1, D7; Kim Severson, *Eat, Drink, Think, Change*, N.Y. TIMES, June 7, 2009, at AR11; Alice Waters & Katrina Heron, *No Lunch Left Behind*, N.Y. TIMES, Feb. 20, 2009, at A31; *see generally* Michael Alderman, *A Pinch of Science*, N.Y. TIMES, Feb. 6, 2009; Manhola Dargis, *Meet Your New Farmer: Hungry Corporate Giant*, N.Y. TIMES, June 12, 2009, at C8 (reviewing *Food, Inc.*, Magnolia Pictures); Dwight Garner, *Living Off the Land, Surrounded by Asphalt*, N.Y. TIMES, June 12, 2009, at C32 (reviewing NOVELLA CARPENTER, FARM CITY: THE EDUCATION OF AN URBAN FARMER (Penguin Press, 2009)); Kim Severson, *Throwing the Book at Salt*, N.Y. TIMES, Jan. 28, 2009, at D1, D5; John Tierney, *Public Policy That Makes Test Subjects Of Us All*, N.Y. TIMES, Apr. 7, 2009, at D1, D4; *cf.* Frank Bruni, *Eat Your Peas. Or Don't. Whatever.*, N.Y. TIMES, Aug. 30, 2009, at WK1, WK6; Abby Ellin, *What's Eating Our Kids? Fears About 'Bad' Foods*, N.Y. TIMES, Feb. 26, 2009, at E1, E6; Mark Foggin, *Fast Food for the Filipino Soul*, N.Y. TIMES, Feb. 15, 2009, at CY5; George Saunders, *The Absolutely No-Anything Diet*, N.Y. TIMES MAGAZINE, Mar. 13, 2005, at 77, 78.

in food service establishments, and requirements that restaurants post calories counts on their menus.[157]

But as this Author has noted elsewhere, "what is considered to be a healthy diet and responsible eating is frequently determined by the 'dominant class.'"[158] In an effort to close the grocery gap and eradicate food deserts, food justice advocates (regardless of whether they join forces with those involved in crime prevention and reduction) must solicit input and foster community support for their food justice-related projects in the planning stages (rather than hoping for approval after the fact).[159] According to Dewan, "[f]or those who would change . . . eating habits . . . there is always the problem of tradition and identity."[160] If the foods being introduced do not possess ethnic significance, a community may view such interventions as culinary hegemony.[161] Smith thus stresses the importance of "consider[ing] personal health belief systems and the relative values individuals attribute to health."[162] Such considerations become especially important during economic downturns, where the lure of cheap fast food becomes even greater.[163] Thus, in these times, food justice advocates must take extra care to ensure that their initiatives and food products are affordable and presented as such.[164]

---

157. *See supra* Part I.

158. Brisman, *Fair Fare*, *supra* note 147, at 92.

159. *See generally* Erik Eckholm, *In Market for Health and Urban Renewal*, N.Y. TIMES, May 25, 2007, at A12 ("When Pathmark opened the first supermarket in decades in East Harlem, in 1999, many locate store owners were fearful. But by drawing in more shoppers, the entire neighborhood was uplifted . . . .").

160. Shaila Dewan, *100 Pounds Lighter; With Advice to Share*, N.Y. TIMES, Sept. 10, 2006, at 16.

161. *See generally* William Neuman, *Tempest In a Soda Bottle*, N.Y. TIMES, Sept. 17, 2009, at B1, B4 ("'I have never seen it work where a government tells people what to eat and what to drink,'" (quoting Muhtar Kent, the chief executive of Coca-Cola)).

162. Smith, *supra* note 155, at 199.

163. Rob Cox & Aliza Rosenbaum, *The Beneficiaries Of the Downturn*, N.Y. TIMES, Dec. 29, 2008, at B2 (reporting that fast-food restaurants, such as Burger King, Jack in the Box, and McDonald's tend to do well in poor economic conditions).

164. Even if food justice advocates do strive to consider tradition, identity, personal health belief systems, the relative values individuals attribute to health, and economic conditions, some communities may simply not be interested in changing their eating patterns. As Smith, *supra* note 149, at 199, 211, explains: "[i]t remains a paradox that while people may be well aware that certain behaviours are 'risky' and may lead to illness, disease and even death they continue to engage in them. . . . Knowing that certain behaviours are potentially self-harmful may be considered a precondition for taking them up in the first place and/or maintaining them. . . . [T]he more a behaviour is denounced as unhealthy, the more pleasurable it becomes, especially for those with few alternative avenues of pleasure . . . ."

Notwithstanding these concerns, food justice should be a part of crime prevention; proponents of food justice should reach out to lawmakers and policymakers concerned with preventing and/or reducing crime, and criminologists and criminal justice practitioners should begin to consider food justice in their strategies and techniques.

On the surface, this suggestion may seem radical, but the kinds of linkages and partnerships that this Article endorses are actually and already consistent with both criminological and food justice orientations. As Bursik and Grasmick explain, many organizations working to address crime prevention "feel that the most effective approach to crime is an indirect one."[165] From the food justice perspective, Wekerle elucidates that

> The food justice frame highlights the focus on systemic change and the necessity for engaging in political and policy processes as well as consciously addressing issues of movement mobilization and strategies. Theoretically, the food justice frame opens up linkages to a wider range of conceptual frameworks drawn from the literature on democracy, citizenship, social movements, and social and environmental justice.[166]

Food justice is thus well within the purview of crime prevention and vice versa. Food deserts are not "just deserts," and together, food justice proponents and crime prevention specialists can ensure that this remains the case.

---

165. BURSIK & GRASMICK, *supra* note 100, at 151 (citing Stephanie W. Greenberg, William M. Rohe, and Jay R. Williams, *Informal Citizen Action and Crime Prevention at the Neighborhood Level*, Washington, D.C.: National Institute of Justice (1985)).

166. Wekerle, *supra* note 26, at 379.

WHATEVER HAPPENED TO OLD MAC DONALD'S FARM . . . CONCENTRATED ANIMAL FEEDING OPERATION, FACTORY FARMING AND THE SAFETY OF THE NATION'S FOOD SUPPLY

Julie Follmer, Esq.[*] *and Roseann B. Termini, Esq.*[**]

Today, livestock farming is a far stretch from the nostalgic notion of animals grazing in green pastures, roaming free in the fresh country air and returning at the end of the day to a cozy barn. Simply stated, livestock farming is a large scale business, where tens of thousands of animals are swiftly raised industrial-style for maximum profit. Under the "factory farm" model, large corporate owned operations grow quantities of animals for slaughter for human consumption as food. In fact, livestock farms now raise 40% of all animals in the United States.[1]

WHO REALLY HAS THE REGULATORY AUTHORITY OVER THE SAFETY OF MEAT, POULTRY AND EGG PRODUCTS?

The regulation and protection of the United States food supply falls under the authority of multiple governmental agencies such as the United States Food and Drug Administration (FDA), the Centers for Disease Control (CDC), the United States Department of Agriculture (USDA), the United States Environmental Protection Agency

---

* Ms. Follmer is an attorney and continues her interest from law school in food and drug law special topics.

** Ms. Termini is an attorney and professor of food and drug law courses at Widener University School of Law where she primarily teaches online. She authored *Life Sciences Law: Federal Regulation of Drugs, Biologics, Medical Devices, Foods and Dietary Supplements and Statutory CD* 4th, ed. (2010) www.fortipublications.com.

1. National Program 206: Manure and Byproduct Utilization Action Plan, U.S. Department of Agriculture, Agricultural Research Service (2005), *available at* http://www.ars.usda.gov/research/programs/programs.htm?docid=6588&np_code=206.

(EPA) and the Department of Health and Human Services (HHS). The following will serve as an examination of the current regulatory processes pertaining to Concentrated Animal Feeding Operations (CAFOs), the issues surrounding food contamination, ethical considerations and the evolution of future regulation.

The overall goal of FDA is that of public protection; that is, to serve and protect the interests of the American public as they relate to public health. This goal is in keeping with the public protection mandate of the FDCA. Specifically, the FDA is responsible for "protecting consumers against impure, unsafe and fraudulently labeled food products . . . [through] its Center for Food Safety and Applied Nutrition (CFSAN)."[2] However, the CFSAN is only responsible for the regulation of "foods other than meat, poultry and egg products . . . ."[3] The regulation of meat, poultry and egg products falls under the Food Safety and Inspection Service (FSIS), an agency of the USDA.[4]

USDA is responsible for the inspection and regulation of meat, poultry, dairy products and eggs (shell eggs include joint responsibility with FDA). USDA also retains jurisdiction for meat and most meat products labeling. In accordance with the Meat Inspection Act and the Poultry Inspection Act, USDA is involved in the inspection and regulation of meat and poultry products at all production stages. In addition to inspection, USDA approves new plant construction and equipment, develops and supervises plant sanitation standards and trains inspection personnel. USDA is organized by service organizations such as the Farm and Foreign Agricultural Services; Food, Nutrition and Consumer Services; Food Safety and Inspection Service; Marketing and Regulatory Programs; Rural Development; Natural Resources; and the Environment and Research, Education and Economics Service.[5]

The Food Safety and Inspection Service of the United States Department of Agriculture (FSIS) strives to achieve its major objec-

---

2. United States Department of Agriculture (USDA), Food Safety and Inspection Service (FSIS), *About FSIS: Associated Agencies & Partners*, http://www.fsis.usda.gov/About_FSIS/Associated_Agencies_&_Partners/index.asp (last visited Feb. 14, 2009).

3. *Id.* The Food, Drug and Cosmetic Act (FDCA) of 1938, defines "food" as follows: "(1) [a]rticles used for food or drink for man or other animals, (2) chewing gum, and (3) articles used for components of any such article.21 U.S.C. § 321(f) (2006).

4. *Id.*

5. *See* Roseann B. Termini, Life Sciences Law: Federal Regulation of Drugs, Biologics, Medical Devices, Foods and Dietary Supplements 3rd ed. (2007) at 58.

tive of assuring a safe food supply. This federal regulatory agency protects the public by ascertaining that food products within its legal authority or jurisdiction are safe, wholesome and labeled accurately. Foods within FSIS jurisdiction include meat, poultry and egg products, raw beef, pork, lamb, turkey, processed meat and poultry products, pizzas, frozen dinners, (generally, products that contain 2% or more cooked meat and poultry or 3% or more raw meat and poultry). Examples of processed egg products regulated by FSIS are dried egg yolks, scrambled egg mix, dried egg powder, and liquid eggs.[6]

FSIS Mission: "*The Food Safety and Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.*" [7]

The specific laws that provide USDA with authority to regulate these products are the *Federal Meat Inspection Act*, the *Poultry Products Inspection Act* and the *Egg Products Inspection Act*. FSIS is responsible for inspecting all products sold in interstate commerce within its jurisdiction.[8] In addition to inspection responsibilities, other responsibilities entail label requirements; tests for various types of contamination such as microbiological or chemical contagions; epidemiological investigations and enforcement activities.[9] Risk assessments for Salmonella enteritidis in eggs and egg products, *E.coli* 0157:H7 in ground beef, and Listeria monocytogenes in an assortment of foods remains a top priority.[10] Using a farm-to-table model, FSIS aims to continue the implementation of a science-based strategy to advance the safety of meat, poultry and egg products. Microbial contamination remains the most serious food safety problem.[11]

As discussed, the physical inspection and the enforcement of any regulatory violations, of all meat, poultry and egg products is conducted by the FSIS under the authority of the Federal Meat Inspection Act[12], the Poultry Products Inspection Act[13] and the Egg Products Inspection Act[14]. The goal of the FSIS is to ensure the safety and wholesomeness of meat, poultry and processed egg prod-

6. *Id.* at 470.
7. *Id.*
8. *Id.*
9. *Id.*
10. *Id.*
11. *Id.*
12. 21 U.S.C.A. §§ 601-605 (West 2008).
13. 21 U.S.C.A. § 456 (West 2008).
14. 21 U.S.C. §§ 1031-1056 (2006).

ucts and ensure that it is accurately labeled.[15] The FSIS employs approximately 7,800 plant inspection personnel nationwide who are responsible for the inspection of more than 6,200 federally inspected slaughter operations.[16]

The FSIS is also responsible for the scientific testing of animal and egg products for the presence of microbiological or chemical contamination. The singular purpose of FSIS laboratories is to conduct regulatory testing on samples of poultry, meat, and egg products. The laboratories test meat and egg products for the presence of chemicals, pathology, antibiotics, and pesticides. The Microbial Outbreaks and Special Projects Branch (MOSPB) laboratory, analyzes outbreaks of foodborne illnesses and conducts special projects for the FSIS. In total, the four FSIS laboratories are staffed by approximately 200 employees comprised of microbiologists, veterinary pathologists, and chemists, among others.[17]

The Federal Meat Inspection Act (FMIA) mandates the inspection of meat and meat food products, including rules for examining animals before slaughter.[18] Specifically, the FMIA sets forth:

> For the purpose of preventing the use in commerce of meat and meat food products which are adulterated, the Secretary shall cause to be made, by inspectors appointed for that purpose, an examination and inspection of all cattle, sheep, swine, goats, horses, mules, and other equines before they shall be allowed to enter into any slaughtering, packing, meat-canning, rendering, or similar establishment, in which they are to be slaughtered and the meat and meat food products thereof are to be used in commerce; and all cattle, sheep, swine, goats, horses, mules, and other equines found on such inspection to show symptoms of disease shall be set apart and slaughtered separately from all other cattle, sheep, swine, goats, horses, mules, or other equines, and when so slaughtered the carcasses of said cattle, sheep, swine, goats, horses, mules, or other equines shall be subject to a careful examination and inspection, all as provided by the rules and regulations to be prescribed by the Secretary, as provided for in this subchapter.[19]

---

15. USDA, FSIS, *Protecting the Public From Foodborne Illness: The Food Safety and Inspection Service*, http://www.fsis.usda.gov/oa/background/fsisgeneral.htm (last visited Feb. 14, 2009).

16. USDA, FSIS, *Production & Inspection: Fact Sheets: Slaughter Inspection 101*, http://www.fsis.usda.gov/fact_sheets/Slaughter_Inspection_101/index.asp (last visited Feb. 14, 2009) [hereinafter *Slaughter Inspection 101*].

17. USDA, FSIS, *Production & Inspection: Key Facts: FSIS Laboratories*, http://www.fsis.usda.gov/fact_sheets/Key_Facts_FSIS_Laboratories/index.asp (last visited Feb. 14, 2009).

18. *See generally* 21 U.S.C.A. § 603 (West 2008).

19. 21 U.S.C.A. § 603(a) (West 2008).

Additionally, the FMIA establishes procedures for inspection to insure the CAFO uses the prescribed humane methods of slaughter under the Humane Methods of Slaughter Act. Inspectors are appointed to conduct examinations and inspections of slaughter methods and have the authority to suspend operations if a violation occurs.[20]

> Following slaughter, the FMIA mandates a post mortem examination of all the carcasses or parts of carcasses of all cattle, sheep, swine, goats, horses, mules, and other equines "to be prepared at any slaughtering, meat-canning, salting, packing, rendering, or similar establishment in any State, Territory, or the District of Columbia as articles of commerce which are capable of use as human food."[21] If the carcass is found to be unadulterated, it is marked as "Inspected and Passed"; however, if the carcass is found to be adulterated, it is marked "Inspected and Condemned" and must be destroyed in the presence of the inspector.[22]

The Poultry Products Inspection Act (PPIA) requires a pre-slaughter inspection to prevent adulterated poultry from being used as human food.[23] A post-slaughter inspection is also completed where the inspector examines each bird carcass and quarantines, segregates or inspects any suspect bird.[24] Suspect carcasses which are adulterated are condemned and destroyed for human food purposes in the presence and under the supervision of the inspector.[25] An establishment can appeal the determination of adulteration.[26]

The Egg Products Inspection Act (EPIA) involves the continuous inspection of the processing of any egg product capable of being used as human food.[27] The FSIS inspectors have the legal authority to retain, segregate or re-inspect any egg or egg product capable of being used as human food and condemn or destroy an adulterated product.[28]

Foodborne illness is a serious problem in the United States and can be life threatening. Protecting the nation's food supply remains a challenge and a priority.[29] The most common pathogens associated

---

20. 21 U.S.C.A. § 603(b) (West 2008).
21. 21 U.S.C.A. § 604 (West 2008).
22. *See id.*
23. 21 U.S.C. § 455(a) (2006).
24. 21 U.S.C. § 455(b) (2006).
25. 21 U.S.C. § 455(c) (2006).
26. *See id.*
27. 21 U.S.C. § 1034(a) (2006).
28. 21 U.S.C. § 1034(b)-(c) (2006).
29. *See* Roseann B. Termini, Life Sciences Law: Federal Regulation of Drugs, Biologics, Medical Devices, Foods and Dietary Supplements 3rd ed. (2007) www.fortipublications.com at 472.

with meat and poultry products include Campylobacter jejuni/coli, *E.coli* 0157H:7, *Salmonell*a and *Listeria* monocytogeners.[30]

For example, bacteria such as *Salmonella* enteritidis and *Escherichia* coli (*E. coli*) 0157:H7 have become more prevalent, harder to detect and more resistant.[31] Chemical and biological contamination remains important considerations as well.[32] Federal agencies such as USDA and FDA have adopted a program developed many years ago for astronauts, known as the Hazard Analysis Critical Control Points (HACCP) systems.[33] The main concepts of the HACCP systems are preventive in nature rather than traditional reactive checks of final products. USDA has established HACCP requirements for meat and poultry processing plants.[34]

HACCP established requirements for all meat and poultry slaughtering and processing plants to improve food safety by systematically identifying and mitigating risk-points in the food production process.[35] The conditions established in a final landmark rule, published on July 25, 1996 in the *Federal Register*, 61 FR 38805, specified a phase in period with respect to plant size. Large plants, those with over 500 or more employees were the first to initiate the requirements in January 1998. Small plants, those with at least ten but fewer than 500 employees were required to implement a HACCP plan by January 25, 1999. Very small plants, those with less than ten employees or annual sales of less than $2.5 million dollars, were required to comply by January 25, 2000.[36] HACCP involves these seven principles:

- **Conduct a hazard analysis.** Identify both the possible hazards associated with a food such as chemical, toxin, microbe or physical such as glass or metal fragments and identify measures to control those hazards.
- **Determine critical control points.** Detect the critical control points involved in a food's production to ultimate consumption by the consumer at which the potential hazard can be controlled or eliminated.
- **Establish critical limits.** For each critical control point, crucial limits should be determined For example, in cooked food, this might include establishing the minimum cooking temperature and time required to ensure the elimination of any harmful microbes.

30. *Id.*
31. *Id.*
32. *Id.*
33. *Id.*
34. *Id.*
35. *Id.*
36. *Id.*

- **Establish procedures.** Monitor the critical control points by establishing procedures such as determining how and by whom cooking time and temperature should be monitored.
- **Establish corrective actions.** Determine corrective action to be taken when monitoring shows that a critical limit has not been met. For example if the minimum cooking temperature is not met, then the food would have to be reprocessed or disposed.
- **Establish verification procedures.** Use a verification system to ensure that the system is working properly For example, make sure temperature recording equipment works properly.
- **Establish recordkeeping to document the HACCP** system. This includes records of hazards and their control methods, the monitoring of safety requirements and action taken to correct potential problems.

Aside from requiring the implementation of HACCP procedures for all meat and poultry plants, the final rule established pathogen reduction performance standards for Salmonella for slaughter plants and plants that produce raw ground products. Further, requirements for generic E.coli testing to verify the adequate process controls for the prevention of fecal contamination and written Sanitation Standard Operating Procedures was effective on January 27, 1997.

HACCP offers several advantages including a sound science basis, a focus on prevention, industry responsibility, more efficient government oversight because of the record keeping requirements, and better competition in the global market. FSIS continues to reevaluate and improve HACCP through the HACCP Inspection Models Project (HIMP). The focus of HIMP is to improve the use of online slaughter inspectors and to ensure the reduction and elimination of problems associated with foodborne pathogens entering the marketplace. The HIMP project is ongoing and ultimately, regulations could be adopted based on the research and results of HIMP.

THE CONCENTRATED ANIMAL FEEDING OPERATION

An Animal Feeding Operation (AFO) is an "agricultural operation where animals are held in reserve and raised in confined situations."[37] According to the EPA,

37. United States Environmental Protection Agency (EPA), National Pollutant Discharge Elimination System (NPDES), *Animal Feeding Operations*, http://cfpub.epa.gov/npdes/home.cfm?program_id=7 (last visited Feb. 14, 2009).

> AFOs generally congregate animals, feed, manure, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. Animal waste and wastewater can enter water bodies from spills or breaks of waste storage structures (due to accidents or excessive rain), and non-agricultural application of manure to crop land.[38]

AFOs that meet the regulatory definition of a CAFO are those where "animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility."[39] An operation must first meet the definition of an AFO before it can be designated as a CAFO.[40]

CAFOs are designated as either large or medium in size. A large CAFO is defined as that which has at least 1,000 beef cattle, 700 dairy cattle, 2,500 hogs over 250 pounds, 125,000 broiler chickens or between 30,000 and 82,000 laying hens. A medium CAFO is one which has between 300 and 999 beef cattle, 200 and 699 dairy cattle, 750 and 2,499 hogs weighing 55 pounds or more and 37,500 broiler chickens.[41]

Typically, the CAFO is corporate owned, and therefore, there is corporate control of the operational aspects from animal rearing to slaughter to packaging and distribution. Consolidation of the agriculture industry has resulted in global firms owning every aspect of the production, processing and marketing of the food. By way of illustration, Cargill and ConAgra are two of the principal food processing corporations in the United States, with each producing animal feed and livestock, as well as processing livestock.[42] The consolidation of small corporations and independent farms through mergers and acquisitions of agri-corporations has resulted in unfair competition due to the concentration of market power.[43]

Several agri-corporations engage in contract arrangements with independent farmers where the agri-corporation owns the livestock and its management staff oversees the operation of the feedlot,

---

38. *Id.*

39. *Id.*

40. *Id.*

41. Sustainable Table, *The Issues: Factory Farming*, http://www.sustainabletable.org/issues/factory farming/ (last visited Feb. 14, 2009).

42. *See* WILLIAM HEFFERMAN, CONSOLIDATION IN THE FOOD AND AGRICULTURE SYSTEM (Feb 5, 1999), *available at* http://www.foodcircles.missouri.edu/whstudy.pdf (last visited June 20, 2008).

43. *Id.* at 11-12.

which is owned by the independent farmer. For instance, in 1950, 95% of poultry farmers were independent on their own farms.[44] By 1955, 90% of poultry was produced under a contract arrangement and by 1994, 99% of all poultry in the United States was produced either through contracts or directly by corporate owned facilities.[45]

THE SLAUGHTER AND INSPECTION PROCESS

While the livestock establishments are themselves responsible for producing safe food, the FSIS is responsible for conducting an inspection of each animal both before and after it is slaughtered. The FSIS also ascertains "appropriate food safety standards" and "verifi[es] through inspection that those standards are met." Finally, the FSIS is charged with enforcing the standards against livestock operations who fail to comply. In fact, slaughterhouses cannot conduct their business if an FSIS employee is not present at the time of slaughter. If the FSIS personnel are not present, the facility will be prohibited from allowing their product to enter interstate commerce.[46]

In order to receive a federal inspection by the FSIS, the slaughter "establishment must apply for and receive an official Grant of Inspection." The process for obtaining a Grant of Inspection involves the establishment showing it has a "written Sanitation Standard Operating Procedure." In addition, the establishment must "conduct a hazard analysis" by "develop[ing] and validat[ing] a [HACCP] and agree[ing] to abide by all FSIS regulations."[47]

Preceding the inspection, the establishment notifies FSIS of the time and date of slaughter and the FSIS sends the appropriate program personnel to attend. The inspection begins at the ante mortem area with the live animals. Here, the FSIS personnel "observe all the live animals at rest and in motion," looking for any abnormality indicative of disease or a heath condition which would render the animal unfit for entering the food supply. If a seemingly healthy animal should later go down before slaughter, the establishment must notify the FSIS personnel to make a case-by-case decision of

---

44. Brian Levy, *When the Farmer Makes the Rules*, The New Rules (Fall 2000), http://www.newrules.org/journal/nrfall00farmer.html (last visited Feb. 14, 2009).

45. USDA, ECONOMIC RESEARCH SERVICE, AGRIC. ECON. REP. NO. 787, STRUCTURAL CHANGE IN U.S. CHICKEN AND TURKEY SLAUGHTER (2000), http://www.ers.usda.gov/Publications/AER787/ (last visited Feb. 14, 2009).

46. *Slaughter Inspection 101*, *supra* note 16.

47. *Id.*

whether this animal is still fit for slaughter. In instances like this, the animal is labeled "U.S. Suspect" and is segregated for further observation and inspection. If it is determined the animal is sick, or if notification of the FSIS is not desired, the slaughterhouse may humanely euthanize the animal.[48]

Next, the animal is stunned, most often by using a mechanical bolt driven through its brain, and allowed to bleed out. Once the animal has bled out, the FSIS personnel enter the post mortem slaughter area where they inspect each carcass for signs of disease or other pathology. The goal of this inspection is to ascertain the wholesomeness of the meat for human consumption. Any carcass that is suspect will be examined by an FSIS veterinarian who will make a determination as to its fitness for consumption. Any carcass that is retained by the veterinarian is identified and tracked to ensure they do not enter the food supply until they are released by the FSIS personnel. If, after further inspection, the carcass is fit for consumption, it is released without restriction to enter the food supply.[49]

The FSIS personnel randomly return to the ante mortem area throughout the day of inspection to verify the animals are being handled humanely. Additionally, the FSIS personnel randomly move through the facility to observe the performance of each area's duties. A plant's operations will shut down and an inspection halted if an establishment is found to be in egregious violation of the Humane Methods of Slaughter Act. If the violation of the Humane Methods of Slaughter Act is less than egregious, the FSIS inspector may simply issue a noncompliance record. An example of a "less egregious" violation would be lack of water for the animals to drink while confined in the holding pen prior to slaughter.[50]

During an FSIS inspection, the program personnel verify that the slaughter operation maintains adequate sanitation procedures and follows its HAACP. In addition, the establishment must have in place written policies for handling and disposal of "specified risk materials" pertaining to cattle, such as the animal's "brain, skull, eyes, trigeminal ganglia, spinal cord, vertebral column, . . . , tonsils . . . and the distal ileum", so those materials do not enter the food supply. These materials are considered to be risky because they

48. *Id.*
49. *Id.*
50. *Id.*

could contain the organisms that cause bovine spongiform encephalopathy or "mad cow disease".[51]

THE SCOPE AND IMPACT OF FOODBORNE DISEASES

According to the National Institute of Allergy and Infectious Diseases, a division of the National Institutes of Health, there are currently more "than 250 known foodborne diseases" in the United States.[52] These pathogens can manifest themselves in the form of viruses, bacteria or parasites.[53] The Centers for Disease Control (CDC) estimates that 76 million people become ill with a foodborne disease annually, with approximately 325,000 people being hospitalized and resulting in 5,000 deaths.[54] Presently, research indicates numerous diseases that can be transmitted to humans from livestock waste alone.[55] Some commonly recognized diseases transmitted by livestock to humans are *E. coli*, Salmonellosis, Campylobacteriosis and Listeria.[56]

Protecting the public from food-borne illnesses continues as a major priority for the United States government.[57] Foodborne illnesses still exist; however, several programs have been initiated to improve food safety and to combat the many outbreaks of foodborne diseases. President Barack Obama announced in March 2009 the creation of the Food Safety Working Group, chaired by the Secretaries of the Department of Health and Human Services and the Department of Agriculture to advise as to upgrade food safety laws for the 21st century; to strengthen coordination throughout government; and to enforce the laws for public protection purposes. These efforts continue to be in the forefront for the federal, state and local governments as well as industry. Many of these endeavors, if not all, involve a team approach. Government partnerships have

---

51. *Slaughter Inspection 101*, *supra* note 16.

52. National Institutes of Health, National Institute of Allergy and Infectious Diseases, *Foodborne Diseases*, http://www3.niaid.nih.gov/topics/foodborne/default.htm (last visited Feb. 14, 2009).

53. *Id.*

54. *Id.*

55. ENVIRONMENTAL DEFENSE, ENVIRONMENTAL IMPACTS OF HOG FACTORIES IN NORTH CAROLINA (2000), *available at* www.edf.org/documents/2537_Hogwatch_Enviroimpacts.pdf.

56. Centers for Disease Control (CDC), *Preliminary FoodNet Data on the Incidence of Infection with Pathogens Transmitted Commonly Through Food — 10 States, 2006*, MMWR, Apr. 13, 2007, *available at* http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5614a1.htm (last visited Feb. 14, 2009).

57. *See* Termini, *supra* note 5 at 469.

been formed with academic institutions and industry. The following are illustrative examples of programs involving representatives from federal, state and local governments, academic institutions, and industry:

- **PulseNet:** A Nationwide Computer Network to Combat Foodborne Illness
- **FORC G:** The Foodborne Outbreak Response Coordinating Group
- **FoodNet:** Foodborne Diseases Active Surveillance Network
- **JIFSAN:** Joint Institute for Food Safety and Applied Nutrition
- **JIFSR:** Joint Institute for Food Safety Research
- **ELEXNET:** Electronic Laboratory Exchange Network
- **NARMS:** National Antibiotic Resistance Monitoring
- **FERN:** Food Emergency Response Network

The Foodborne Diseases Active Surveillance Network (FoodNet) of CDC's Emerging Infections Program data collection commenced in 1996. FoodNet focuses on the "diseases caused by enteric pathogens transmitted commonly through food." FoodNet surveys the populations of a number of states for reports of laboratory-confirmed foodborne illness.[58]

FoodNet found a significant decline in the number of incidences of Campylobacter, Listeria, Shigella, and Yersinia infections in the United States compared with the 1996 through 1998 baseline period.[59] However, "the incidence of Listeria infections remained higher [in 2006] than at its lowest point in 2002."[60]

The CDC's Division of Foodborne, Bacterial and Mycotic Diseases (DFBMD) is charged with the prevention of "illness, disability, and death caused by foodborne, bacterial and mycotic diseases in the United States and around the world."[61] The DFBMD conducts "surveillance, epidemic investigations, epidemiologic and laboratory research, training, and public education programs to develop, evaluate, and promote prevention and control strategies for infectious bacterial and mycotic diseases."[62] The DFBMD staff works in conjunction with public health laboratories and officials from nu-

58. *Id.*
59. *Id.*
60. *Id.*
61. CDC, Division of Foodborne, Bacterial and Mycotic Diseases (DFBMD), http://www.cdc.gov/nczved/dfbmd/ (last visited Feb. 14, 2009).
62. *Id.*

merous local, state, and international locations.[63] In addition, the DFBMD partners with "other federal agencies, medical and public health professional associations, infectious disease experts from academic and clinical practice, and international and public service organizations."[64]

ESCHERICHIA COLI

According to the DFBMD, E. coli causes disease by its production of the Shiga toxin, which is why most infection causing strains of E. coli are referred to as Shiga toxin-producing E. coli (STEC).[65] Currently, "the most commonly identified STEC in North America is [a strain called] E. coli O157:H7," the type referred to in the most recent news reports of E. coli outbreaks.[66] E. coli can infect people of any age, but especially susceptible to infection are young children and the elderly. The most common symptoms of STEC infections are severe stomach cramps, bloody diarrhea and vomiting. Sometimes the symptoms are also accompanied by a low fever.[67]

STEC live in the intestines of ruminant (hoofed) animals, including cattle, goats and sheep, with cattle being the major source of E.coli for human illnesses.[68] Other animals, including pigs and birds, may contract STEC from the environment and may serve as carriers to spread it to other animals or humans.[69] Infections start by ingesting STEC through tiny amounts of human or animal feces, which is unfortunately a common occurrence.[70] Ingestion can occur when consuming contaminated food, unpasteurized milk or non-disinfected water; or by contact with cattle or contact with the feces of a human who has the infection.[71]

Initially, FoodNet reported substantial declines in E.coli in both 2003 and 2004; however, there was an increase in both 2005 and 2006.[72] The earlier decline is credited to FSIS' initiative with the beef-processing industry to reduce the contamination of ground

63. *Id.*
64. *Id.*
65. CDC, DFBMD, *Disease Listing:* Escherichia coli, http://www.cdc.gov/nczved/dfbmd/disease_listing/stec_gi.html#1 (last visited Feb. 14, 2009).
66. *Id.*
67. *Id.*
68. *Id.*
69. *Id.*
70. CDC, *supra* note 61.
71. *Id.*
72. *Id.*

beef products. The outbreaks in 2006 were caused by contaminated raw spinach and lettuce, prompting the FDA to issue a final guidance in 2008 advising processors on how to minimize microbial food-safety hazards in fresh fruits and vegetables.[73] More recently, there was a voluntary recall of "Bunch Spinach" throughout the United States and Canada.[74]

The FSIS has issued several recalls for possible E.coli STEC 0157 contamination in beef products to firms such as Tyson in Lexington, Nebraska for its ground beef products on May 21, 2008,[75] and Dutch's Meat in Trenton, New Jersey for its ground beef products on June 8, 2008.[76] Another widespread recall occurred in 2008 where approximately 143 pounds of beef was recalled by Westland Meat and its partner Hallmark Meat Packing due to violations of animal care regulations. The question remains as to what should be done in terms of preventive measures to avoid these types of large scale nationwide recalls?

SALMONELLA

Salmonella is a type of bacterium which "live[s] in the intestinal tracts of humans and animals, which is capable of living outside of animals in soil and water for a period of several months."[77] Salmonella can be spread from contaminated surface to surface.[78] The symptoms of Salmonella manifest themselves in humans by way of fever, bloody diarrhea, nausea, vomiting, and abdominal pain[79] The bacterium can also enter the bloodstream and cause more severe illness, although reportedly this rarely happens. According to the

---

73. Guidance for Industry: Guide to Minimize Microbial Food Safety Hazards of Fresh-cut Fruits and Vegetableshttp://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/ProduceandPlanProducts/ucm064458.htm (last visited October 10, 2009).

74. *http://www.fda.gov/Safety/Recalls/ucm182964.htm* (last visited October 10, 2009

75. USDA, FSIS, *FSIS Issues Public Health Alert for Beef Products Due to Possible E. Coli 0157:H7 Contamination*, http://www.fsis.usda.gov/News_&_Events/NR_052108_01/index.asp (last visited Feb. 14, 2009).

76. USDA, FSIS, *New Jersey Firm Recalls Ground Beef Products Due to Possible E.Coli 0157:H7 Contamination*, http://www.fsis.usda.gov/News_&_Events/NR 018_2008/index.asp (last visited Feb. 14, 2009).

77. CDC, DFMBD, *Salmonellosis*, http://www.cdc.gov/nczved/dfbmd/disease_listing/salmonellosis_gi.html (last visited Feb. 14, 2009).

78. http://www.fda.gov/Food/FoodSafety/FoodborneIllness/FoodborneIllnessFoodbornePathogensNaturalToxins/BadBugBook/ucm069966.htm.

79. *Id.*

FDA, infection with Salmonella also may be more serious or fatal in young children, elderly people, and immuno-compromised people.[80]

FoodNet revealed in its 2006 report that the transmission of Salmonella to humans occurs most commonly by consuming produce, eggs, poultry, meat, and by having direct contact with animals and their environments.[81] The most likely source of human salmonella infections results from the consumption of poultry. According to FoodNet, "FSIS reported an increase in the frequency of isolation of Salmonella, particularly *S.* Enteriditis, in chicken-broiler carcasses from 2000 through 2005".[82]

FoodNet reported about the Salmonellosis associated with human consumption of contaminated raw tomatoes.[83] FDA reported an outbreak of a particular strain of Salmonella, serotype Saintpaul, in fresh raw tomatoes grown in various states.[84] The FDA reported that approximately 1,442 persons infected with the same genetic fingerprint of Salmonella Saintpaul in 43 states, the District of Columbia, and Canada.[85]

LISTERIA

The bacteria *listeria* has been "recognized as an important public health problem in the United States."[86] Listeriosis is "a serious infection caused by eating food contaminated with the bacterium *Listeria monocytogenes*."[87] Listeriosis affects primarily the elderly, "pregnant women, newborns, and adults with weakened immune systems."[88] Pregnant women "are 20 times more likely than other healthy adults to [contract] Listeriosis [with] one-third" of the total annual count of Listeriosis cases in the United States happening during pregnancy.[89] In addition, immuno-compromised persons are

80. *Id.*
81. *Id.*
82. *Id.*
83. CDC, *Salmonella Saintpaul Questions and Answers*, http://www.cdc.gov/salmonella/saintpaul/faq.html (last visited Feb. 14, 2009).
84. *Id.*
85. CDC, *Outbreak of* Salmonella *Serotype Saintpaul Infections Associated with Multiple Raw Produce Items – United States, 2008*, MMWR, Aug. 29, 2008, *available at* http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5734a1.htm (last visited Feb. 14, 2009).
86. CDC, DFBMD, *Listeriosis*, http://www.cdc.gov/nczved/dfbmd/disease_listing/listeriosis_gi.html (last visited Feb. 14, 2009).
87. *Id.*
88. *Id.*
89. *Id.*

approximately 300 times more likely to contract Listeriosis than those with healthy immune systems.[90]

The initial symptoms of Listeriosis include fever, muscle aches, nausea and diarrhea; however, "if infection [implicates] . . . the nervous system, symptoms such as headache, stiff neck, confusion, loss of balance, or convulsions can occur."[91] Pregnant women infected with Listeriosis may initially experience only mild, flu-like symptoms but the infection "can lead to miscarriage, stillbirth, . . . premature delivery, or infection of the newborn.[92]

The DFBMD estimates that 2,500 persons become infected with Listeriosis annually in the Unites States, and of those, 500 die.[93] The difficulty is that an animals can have Listeria without appearing to be ill and as such, can contaminate meat and dairy products by entering the food source. *Listeria* "is found in soil and water" and has been linked to the contamination of vegetables "from the soil or from manure [added to the soil] as fertilizer."[94] *Listeria* is found in "raw foods such as uncooked meats and vegetables and unpasteurized milk or foods made from unpasteurized milk."[95] Unfortunately, UDSA continues to request company initiated recalls.[96] FSIS reported a possible Listeria contamination in 290 pounds of pork blood sausages produced by a California firm.[97]

HUMAN HEALTH COSTS

The Economic Research Service (ERS), a division of the USDA, has estimated a cost of $6.9 billion for human treatment of merely five types of bacterial foodborne illnesses.[98] The ERS analyzes the costs and benefits of programs existing to improve food safety, in-

90. *Id.*
91. CDC, *supra* note 83.
92. *Id.*
93. *Id.*
94. *Id.*
95. *Id.*
96. USDA, FSIS, *California Firm Recalls Chicken Products Due to Possible Listeria Contamination*, http://www.fsis.usda/gov/News-&-Events/Recall_019_2008_Release/index.asp (last visited Feb. 14, 2009).
97. USDA, FSIS, *California Firm Recalls Pork Sausages for Possible Listeria Contamination*, http://www.fsis.usda.gov/News_&_Events/Recall_017_2008_Release/index.asp (last visited Feb. 14, 2009).
98. USDA, ERS, *A Safe Food Supply*, http://www.ers.usda.gov/Emphases/SafeFood (last visited Feb. 14, 2009).

cluding the "costs of HACCP regulation [and] . . . pathogen-reducing innovations in the beef industry."[99]

The Agricultural Research Service (ARS) is a division of the USDA whose goal is to conduct animal health research "to prevent and control animal diseases impact[ing] agriculture and public health."[100] One of ARS' main studies is manure utilization and the transmission of pathogens and pharmaceutical compounds to other animals and humans through the food and water supplies.[101]

HOW FOODBORNE DISEASES IMPACT THE FOOD SUPPLY

There are several modes in which foodborne diseases of a CAFO impact the food supply, such as the introduction of adulterated meat, poultry or eggs into the food supply resulting from sick or downed animals, increased human resistance to antibiotics resulting from the CAFO practice of providing low doses of antibiotics in the animals' feed to promote growth and the use of hormones which are routinely fed to the animals.[102]

During slaughter, microbes are present in the intestine of the animals.[103] Meat and poultry carcasses can become adulterated during the slaughter process by coming into contact with small amounts of intestinal contents.[104] In eggs, some types of Salmonella can infiltrate a hen's ovary and the disease can be present in the egg inside its shell.[105]

Sick animals, called "downers," can give an indication, pre-slaughter, that the animal has an illness of some kind. FSIS issued a final rule on July 13, 2007 prohibiting the slaughter of downer cattle when presented for pre-slaughter inspection.[106] The FSIS based this rule on evidence that an animal's inability to stand or walk can be a

---

99. *Id.*

100. USDA, Agricultural Research Service (ARS), *Agriculture Research Program Summary*, http://www.ars.usda.gov/research/programs/programs.htm?docid=211&NP_CODE=103& (last visited Feb. 14, 2009).

101. *Id.*

102. *See generally* CDC, *Foodborne Illness*, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm (last visited Feb. 14, 2009).

103. *Id.*

104. *Id.*

105. *Id.*

106. Prohibition of the Use of Specified Risk Materials for Human Food and Requirements for the Disposition of Non-Ambulatory Disabled Cattle; Prohibition of the Use of Certain Stunning Devices Used To Immobilize Cattle During Slaughter, 72 Fed. Reg. 38,700 (July 13, 2007) (to be codified at 9 C.F.R. pts. 309, 310, and 318).

clinical sign of Bovine Spongiform Encephalopathy (BSE), commonly known as "mad cow disease".[107] The rule was passed after the USDA discovered BSE in an imported cow and placed an interim rule in an effort to reduce the risk of human exposure. The human equivalent to BSE is called Creutzfeldt-Jacob Disease (CJD). A variant form of CJD (vCJD) is linked to the consumption of meat infected with BSE. At present, there are 155 confirmed cases of vCJD worldwide.[108]

A final rule published April 2008 and effective April 27, 2009 prohibits the use of certain cattle materials in animal feed or food as follows:

- The entire carcass of BSE "mad cow disease" positive cattle;
- Brains and spinal cords from cattle older than 30 months;
- Entire carcass of cattle older than 30 months and not inspected and passed for human consumption (unless the cattle are less than 30 months, or the brains and spinal cords have been removed.)
- Tallow derived from BSE-positive cattle as well as from other prohibited materials that contains more than 0.15 percent insoluble impurities; and
- Mechanically separated beef that has been prohibited in food or feed of all animals.

This final rule was promulgated to lessen the potential for any undetected bovine spongiform encephalopathy or BSE, commonly referred to as "mad cow disease", in animal feed to spread to ruminants by means of the feed. The other compliance date of October 26, 2009 permits renderers and others such as cattle producers and packers additional time to identify proper methods to comply with the requirements of the final rule. This rule strengthens the 1997 regulation by prohibiting the tissues that have the highest risk for carrying the agent that potentially results in BSE in animal feed.[109]

Foodborne diseases have a direct impact on the food supply by increasing human resistance to antibiotics resulting from the CAFO

---

107. FDA, Center for Food Safety and Applied Nutrition, *Commonly Asked Questions About BSE in Products Regulated by FDA's Center For Food Safety and Applied Nutrition (CFSAN)*, http://www.cfsan.fda.gov/~comm/bsefaq.html (last visited Feb. 14, 2009).

108. *Id.*

109. Final Rule Docket No. FDA-2002-N-0031 (formerly 2002N-0273), CVM 200646. Substances Prohibited From Use in Animal Food or Feed. Pages 22719-22758 [FR Doc. 08-1180] April 25, 2008 Effective date April 27, 2009 http://www.fda.gov/OHRMS/DOCKETS/98fr/08-1180.htm.

practice of sub-therapeutic use of antibiotics in livestock production. Since the animals grown in a CAFO are frequently confined in indoor feedlots and receive no actual sunlight, they are given doses of supplemental vitamins, which make the production of offspring possible year-round. In addition, the animals are treated with antibiotics as a preventative measure to counteract the packed conditions and close proximity to other animals in the feedlot. Additonally, antibiotics are utilized to accelerate the animals' growth and promote weight gain. Today, according to research conducted by the Union of Concerned Scientists,

> Tens of millions of pounds of antimicrobials are used in livestock systems. Each year, it is estimated that livestock producers in the United States use 24.6 million pounds of antimicrobials in the absence of disease for non-therapeutic purposes: approximately 10.3 million pounds in hogs, 10.5 million pounds in poultry, and 3.7 million pounds in cattle.[110]

The practice began in 1950 when scientists discovered the use of antibiotics accelerated the growth of chickens. In 1951, the FDA first approved the addition of penicillin and tetracycline to chicken feed to promote growth in the animals.[111]

Antibiotic resistant bacteria are transmitted to humans through the livestock animals' waste and meat. Since a large portion of antibiotics are not metabolized by the animal, they are excreted through its urine and feces. The EPA's Ecological Exposure Research Division Laboratory reported:

> [I]n some cases as much as 80% of antibiotics administered orally pass through the animal unchanged into bacteria rich waste lagoons and then is spread on croplands as fertilizer leaving the antibiotics available for entry into ground water and runoff into surface waters carrying both the drugs and the resistant bacteria or genetic material (R-plasmids) to other bacteria in soils and waterways.[112]

The CAFO model results in colossal amounts of waste being produced by the animals. In fact, the EPA estimates there are

---

110. Union of Concerned Scientists, *Hogging It: Estimates of Antimicrobial Abuse in Livestock*, http://www.ucsusa.org/food_and_environment/antibiotics_and_food/hogging-it-estimates-of-antimicrobial-abuse-in-livestock.html (last visited Feb. 14, 2009).

111. FDA, Center for Veterinary Medicine, *FDA's Animal Feed Safety System Project Plans Update #1*, http://www.fda.gov/cvm/afssupdate.htm (last visited Feb. 14, 2009).

112. EPA, NLERA and the Endocrine Disrupter Pilot Study in the Neuse River Basin (Mar. 9, 2005), http://www.epa.gov/nerlcerd/Password5/jbaumgar.htm. (last visited June 1, 2008).

376,000 feedlots in the United States producing a total of approximately 128 billion tons of manure annually.[113] Also, according to the ARS, millions of tons of agricultural, municipal, and industrial waste having the potential for agricultural use is generated annually in the United States.[114]

The manure from the feedlots is either mixed with water and stored onsite in lagoons or it is spread onto crops as fertilizer. In addition, manure can make its way directly into the meat or poultry from the animals' intestines during the slaughter process or can it leach into groundwater from manure lagoon overflows or leaks. The CDC first began monitoring the instances of antibiotic resistance in humans in the 1970s.[115] Since that time, there has been a dramatic increase in resistance to fluoroquinolones, which is the class of antibiotics used to treat foodborne illnesses.[116] This resistance was said to be nonexistent before the poultry industry began widespread use of the drugs.[117]

Consumer and scientific groups, such as the Humane Society of the United States, the Izaak Walton League and the Union of Concerned Scientists continue to request that FDA reconsider the CAFO practice of using antibiotics in animal feed. The Union of Concerned Scientists created an "antibiotic resistance project" which focuses on reducing the use of antibiotics in food animals.[118] The Union of Concerned Scientists works with environmental and public health organizations to help publicize alternatives such as grass-fed systems that are better for public health. According to the Union of Concerned Scientists, the vast majority of antibiotic usage in the United States is by livestock producers: "an estimated 70 percent of antibiotics and related drugs produced in this country are used for non-therapeutic purposes such as accelerating animal growth and

113. RACHEL HOPPER, IZAAK WALTON LEAGUE, GOING TO MARKET: THE COST OF INDUSTRIALIZED AGRICULTURE (January 2002), *available at* http://www.izaakwaltonleague.org/publications/agriculture/market.pdf.

114. USDA, ARS, FY 2007 ANNUAL REPORT, NATIONAL PROGRAM 206 - AGRICULTURAL WASTE AND BYPRODUCT UTILIZATION, *available at* http://www.ars.usda.gov/SP2Userfiles/Program/206/NP206AnnualResportFY2007.pdf

115. Bette Hileman, *Resistance is on the Rise: FDA Proposes Criteria For Restricting or Banning Certain Antibiotics in Livestock*, 79 CHEMICAL AND ENGINEERING NEWS 47, 49 (2001), *available at* http://pubs.acs.org/isubscribe/journals/cen/79/i08/html/7908gov1.html.

116. *Id.*

117. *Id.*

118. Union of Concerned Scientists, *Preservation of Antibiotics for Medical Treatment Act*, http://www.ucsusa.org/food_and_environment/antibiotics_and_food/ (last visited Feb. 14, 2009).

compensating for overcrowded and unsanitary conditions on large-scale confinement facilities known as "factory farms."[119] This translates to about 25 million pounds of antibiotics and related drugs fed every year to livestock for non-therapeutic purposes–almost eight times the amount given to humans to treat disease."[120]

In 2005, the FDA released its final rule prohibiting the use of the antimicrobial drug enrofloxacin in poultry.[121] The FDA's decision was based upon "scientific data . . . show[ing] . . . the use of enrofloxacin in poultry caused resistance to Campylobacter."[122] Poultry such as chickens and turkeys harbor Campylobacter in their digestive tracts even though it does not cause them to become ill. Resistance occurs because the medication does not eradicate the Campylobacter, which become resistant to fluoroquinolones drugs. According to the FDA, the resistant bacteria multiply in the poultry's digestive tracts and spread through the processes of transportation and slaughter.[123]

Finally, another source of foodborne illness is linked to hormones found in the meat, poultry or egg products. "Scientists believe about two-thirds of American cattle raised for slaughter today are injected with hormones for more rapid growth."[124] For example, dairy cows at CAFOs are given a genetically-engineered hormone called recombinant bovine growth hormone (rBGH) to increase milk production, approved by the FDA in 1993.[125] "Milk from rBGH-treated cows contains higher levels of Insulin Growth Factor-1, . . . an agent linked to colon and breast cancer."[126] However, no current scientific evidence exists to directly connect IGF-1 levels in milk and cancer in humans.[127]

---

119. *Id.*

120. *Id.*

121. FDA, *FDA Announces Final Decision About Veterinary Medicine*, http://www.fda.gov/bbs/topics/news/2005/new01212.html (last visited Feb. 14, 2009).

122. *Id.*

123. *Id.*

124. Sustainable Table, *The Issues: Artificial Hormones*, http://www.sustainabletable.org/issues/hormones/ (last visited Feb. 14, 2009).

125. Press Release, FDA, Report on the Food and Drug Administration's Review of the Safety of Recombinant Bovine Somatotropin (July 28, 2005), http://www.fda.gov/cvm/RBRPTFNL.htm (last visited Feb. 14, 2009).

126. Sustainable Table, *supra* note 124.

127. *Id.*

The CDC indicates there is still much to be done to reach the national health objectives to combat foodborne illnesses.[128] CDC has established objectives for the future, such as enhancing measures to control pathogens in animals and plants, reducing or preventing contamination during growing, harvesting and processing and educating consumers about risks and prevention measures.[129] CDC states, "[s]uch measures can be better focused when the source of human infections (that is, animal reservoir species and transmission route) is known."[130] In particular, further research is required to understand how contamination of fresh produce occurs so that new measures to diminish such contamination can be developed and implemented."[131]

Recent actions by the FDA include the publishing of a final rule prohibiting the extralabel use of cephalosporin antimicrobial drugs in food producing animals including cattle, swine, chickens, and turkeys. The FDA's goal in passing this rule is to "help further protect consumers against antimicrobial-resistant strains of zoonotic foodborne bacterial pathogens."[132] Before passing the final rule, the FDA received evidence that the extralabel use of cephalosporins was likely to contribute to "the emergence of resistance and compromise human therapies".[133] FDA found a critical interest in protecting the cephalosporin class of drugs for treating disease in humans which warranted limiting the contribution to resistance.

Furthermore, the Preservation of Antibiotics for Medical Treatment Act of 2009 (PAMTA) would withdraw approvals for the use of several specific classes of antibiotics.[134] According to FDA, "FDA supports the idea of H.R. 1549 to phase out growth promotion/feed efficiency uses of antimicrobials in animals. The current statutory process of withdrawing a new animal drug approval is very burdensome on the agency. FDA recommends that any proposed legislation facilitate the timely removal of nonjudicious uses of antimicrobial drugs in food-producing animals. At the same time, FDA

128. CDC, *supra* note 56.
129. *Id.*
130. *Id.*
131. *Id.*
132. *Id.*
133. CDC, *supra* note 56.
134. http://thomas.loc.gov/cgi-bin/bdquery/z?d111:h.r.01549: (HR 1549/S619) *See also*: Union of Concerned Scientists, *supra* note 118.

believes that legislation should permit the judicious use of antimicrobials in animals for prevention and control as discussed above.[135]

The stated goal of an FDA initiative, that is, the "Food Protection Plan" is to maintain a food supply that is safe from unintentional or intentional contamination.[136] The scope of the plan applies to both people and animal foods. The plan identifies a newer foodborne pathogen, Enterobacter sakazakii, which can cause sepsis or meningitis.[137] The FDA states it has concerns over the emergence of new foodborne pathogens and realizes updated technologies are essential.[138]

Under continuing pressures from special interest groups, scientists, the American Medical Association and consumers, the FDA, USDA and CDC will continue to call on Congress to amend and improve the current laws governing the CAFO and its practices in order to protect the American public from foodborne illness. Moving forward the norm should entail increased corporate accountability and responsibility, stricter standards concerning antibiotic and hormone use and stricter food safety standards.

135. *Id.* Statement of Joshua M. Sharfstein, M.D.Principal Deputy Commissioner of Food and Drugs Food and Drug Administration Department of Health and Human Services before the House Committee on Rules JULY 13, 2009.

136. FDA, *Food Protection Plan*, http://www.fda.gov/oc/initiatives/advance/food/plan.html (last visited Feb. 14, 2009).

137. *Id.*

138. *Id.*

NANOFOOD: LEGAL AND REGULATORY CHALLENGES

*Abu Bakar Munir*and Siti Hajar Mohd. Yasin***

ABSTRACT

Nanotechnology will have a significant impact on food production in a variety of ways, both directly and indirectly. The growth and complexity of nanotechnology in food applications poses new challenges for the existing food regulation as well as the regulatory authority. This article seeks to examine the legal and regulatory challenges posed by the nanotechnology applications in the food industry. This article reviews some of the relevant legislation in the U.S. and E.U. in dealing with nanofood and the industry. This article also provides an assessment on the adequacy of those laws and identifies the possible gaps and weaknesses in them.

I. INTRODUCTION

In 2003, Nobel Laureate and nanotech entrepreneur Richard Smalley expressed his frustration with what he viewed as exaggerated concerns over the safety of nanotechnology and stated: "[a]fter all, we're not advising that you eat nanotech stuff." The reality is that "[a]bout the time Dr. Smalley was telling consumers not to worry, the nanotech market for food and food processing was estimated to be in excess of $2 billion and projected to surge to more than $20 billion by 2010."[1] "Nanotechnology is moving out of the

* Professor of Law at the Faculty of Law, University of Malaya, Malaysia. His research interests include Nanotechnology Law and Policy, Information and Communications Technology (ICT) Law and Air and Space Law.

** Associate Professor of Law at the Faculty of Law, University Technology MARA, Malaysia. She has researched, published and presented papers on Nanotechnology Law and Policy and Information and Communications Technology (ICT) Law.

1. ACTION GROUP ON EROSION, TECHNOLOGY AND CONCENTRATION, DOWN ON THE FARM: THE IMPACT OF NANO-SCALE TECHNOLOGIES ON FOOD AND AGRICULTURE,

laboratory and into every sector of food production. Manufactured nanomaterials are already used in some food products, nutritional supplements, many packaging and food storage applications and some agriculture inputs."[2] More will be entering the market.

II. NANOTECHNOLOGY AND FOOD INDUSTRY

According to the International Union of Food Science and Technology (IUFoST), worldwide commercial foods and food supplements containing added nanoparticles are becoming available. "Estimates of commercially available nanofoods vary widely; nanotechnology analysts estimate that between 150-600 nanofoods and 400-500 nanofood packaging applications are already on the market."[3] The IUFoST's examples of food-related nano-products include:

- nanoparticles of carotenoids that can be dispersed in water, allowing them to be added to fruit drinks providing improved bioavailability;
- a synthetic lycopene has been affirmed GRAS ("generally recognised as safe") under US FDA procedures;
- nano-sized micellar systems containing canola oil that claimed to provide delivery systems for a range of materials such as vitamins, minerals or phytochemicals;
- a wide range of nanoceutical products containing nanocages or nanoclusters that act as delivery vehicles, e.g. a chocolate drink claimed to be sufficiently sweet without added sugar or sweeteners;
- nano-based mineral supplements, e.g. a Chinese Nanotea claimed to improve selenium uptake by one order of magnitude;
- patented 'nanodrop' delivery systems, designed to administer encapsulated materials, such as vitamins, transmucosally, rather than through conventional delivery systems such as pills, liquids or capsules; and
- an increasingly large number of mineral supplements such as nano-silver or nano-gold.[4]

---

at 3 (Nov. 2004), *available at* http://www.ecolomics-international.org/biosan_nano_etc_nov04_down_on_the_farm.pdf.

2. GEORGIA MILLER & DR.RYE SENJEN, FRIENDS OF THE EARTH, AUSTRALIA, EUROPE & U.S.A, OUT OF THE LABORATORY AND ON TO OUR PLATES, at 9 (2008), *available at* http://www.foeeurope.org/activities/nanotechnology/Documents/Nano_food_report.pdf .

3. *Id.* at 10

4. INTERNATIONAL UNION OF FOOD SCIENCE & TECHNOLOGY, NANOTECHNOLOGY AND FOOD, at 3 (Dec. 2007), *available at* http://www.iufost.org/reports_resources/bulletins/documents/IUF.SIB.Nanotechnology.pdf.

The Friends of the Earth is of the view that [n]anotechnology has potential applications in all aspects of agriculture, food processing, food packaging and even farm and food monitoring:

- methods to enable foods such as soft drinks, ice cream, chocolate or chips to be marketed as 'health' foods by reducing fat, carbohydrate or calorie content or by increasing protein, fibre or vitamin content;
- production of stronger flavourings, colourings, and nutritional additives, and processing aids to increase the pace of manufacturing and to lower costs of ingredients and processing;
- development of foods capable of changing their colour, flavour or nutritional properties according to a person's dietary needs, allergies or taste preferences;
- packaging to increase food shelf life by detecting spoilage, bacteria, or the loss of food nutrient, and to release antimicrobials, flavours, colours or nutritional supplements in response and
- re-formulation of on-farm inputs to produce more potent fertilisers, plant growth treatments and pesticides that respond to specific conditions or targets.[5]

A recent report by Helmut Kaiser Consultancy has estimated that nanofood market would have grown to US$7 billion in 2006, and would reach US$20.4 billion by 2010.[6] Around the globe, over 400 companies, giant and start-up, research, develop, and produce nanofood-related products.[7] "Five out of ten of the world's largest food companies are aggressively exploring the potential of the really small to make really big improvements in packaging, food safety, and nutrition. Similarly, in agriculture, some of the world's largest makers of pesticides, fertilizers, and other farm inputs and technologies are betting on nanotechnology to bring unprecedented precision to crop and livestock production."[8] "Several companies which were hesitant about revealing their research programmes in

5. *See* FRIENDS OF THE EARTH, *supra* note 2, at 11.

6. Helmut Kaiser Consultancy, *Nanotechnology in Food and Food Processing Industry Worldwide*, http://www.hkc22.com/nanofood.html (last visited Apr. 11, 2009).

7. Qasim Chaudhry et al., *Applications and Implications of Nanotechnologies for the Food Sector*, 25 FOOD ADDITIVES & CONTAMINANTS 243 (2008), *available at* http://pdfserve.informaworld.com/567173__791090932.pdf

8. JENNIFER KUZMA & PETER VERHAGE, NANOTECHNOLOGY IN AGRICULTURE AND FOOD PRODUCTION: ANTICIPATED APPLICATIONS, at 7 (2006), *available at* http://nanotechproject.org/process/assets/files/2706/94_pen4_agfoods.pdf. The big companies include Altria, Nestle, Kraft, Heinz and Unilever. Kraft Foods started the first notechnology laboratory in 1999 and is Nanotek consortium, involving 15 universities worldwide and national research laboratories was established in 2000. They are busy working towards "programmable food." An American company has claimed to have created the "Holy Grail of chewing-gum design" - chewing gum with real chocolate in it. *Id.*

nanofood, have now gone public announcing plans to improve existing products and develop new ones to maintain market dominance."[9] It is also widely anticipated that the number of companies applying nanotechnologies to food will increase dramatically in the near future."[10] "The number of patent applications relating to nanotechnology applications in food is growing rapidly."[11]

III. APPLICATIONS OF NANOTECHNOLOGY IN THE FOOD INDUSTRY

"Although nanotechnology applications for the food sector are relatively recent, there have been rapid developments in this area in recent years."[12] Broadly, the currently known and projected applications of nanotechnology for the food sector fall into the following main categories:

- Where food ingredients have been processed or formulated to form nanostructures,
- Where nano-sized, nano-encapsulated or engineered nanoparticles additives have been used in food;
- Where nanomaterials have been incorporated to develop improved, "active", or "intelligent" materials for food packaging;
- Where nanotechnology-based devices and materials have been used, e.g. for nanofiltration, water treatment, nanosensors for food safety and traceability.[13]

The Action Group on Erosion, Technology and Concentration (ETC) is of the view that "[n]ano-scale technologies will take food engineering 'down' to a new level, with the potential to change dramatically the way food is produced, grown, processed, packaged, transported and even eaten."[14] The current and anticipated nanotechnology's applications in the food industry include: smart packaging, nanoparticles as food ingredients and additives, and interactive/programmable food/drink.

---

9. Tiju Joseph & Mark Morrison, *Nanotechnology in Agriculture and Food*, NANOFORUM, April 2006, at 10, *available at* http://www.nanoforum.org/dateien/temp/nanotechnology%20in%20agriculture%20food.pdf?1107200604022.

10. *See* Chaudhry et al., *supra* note 7.

11. INSTITUTE OF FOOD SCIENCE & TECHNOLOGY (IFST), INFORMATION STATEMENT: NANOTECHNOLOGY, at 3 (2006), *available at* http://www.ifst.org/uploadedfiles/cms/store/ATTACHMENTS/nanotechnology.pdf.

12. *See* Chaudhry et al., *supra* note 7, at 243.

13. *Id.* at 243-244.

14. ACTION GROUP ON EROSION, *supra* note 1 at 45.

"It is expected that nanotechnology is going to change the whole packaging industry."[15] Engineering at the nanoscale has the potential to create new opportunities for the packaging industries, and various applications of the technology including:

- improved barrier properties;
- better temperature performance;
- thinner films for flexible packaging; and
- nanoscale pigments for inks.[16]

> Nanotechnology enables designers to alter the structure of packaging materials at the molecular level. For example, plastics can be manufactured with different nanostructures to gain various gas and moisture permeabilities to fit the requirements of specific products such as fruits, vegetables, beverage and wine. As a result, the shelf-life and flavour and colour of the products can be improved. Nanostructured films and packaging materials can prevent the invasion of pathogens and other microorganisms and ensure food safety. Nanosensors embedded in food packages will allow the determination of whether food has gone bad or show its nutrient content. By adding certain nanoparticles into packaging material and bottles, food packages can be made more light- and fire-resistant, with stronger mechanical and thermal performance and controlled gas absorption.[17]

Tiju Joseph and Mark Morrison argue that "developing smart packaging to optimise product shelf-life has been the goal of many companies."[18] "Such packaging systems would be able to repair small holes/tears, respond to environmental conditions, . . . and alert the customer if the food is contaminated."[19] "Nanotechnology can provide solutions for these, for example, *modifying* permeation behaviour of foils, increasing barrier properties, . . . improving mechanical and heat-resistance properties, developing active antimicrobic and antifungal surfaces, and sensing as well as signalling microbiological and biochemical changes."[20] "Packaging becomes

---

15. Nurhan Dunford, Oklahoma State University, Food and Agricultural Products Research and Technology Center, *Nanotechnology and Opportunities for Agricultural Food Systems*, 139 FOOD TECH. FACT SHEET 1, at 2, *available at* http://www.fapc.okstate.edu/files/factsheets/fapc139.pdf.

16. The UK. Food Standard Agency, *Draft FSA Regulatory Review on Nanotech. In Food: Issue For Comment* 8(2006), available at http://www.food.gov.uk/multimedia/pdfs/int060401a.pdf.

17. *See* Dunford, *supra* note 15, at 139-2.

18. Joseph & Morrison, *supra* note 9, at 7.

19. *Id.*

20. *Id.* at 7- 8 (emphasis added).

part of the food" and is known as "interactive packaging."[21] As the CEO of Food Standards Australia New Zealand, Steve McCutcheon, puts it, "the food takes in chemicals from the packet as it sits on the shelf."[22] He said, "[a]t the moment, the shelf life of prepacked salad vegetables is fairly short, but with the application of this technology we understand that you could actually package fresh salads, and they would be fresh still after the 30-day period on the shelf."[23]

According to the IUFoST, indeed,

> Nanocomposites are already available as packaging or in coatings on plastic bottles to control gas diffusion and prolong the lifetime of various products. Nanotechnology is already being used worldwide to produce anti-microbial food contact materials (FCMs) commercially available as packaging, or as coatings on an ever increasing number of products such as food containers, chopping boards and refrigerators.[24]

"The polymer composites incorporating clay nanoparticles are among the first nanocomposites to emerge on the market as improved materials for food packaging."[25] "The nanoclay mineral used in these nanocomposites is montmorillonite, . . . which is a relatively cheap and widely available natural clay derived from volcanic ash/rocks."[26]

> The financial outlook for nanotechnology enabled packaging looks buoyant. The current packaging market stands at USD $1.1 billion and it is predicted to increase to USD$3.7 billion by 2010." With "this, the Smart Packaging industry is growing faster than predicted as is already showing sign of maturity. Research by the financial firm Frost and Sullivan, found that today's consumers demand much more from packaging in terms of protecting the quality, freshness and safety of foods, as well as convenience. They conclude that this is one of the main reasons behind the increased interest in innovative methods of packaging.[27]

According to the Friends of the Earth, "[b]etween 400 and 500 nano-packaging products are estimated to be in commercial use now, while nanotechnology is predicted to be used in the manufacture of 25% of all packaging within the next decade."[28] "Packaging will increasingly become a service trying to meet multiple funct-

---

21. Simon Lauder, *Nanotechnology a 'Bigger Concern' than GM Foods*, ABC NEWS, Nov. 29, 2007,,http://www.abc.net.au/news/stories/2007/11/29/2104922.htm (last visited Apr. 11, 2009).
22. *Id.*
23. *Id.*
24. INTERNATIONAL UNION OF FOOD SCIENCE & TECHNOLOGY, *supra* note 5, at 2..
25. Chaudhry et. al., *supra* note 7 at 245.
26. *Id.*
27. Joseph & Morrison, *supra* note 9, at 8.
28. MILLER & SENJEN *supra* note 2, at 15.

ions . . . and "[a]ccording to Helmut Kaiser. . . , traditional 'packing' is to be replaced with multi-functional intelligent methods to improve the food quality . . ."[29] and it is "estimated that in the next decade nanotechnology will impact 25 percent of the food packaging market."[30]

> Another important application of nanotechnology is the addition of nanoparticles to the existing foods. One of the leading bakeries in Western Australia has been successful in incorporating nanocapsules containing tuna fish oil in their top selling product 'Tip-Top' Up bread. The microcapsules are designed to break open only when they have reached the stomach, thus avoiding the unpleasant taste of the fish oil. The Israeli Company Nutralease utilizes Nano-sized Self-assembled Liquid Structure (NSSL) technology to deliver nutrients in nanosized particles to cells.[31]

Other items available on the market include products called Canola Activa oil, Nanotea, Nanoceuticals Slim Shake, Novasol, Aquanova, Bioral and many more. "Nestle and Unilever are reported to be developing a nano-emulsion based ice-cream with a lower fat content that retains a fatty texture and flavour."[32]

"A number of chemical companies are researching additives which are easily absorbed by the body and can increase product shelf life."[33] Some have managed to produce and market their products. "BASF, for example, produces a nano-scale version of carotenoids, a class of food additives that imparts an orange colour and that occurs naturally in carrots and tomatoes."[34] BASF also produces and "sells its nano-scale synthetic carotenoids to major food & beverage companies worldwide for use in lemonades, fruit juices and margarines. [B]ASF's carotenoid sales are US $210 million annually."[35]

Looking into the future, it is possible that smart/interactive/functional food or drink would be served for our breakfast, lunch or dinner. The Helmut Kaiser Consultancy states:

---

29. *See* George Reynolds, *Future Nanopackaging Market Worth Billions, Says Study*, http://www.foodproductiondaily.com?packaging/Future-nanopackaging-market-worth-billions-says-study (last visited Apr. 11, 2009) (emphasis removed).

30. Michael R. Taylor, *Assuring the Safety of Nanomaterials in Food Packaging: The Regulatory Process and Key Issues*, The Project on Emerging Nanotechnologies, June 25, 2008, at 14.

31. Joseph & Morrison, *supra* note 9, at 10.

32. MILLER & SENJEN *supra* note 2, at 15.

33. Joseph & Morrison, *supra* note 9, at 10.

34. ACTION GROUP ON EROSION, *supra* note 1, at 45.

35. *Id.*

> Tomorrow we will design food by shaping molecules and atoms. Nano-scale biotech and nano-bio-info will have big impacts on the food and food-processing industries. The future belongs to new products, new processes with the goal to customize and personalize the products. . . . Functional food will benefit firstly from the new technologies, followed by standard food, nutraceuticals and others.[36]

The Wageningen University, in the Netherlands, is the host to BioNT, the world's leading biotechnology centre for food and health innovations. Its director, Frans Kampers, says the foundations are already in place for making programmable drinks and other foods, although he says the science still has a way to go.[37] He explains:

> We envisage that it is possible to make nanoparticles that contain, for instance, two flavours, and that these nanoparticles break up when they encounter specific enzymes in the mouth. These flavours would add together and create a new sensation. It might be a different flavour, or a mixture of two flavours, but it could also be something that happens in your mouth; a sizzling sensation for instance. Programming it after the flavours have been added will be a lot tougher though. I don't yet know what mechanism could be used for that.[38]

> Building on the concept of 'on-demand' food, the idea of interactive or programmable food is to allow consumers to modify food depending on their own nutritional needs or tastes. The concept is that thousands of nanocapsules containing flavour or colour enhancers, or added nutritional elements, would remain dormant in the food and only be released when triggered by the consumer.[39]

This smart or functional food/drink will remain dormant in the body and deliver nutrients to cells when needed.

IV. POTENTIAL RISKS TO HUMANS

"Nanotechnology opens up a whole universe of new possibilities for the food industry, but the entry of manufactured nanoparticles into food chain may result in an accumulation of the toxic contaminant in foods and adversely affect human health."[40] Small particles can go where other particles cannot reach and their surfaces

---

36. Helmut Keiser Consultancy, *supra* note 8.

37. Sally Palmer, *The Nano Diet*, BBC FOCUS MAGAZINE ON SCIENCE, TECHNOLOGY, FUTURE, 2007, at 40.

38. *Id.*

39. Joseph & Morrison, *supra* note 9.

40. See Chi-Fai Chau, Shiuan-Huei Wu and Gow-Chin Yen, *The Development of Regulations for Food Nanotechnology*, TRENDS IN FOOD SCIENCE & TECHNOLOGY, 2007, at 273.

could be designed to target release of drugs or nutrient but, in introducing such particles, the prime consideration has to be on the benefits and potential risks. The Woodrow Wilson International Center for Scholars argues:

[T]here are many reasons why we need to be better prepared for the arrival of food and agriculture applications of nanotechnology:

- Experience has shown that any risks or benefits involved with integrating new technologies into food and agriculture processes are greatly magnified given their potentially far-reaching effects on humans, animals, rural communities, and the environment;
- Public perceptions and acceptance of agri-food nanotechnology will greatly influence widely these applications enter society, [and]
- Food and agri-business concerns are at the vanguard of commercialising nanotechnology innovations, and their success or failures could affect future commercialisation of nanotechnology products in all industries.[41]

Nanofood has to learn from GMO food. First, the rush to commercialise first and respond to consumer questions later has proven a major problem for an industry. "Another lesson . . . is that given the complexity of the technology, a failure to go thoroughly explore potential risks and to openly and candidly discuss them with the public can do great harm, even if the actual problems involved end up posing little, if any, real threat."[42] Grassroots opposition can substantially impair an industry. The consumers' trust is the determining factor. Trust, in turn, is difficult to gain and easy to lose. This means that early preoccupation with potential risks is critically crucial for a sustainable and successful technology development.[43] "Consumers are entitled to expect any changes in food composition or packaging materials that involve nanotechnology to be necessary and safe, the appropriate toxicity testing to have been done and the results to be freely available in the public domain."[44] The most important lesson from the case of GM food is that uncertainties should be openly acknowledged. As stated by James Wilsdon, "An ability to

41. KUZMA & VERHAGE, *supra* note 8, at 8.

42. *Id.* at 14.

43. Abu Bakar Munir and Siti Hajar Mohd.Yasin, *The Next Big Thing is Really Small: Legal and Regulatory Challenges*, THE LAW REVIEW (Malaysia), 118, 139 (2007).

44. INSTITUTE OF SCIENCE AND TECHNOLOGY, *supra* note 11, at 3.

accept uncertainty - to say 'we're not sure - is an essential component of the new approach."[45]

"The main likely route of entry of micro—or nano-sized particles to the gut is through consumption of food and drinks."[46] "The main risk of consumer exposure to nanoparticles from food packaging is likely to be through potential migration of nanoparticles into food and drinks."[47] The British Royal Society and the Royal Academy of Engineering in 2004 "recommend[ed] that chemicals in the form of nanoparticles or nanotubes be treated as new substances."[48] The British Government, in general terms, acknowledges "that chemical[s] in the form of nanoparticles or nanotubes may exhibit different properties to the bulk form of the chemical."[49] In the words of the Government, "sometimes this is beneficial and sometimes it may be potentially hazardous" [50]

The Society recommended that "ingredients in the form of . . . nanoparticles . . . undergo a [full] safety assessment by the relevant scientific advisory body before they are [permitted for use] . . . in products."[51] Again, the Government agrees with this recommendation and pledges, "[t]he DTI and other relevant departments will discuss with our European partners the most effective mechanisms for referral to the relevant scientific advisory committees and for responding to their advice to ensure the safety of manufactured [free] nanoparticles in cosmetics and other consumer products".[52]

According to the European Scientific Committees on Consumer Products (SCCP), "[n]anoparticles may enter the human body via several routes but the evaluation of exposure is limited. The probability of penetration depends on the size and surface properties of particles and on the anatomical structure of the specific sites of the exposure routes."[53] More importantly, however, the SCCP's

45. Vuk Uskokovic, *Nanotechnologies: What we do not know*, TECHNOLOGY IN SOCIETY, 53 (2007).

46. Chaudhry et al., *supra* note 7, at 7.

47. *Id.*at 246.

48. The Royal Society and the Royal Academy of Engineering, *Nanoscience and Nanotechnologies: Opportunities and* Uncertainties , 86(2004).

49. HM GOVERNMENT, RESPONSE TO THE ROYAL SOCIETY AND ROYAL ACADEMY OF ENGINEERING REPORT - NANOSCIENCE AND NANOTECHNOLOGIES: OPPORTUNITIES AND UNCERTAINTIES, at 14 (2005).

50. *Id.*

51. *Id.* at 6.

52. *Id.*

53. THE EUROPEAN SCIENTIFIC COMMITTEE ON CONSUMER PRODUCTS (SCCP), PRELIMINARY OPINION ON SAFETY OF NANOMATERIALS IN COSMETIC PRODUCTS, at

report states that "[n]anoparticles may exhibits a potential oxidative capacity associated with their particulate state, [which] is more pronounced in nanoparticles than in larger particles because of their larger surface area and their specific psycho-chemical properties." Hence, nanoparticles can induce local (lungs, gut, and skin) oxidative stress and subsequent health effects.[54]

The Friends of the Earth argues:

> Nanotechnology is an emerging field, with a small number of peer-reviewed studies published to date. It is often suggested by nano proponents that we do not yet know enough about the behaviour of nanoparticles to determine whether they pose enhanced risks to human health. However, the existing body of toxicological literature suggest clearly that nanoparticles have a greater risk of toxicity than larger particles.[55]

The European Scientific Committee on Emerging and Newly-Identified Health Risk (SCENIHR) opined:

> [I]t is likely that exposure to manufactured nanoparticles will become more common. The overall potential risks are likely to increase if no control actions are taken . . . . Among the main factors that underpin this increased potential risk are the ability for nanoparticles to reach tissues that larger particles do not, the unknown effects associated with highly persistent reactive nanoparticles, and the modified toxicokinetics of these nanoparticles compared to conventional bulk materials. [56]

The British Government in 2005 wrote that "[t]here is insufficient evidence to determine whether nanoparticles adversely affect the gut"[57] and "no data exists on the dose of nanoparticles likely to reach other organs such as bone marrow, spleen, liver, heart and the placenta/foetus."[58] Peter HM Hoet, Irene Bruske-Hohlfeld and Oleg V Salata who reviewed quite extensively the research findings

---

27(2007), *available at* http://europa.eu/health/ph_risk/committees/04_sccp/docs/sccp_0_099.pdf.

54. *Id.* at 32.

55. GEORGIA MILLER, FRIENDS OF THE EARTH, NANOTECHNOLOGY AND HEALTH: THE BIG RISKS POSED BY SMALL PARTICLES, *available at* http://nano.foe.org.au/filestore2/download/123/Nanotoxicity%20and%20health%20-%20Issue%20Summary%20May%202006.pdf.

56. SCIENTIFIC COMMITTEE ON EMERGING AND NEWLY-IDENTIFIED HEALTH RISKS (SCENIHR) OPINION ON THE APPROPRIATENESS OF THE RISK ASSESSMENT METHODOLOGY IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENTS FOR NEW AND EXISTING SUBSTANCES FOR ASSESSING THE RISKS OF NANOMATERIALS , at 27 (2007), *available at* http://ec.europa.ed/health/Ph_Risk/Committees104_Scenihr/docs/scenihr_0_004c.pdf.

57. HM GOVERNMENT, CHARACTERISING THE POTENTIAL RISKS POSED BY ENGINEERED NANOPARTICLES, at 32(2005), available at http://www.defra.gov.uk/environment/nanotech/research/pdf/nanoparticles-nsreport.pdf.

58. *Id.* at 33.

on the potential entry points of nanoparticles into the human body and their health effects have concluded:

> Particles in the nano-size range can certainly enter the human body via lungs and the intestines; penetration via the skin is less evident. It is possible that some particles can penetrate deep into the dermis. The chances of penetration depend on the size and surface properties of the particles and also on the point of contact in the lung, intestines or skin. After the penetration, the distribution of the particles in the body is a strong function of the surface characteristics of the particles . . . . [E]ach nanomaterial should be treated individually when health risks are expected.[59]

V. REGULATION UNDER THE U.S FEDERAL FOOD, DRUG, AND COSMETICS ACT (FFDCA)

The FFDCA was enacted to safeguard public health and prevent deceit of the purchasing public. Indeed, the Supreme Court has established that "the public interest in the purity of its food is so great as to warrant the imposition of the highest standard of care on distributors".[60] "Section 331(a) of the FDCA prohibits the introduction or delivery for introduction into interstate commerce of any food . . . that is adulterated or misbranded."[61] Under section 342, a food is "adulterated" if it meets any one of the following criteria: (1) "it bears or contains any poisonous or deleterious substance which may render it injurious to health; . . . (2) it bears or contains any added poisonous or added deleterious substance . . . that is unsafe; . . . (3) its container is composed, in whole or in part, of any poisonous or deleterious substance which may render the contents injurious to health."[62] Further, food is considered adulterated if it is, or it bears or contains an unsafe food additive or it is, or it bears or contains, an unsafe colour additive.[63] "Through these provisions, Congress empowered FDA to set requirements to assure that firms are producing foods that are safe, unadulterated, and wholesome, in-

59. Peter HM Hoet, Irene Bruske-Hohfeld & Oleg V. Salata. *Nanoparticles - Known and Unknown Health Risks*, 2 J. OF NANOBIOTECHNOLOGY 12 (2004), *available at* http://www.jnanobiotechnology.com/content/2/1/12.

60. *U.S. v. Park*, 421 U.S. 658, 671 (1975) (citing *Smith v. California*, 361 U.S. 147, 152 (1959)).

61. 21 U.S.C. § 331 (1938).

62. 21 U.S.C. § 342 (1938).

63. *Id.*

cluding the authority to control conditions at the earliest stages of food production."[64]

> If a food is adulterated, the FDA and FSIS have a broad array of enforcement tools. These include seizing and condemning the product, detaining imported product, enjoining persons from manufacturing or distributing the product, or requesting a recall of the product. Enforcement action is usually preceded by a Warning Letter from FDA to the manufacturer or distributor of the adulterated product.[65]

The authority of the FDA under the Act is depending on, first, whether the added substance "may render it injurious to health" and secondly, if the substance or the food additive or colour additives is "unsafe".[66]

> Under sections 201(s) and 409 of the FFDCA, "any substance added to food 'directly or indirectly' is a food additive unless the substance is 'generally recognized as safe' (GRAS) for its intended use, is a pesticide, or is otherwise excluded from the definition of food additive. [F]ood additives include those substances added directly to food, substances that may become components of food as a result of their use in processing, and components of food contact materials that can reasonably be expected to migrate to food."[67]

"Both FDA regulations and legal precedent have defined 'added' substance broadly" to cover a situation where "a naturally occurring substance 'is increased to abnormal levels through mishandling or other intervening acts'." A substance is "added" to a food even if it derives in part from man and in part from nature. The FDA is only required to show some portion of the substance is attributable to the acts of man and that the total amount may be injurious to health.[68] Putting nanomaterial into the food as an ingredient, or as food additive or as colour additives or if nanoparticles from food packaging migrate into food and drinks would mean a substance has been added.

"GRAS uses of food ingredients do not require premarket authorization by FDA." In other words, a food additive is subject to premarket approval from the FDA only if it is not "generally recog-

---

64. Center for Science in the Public Interest, *Citizen Petition*, at 7(2006), *available at* http://www.cspinet.org/new/pdf/fda_Produce_Petition.pdf.

65. Food & Culture Encyclopedia, *Adulteration of Food*, *available at* http://www.answers.com/topic/adulteration-of-food (citation omitted).

66. 21 U.S.C. § 342 (1938).

67. ANDREW C. VON ESCHEN, U.S. FOOD AND DRUG ADMINISTRATION, NANOTECHNOLOGY: A REPORT OF THE U.S. FOOD AND DRUG ADMINISTRATION, *available at* http://www.fda.gov/nanotechnology/taskforce/report2007.html

68. *See* Chaudhry et al., *supra* note 7.

nized as safe."[69] There are two questions here; firstly, whether nanofood "may render it injurious to health," and secondly, whether nanofood deserves GRAS status. If the answer to the former is positive, nanofood would be deemed adulterated. If the answer to the latter is positive, nanofood does not require premarket approval. On the other hand, if nanofoood does not deserve GRAS status, the FDA will have to approve the additive before the product can be put on the market. In short, premarket authorization of nanofood is very much dependent on the GRAS status.

The FDA states, "FDA's authority over products subject to premarket authorization is comprehensive and provides FDA with the ability to obtain detailed scientific information needed to assess the safety and, as applicable, effectiveness of products, including relevant effects of nanoscale materials."[70] However, at the same time, the FDA acknowledges that "[w]here products are not subject to premarket authorization, manufacturers generally are not required to submit data to the FDA prior to marketing, and agency oversight capacity is, therefore, less comprehensive."[71]

The Woodrow Wilson International Center for Scholars (WWICS) advocates that the FDA "establish criteria and provide guidance to the industry about when nanomaterials are not the same as materials that are already listed in FDA's GRAS . . . food additive and food packaging regulations."[72] FDA should also work with the food industry to ask "companies to voluntarily submit their safety data" on food uses of nanotechnology.[73] The Center argues that the "FDA should not, however, have to rely on voluntary industry compliance in order to obtain data. [T]he agency needs legal authority to require disclosure of specified information."[74]

On the FFDCA itself, the WWICS argues that while there are gaps in the legal framework there is no need to have a new law governing nanotechnology. The Center in its report states, "[N]anotechnology does reveal gaps in FDA's legal tool kit. While there is not a need to start from scratch in providing FDA the legal

---

69. VON ESCHEN, *supra* note 67.

70. NANOTECHNOLOGY: A REPORT OF THE U.S FOOD AND DRUG ADMINISTRATION NANOTECHNOLOGY TASK FORCE, at 32 (2007), *available at* http://www.fda.gov/nanotechnology/taskforce/report2007.pdf.

71. *Id.* at 33.

72. J. Clarence Davies, *Nanotechnology Oversight: An Agenda for the New Administration*, at 14 (2008), *available at* http://201.58.186.238/process/assets/files/6709/pen13.pdf

73. *Id.* at 15

74. *Id.*

tools it require [sic] to regulate the products of nanotechnology, those gaps do need to be filled if FDA is to provide the oversight people expect."[75] The gaps include "[F]DA's inability to acquire information about nanotechnology products early enough in their development to prepare properly for their regulation, and . . . inadequate authority for post-market adverse event reporting."[76]

VI. EUROPEAN REGULATION: AN OVERVIEW

There are several important pieces of legislation governing food safety in Europe: (1) Regulation 178/2002, (2) Regulation 258/97, and (3) Regulation 1935/2004.

1. Regulation 178/2002 of The European Parliamentand of The Council of The European Union [77]

The Regulation (EC) No 178/2002 elaborates the general principles and requirements of food law in the European Union. It establishes the European Food Safety Authority (EFSA), specifies procedures in matters of food safety, and provides assurance of a high level of protection of human health and consumers' interests in relation to food. Article 14 of this Regulation, on the general requirements of food law, provides that "[f]ood shall not be placed on the market if it is unsafe."[78] "Food shall be deemed to be unsafe if it is considered to be: (a) injurious to health; or (b) unfit for human consumption."[79] Meanwhile, Article 17 places the responsibility for ensuring that food is safe on the food business operators.[80]

Article 7 of the Regulation requires provisional risk management measures to be taken in the case of uncertainty. It provides that "[i]n specific circumstances where, following an assessment of available information, the possibility of harmful effects on health is identified but scientific uncertainty persists, provisional risk management measures necessary to ensure the high level of health protection . . . may be adopted, pending further scientific information

75. Michael R Taylor, *Regulating the Products of Nanotechnology: Does FDA Have the Tools it Needs?*, at 3 (2006), *available at* http://www.Nanotechproject.Org/File_Download/Files/PEN5_FDA.Pdf.

76. *Id.* at 7.

77. 2002 O.J. (L 31) 1.

78. Regulation 78/2002, art. 14(1), at 10.

79. Regulation 78/2002, art. 14(2)(a) and (b), at 10.

80. Regulation 78/2002, art. 17(1), at 11.

for a more comprehensive risk assessment."[81] This provision is relevant to the current status of nanofood, where there is the possibility of harmful effect, coupled with scientific uncertainty about it.

Article 19 provides additional safeguards. It places the obligation on business operators to withdraw food from the market. The article provides that "if a food business operator considers or has reason to believe that a food which it has imported, produced, processed, manufactured or distributed is not in compliance with the food safety requirements, it shall immediately initiate procedures to withdraw the food in question from the marke . . . ."[82] This is passive regulation.

2. Regulation (EC) 258/97

This Regulation[83] covers novel foods and novel food ingredients, which are particularly relevant to nanofood. Article 1 defines novel food as "foods and food ingredients which have not hitherto been used for human consumption to a significant degree within the Community" prior to May 1997 and which fall under one of the defined categories. Two of the categories are relevant to nanofood: (1) foods and food ingredients with a new or intentionally modified primary molecular structures[84] and (2) "foods and food ingredients to which has been applied a production process not currently used, where that process gives rise to significant changes in the composition or structure of the foods or food ingredients which affect their nutritional value, metabolism or level of undesirable substances."[85]

> Considering the current and projected applications of nanotechnologies in food, it is unlikely that most nano-structured food products (at least in the foreseeable future) would fall under the first category, i.e. they would not necessarily have a different molecular structure compared to normal processed food. "There is, however, a strong likelihood that they would fall under the second category."[86]

Article 3 of the Regulation requires that "foods and food ingredients... must not present a danger for the consumer, [or] mislead the consumer."[87] The control over nanofood can be divided into

---

81. Regulation 78/2002, art. 7(1), at 9.
82. Regulation 78/2002, art. 19(1).
83. Regulation 258/97, art. 1(2)(a).
84. Regulation 258/97, art. 1(2)(a)
85. Regulation 258/97, art. 1(2)(f).
86. Chaudhry, et.al., *supra* note 7, at 252.
87. Regulation 258/97, art. 3(1).

parts: notification and authorization before entering the market, labelling and postmarket monitoring. Under Article 4, anyone who wishes to place product on the market for the first time will have to "submit a request to the Member State,"[88] which includes "an initial assessment"[89] and provision of relevant documents listed in Article 4 and 6. If necessary, competent authority can order additional assessment.[90] If additional assessment is required "an authorization decision shall be taken in accordance with the procedure provided for in Article 13."[91] The decision made should "define the scope of authorization" and shall establish, where appropriate: ". . . the conditions of use of the food or food ingredient, . . . the designation of the food or food ingredient, and its specification, . . . and specific labelling requirements as referred to in Article 8."[92]

Article 12, indirectly, provides for the monitoring of nanofood which is already on the market. It also empowers the European country to restrict the trade or use of a food or a food ingredient. This article provides that:

> [W]here a Member State, as a result of new information or a reassessment of existing information, has detailed grounds for considering that the use of a food or a food ingredient complying with this Regulation endangers human health or the environment, the Member State may either temporarily restrict or suspend the trade in and use of the food or food ingredient in question in its territory. It shall immediately inform the other Member States . . .[93]

This Regulation in article 8 imposes labelling requirements. It has to be noted that nanofood labelling is 'additional' under the Regulation and the target of labelling here is the 'final consumer.' There are four types of information which should be included in the labelling:

> "(a) any characteristics or food property such as composition, nutritional value or nutritional effects, [or] intended use of the food, which renders nanofood no longer equivalent to an existing food or food ingredient . . . ,
>
> (b) the presence in the novel food or food ingredient of material which is not present in an existing equivalent foodstuff and which may have implications for the health of certain sections of the population;

88. Regulation 258/97, art. 4(1).
89. Regulation 258/97, art. 4(2).
90. Regulation 258/97, art. 7(2).
91. Regulation 258/97, art. 7(1).
92. Regulation 258/97, art. 7(2)
93. Regulation 258/97, art. 12(1).

> (c) the presence in the novel food or food ingredient of material which is not present in an existing equivalent foodstuff and which gives rise to ethical concerns;
>
> (d) the presence of an organism genetically modified by techniques of genetic modification . . . ."[94]
>
> A novel food or food ingredient is deemed to be no longer equivalent . . . if scientific assessment, based upon appropriate analysis of existing data can demonstrate that the characteristics assessed are different in comparison with a conventional food or food ingredient, having regard to the accepted limits of natural variations for such characteristics. In this case, the labelling must indicate the characteristics or properties modified, together with the method by which that characteristic or property was obtained.[95]

3. Regulation 1935/2004

EU Regulation 1935/2004[96] is the main Regulation governing the composition, properties and use of FCMs in Europe.

> The principle underlying this Regulation is that any material or article intended to come into contact directly or indirectly with food must be sufficiently inert to preclude substances from being transferred to food in quantities large enough to endanger human health or to bring about unacceptable change in the composition of the food or deterioration in its organoleptic properties.[97]

The Regulation applies "to all materials and articles, including active and intelligent food contact materials and articles."[98]

Article 3 provides for the general requirement that may have direct implication on the nanofood packaging industry and manufactures. It provides that "[m]aterials and articles, including active and intelligent materials and articles, shall be manufactured in compliance with good manufacturing practices so that, under normal or foreseeable conditions of use, they do not transfer their constituents to food . . . ."[99] Thus, it places an obligation not to produce food packaging or FCM that may transfer its constituents into food in quantities which could "endanger human health or . . . bring about an unacceptable change in the composition of the food . . . or bring about a deterioration in the organoleptic characteristics . . . ."[100]

---

94. Regulation 258/97, art. 8(1).
95. Regulation 258/97, art. 8(1).
96. Regulation 1935/2004, 2004 O.J. (L 388) 1.
97. Regulation 1935/2004, art. 1.
98. Regulation 1935/2004, art.1(2).
99. Regulation 1935/2004, art. 3(1).
100. Regulation 1935/2004, art. 3(1).

This brings up two points. First, "[i]t is not clear whether the need to establish the inertness of packaging will lie with the supplier of the nanoparticle materials, the manufacturer of the packaging or packaging components or the retailers of these materials and/or the foods on which they have been used."[101] Second, this provision attaches a qualification of quantities large enough to endanger human health.[102] "This implies, therefore, that the transfer rate and the properties of the substance are known. In the case of nanocomponents this may not always be the case."[103]

Another provision which is relevant to nanofood is Article 4(2). It provides that before any substance can deliberately be incorporated into active and intelligent materials which would be released into the food or the environment surrounding the food an authorization from the European Food Safety Authority (EFSA) is required.[104] Specific measures may also be adopted.[105] These specific measures include "specific limits on the migration of certain constituents . . . ," "an overall limit on the migration of constituents into or on to food," "additional provisions of labelling," etc.[106] The labelling of active and intelligent material must include "information on the permitted use or uses and other relevant information such as the name and quantity of the substances released by the active component[s] . . . ."[107] Article 24 specifically obliges the Member States to carry out "controls in order to enforce compliance with [the] Regulation.[108] "[A] Member State, as a result of new information or a reassessment of existing information . . . [can] temporarily suspend or restrict application" of any material if the use of the material endangers human health.[109]

Some scholars have argued that most applications of nanotechnology in food and FCMs "will be subject to some form of approval process [under the relevant EU legislation] before being permitted for use."[110] They, however, pointed out that:

> [(1)] [c]urrent legislation pertaining to food ingredients, food additives and FCMs does not differentiate between substances produced routinely

101. INSTITUTE OF SCIENCE AND TECHNOLOGY, *supra* note 11, at 8.
102. Chaudhry, et. al., *supra* note 7.
103. *Id.*
104. Regulation 1935/2004, art. 4.
105. Regulation 1935/2004, art. 5.
106. *See* Regulation 1935/2004, art. 5.
107. Regulation 1935/2004, art. 159(1)(c).
108. Regulation 1935/2004.
109. Regulation 1935/2004, art. 18(1).
110. Chaudhry, et.al, *supra* note 7, at 251.

> by 'standard' manufacturing methods and those developed by nanotechnology . . .; [(2)] [t]here is a lack of clarity in the definition of novel foods under relevant regulations that may lead to uncertainty as to whether (and when) a food processed at nano-scale should be considered a novel food; [(3)] [t]here is a lack of information on the extent of migration of nano components from nanotechnology derived FCMs; [and (4)] [t]here is a lack of knowledge of the possible health effects of nanosized food ingredients and additives to enable adequate risk assessment.[111]

VII. CONCLUSION

"Generally recognized as one of the 21ST century 'mega' technologies, nanotechnology may revolutionize the food industry in the coming years."[112] One day, possibly nanofood will be everywhere. "Perhaps, in the future customers will ask for healthy Nano Flake instead of Corn Flakes.[113] Globally, countries, companies and universities recognize the potential of nanotechnology in the food industry. Whatever the impacts of nanotechnology on the food industry and products entering the market may be, the safety of food will remain the prime concern. However, research and safety assessments are apparently lagging behind the forward movement into nanotechnology and nanofood. There has been backlash and calls to say no to nano and nanofood.

As with any new developments, the management of potential risks is not the sole responsibility of the politicians and legislators. Scientists, technologists, industrialists have a primary responsibility to ensure the safety of the products they develop. It is essential to ensure that before manufactured free nanoparticles are introduced directly into foods or used in FCM, such use should have undergone an appropriate, proportionate pre-market safety evaluation.[114] Equally essential is to ensure that the rules and regulations protect consumers and at the same time do not hamper the technology. The existing legal framework will need to be reviewed in making sure that nanoparticulate materials in nanofood are covered and to reflect the possibility that these nanocomponents may have greater toxicity than materials in the larger size range.

---

111. *Id.* at 254.

112. Thomas Bratschi, et. al., *Nano-Food: Science-Fiction or Business Opportunity?*, 3 EXCELLENCE IN FOOD 1, 3 (2006), *available at* http://www.innovationsgesellschaft.ch/image/publication_en/study%20introduction%20English.pdf.

113. On the back of Kellogg's Toppas packaging in Germany write-up on the advantages of nanotechnology was printed. *Id.*

114. INSTITUTE OF SCIENCE AND TECHNOLOGY, *supra* note 11, at 17.

EQUALIZING THE PLAYING FIELD: THE TIME HAS COME FOR SECONDARY MEANING IN THE MAKING IN SMALL RESTAURANT TRADE DRESS INFRINGEMENT CASES

*John Pesek**

I. INTRODUCTION

Imagine it is opening day for your first restaurant. It has taken months, if not years, to get to this point and you have spent a lot of money in developing the menu, artist style, and feel for the restaurant. A few months after the opening of your restaurant, a competing restaurant, right down the block from your restaurant, opens its doors; its menu and overall look are virtually indistinguishable from your restaurant. You are left wondering what remedies, if any, you have as a small restaurant owner. This was the case for Chef Rebecca Charles and her Pearl Oyster Bar in New York City.[1]

American courts have developed doctrines to protect the rights of businesses from unfair competition; Congress has similarly enacted laws to protect intellectual property rights, such as the Lanham Act (The Act).[2] Trademarks and trade dress are commonly used to protect a creator's work.[3] A trademark is defined as "any

* The author would like to thank Uche Ewelukwa, Associate Professor of Law, University of Arkansas School of Law, for her insight and advice during the drafting of this comment. The author is also thankful to Lindsey Pesek, J.D. 2009, University of Arkansas School of Law, for her patience and support during the process.

1. Pete Wells, *Chef Sues Over Intellectual Property (The Menu)*, N.Y. TIMES, June 27, 2007, *available at* http://www.nytimes.com/2007/06/27/nyregion/27pearl.html.

2. *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763, 781 (1992) (noting that the ultimate test under the Lanham Act § 43(a) "is whether the public is likely to be deceived or confused by the similarity of the [descriptive] marks . . . is there a 'likelihood of confusion'") (citations omitted).

3. *See* 15 U.S.C. § 1127 (2006).

word, name, symbol, or device" used by its creator to help identify and distinguish the creator's work.[4] Trade dress, as defined by the Eleventh Circuit, "involves the total image of a product . . ." and "include[s] features such as size, shape, color, color combinations, texture, graphics, [and] even particular sales techniques."[5]

The Act was enacted by Congress to not only give protection to registered trademarks, but also to give protection to unregistered trademarks and trade dress.[6] The Act specifically states that, "[a]ny person who shall affix, apply, or annex, or use in connection with any goods or services or any container or containers of goods, a false designation of origin, or any false description or representation . . . shall be liable to a civil action."[7] Although the Act originally gave protection only to trademarks, the Court inherently has given the same protection to trade dress.[8] Due to this protection, small restaurants may now petition the courts to protect their menus, style of restaurants, and recipes.[9]

The Act specifies two criteria (inherent distinction or acquisition of secondary meaning) that a person or business seeking a trade dress infringement case must satisfy before the courts will find an infringement.[10] In infringement cases, courts will usually classify the potential trademarks as being either: "(1) generic, (2) descriptive, (3) suggestive; (4) arbitrary [or] fanciful."[11] Descriptive trade dress is the classification most litigated in the courtroom, because distinction is not achieved[12] until secondary meaning is shown. To establish infringement for a descriptive trade dress, courts have held that the creator must be able to show that their "trade dress has acquired secondary meaning."[13] Secondary meaning is acquired when "the purchasing public associates [the trade] dress with a single producer or source rather than just with the product itself."[14] In the past, many small restaurants have failed to realize that they have similar

4. *Id.*
5. *John H. Harland Co. v. Clarke Checks, Inc.*, 711 F.2d 966, 980 (11th Cir. 1983).
6. *Wal-Mart Stores, Inc. v. Samara Brothers, Inc.*, 529 U.S. 205, 209 (2000).
7. *Two Pesos, Inc.*, 505 U.S. at 766 n.2 (citing 15 U.S.C. § 1125(a) (1982)).
8. *Id.*
9. *See generally Two Pesos, Inc.*, 505 U.S. at 763.
10. *See id.*
11. *Abercrombie & Fitch Co. v. Hunting World, Inc.*, 537 F.2d 4, 9 (2d Cir. 1976).
12. 15 U.S.C. § 1127 (2000). The statute states that a trademark needs to identify and distinguish the creator's goods, "including any unique products, from those manufactured or sold by others . . . ." *Id. Two Pesos, Inc.*, 505 U.S. at 768; *Cicena Ltd. v. Columbia Telecommunications Group*, 900 F.2d 1546, 1548 (2d Cir. 1990).
13. *Cicena Ltd.*, 900 F.2d at 1548.
14. *Id.* at 1549 (citation omitted).

rights to those of larger chain restaurants. As to descriptive trade dress, achieving the classification of secondary meaning has largely been a problem for small restaurants because it takes extensive marketing and money to show a court that secondary meaning has been established.[15]

In Chef Charles' case, a former chef, Chef McFarland, who had worked in the Pearl Oyster Bar for Chef Charles, started a competing restaurant.[16] Chef Charles claimed that Chef McFarland copied every aspect of her menu and restaurant style.[17] Under the current law for descriptive trade dress, Chef Charles will have to show that her trade dress has acquired secondary meaning.[18] In order to show this, she will have to spend large amounts of money on survey and marketing campaigns, as well as large amounts on legal fees to maintain the action against her competitor.[19]

This article discusses secondary meaning in the making, a possible alternative to help small restaurants in their fight to protect trade dress. This possible alternative will help smaller restaurants in their fight to protect their trade dress from unfair competition. Secondary meaning in the making will allow small restaurants to show that they are taking the appropriate measures to acquire secondary meaning and thereby gain protection from the court while secondary meaning is being acquired. The issue of protecting trade dress is becoming more important, because even small restaurants are investing hundreds of thousands or even millions of dollars to develop their restaurants and menus, but unless extensive money is spent on surveying and marketing, courts may not find secondary meaning.[20] Also, many small restaurant owners have simply been ignoring their rights when it comes to protecting their restaurants, because many owners have felt that they never had any remedies available to them.[21] Tim Wu, a professor at Columbia School of Law, has described this issue as "a classical marriage between food and law."[22]

The test now imposed requires a restaurant to show its product or descriptive mark is inherently distinctive or that secondary mean-

15. *See generally* Zatarains, Inc. v. Oak Grove Smokehouse, Inc. 698 F.2d 786 (5th Cir. 1983).
16. *See* Wells, *supra* note 1.
17. *Id.*
18. *See Samara Bros., Inc.*, 529 U.S. at 205.
19. *See Zatarains, Inc.* 698 F.2d at 786.
20. *See* Wells, *supra* note 1.
21. *Id.*
22. *Id.*

ing has been acquired.[23] This article suggests that courts use an alternative secondary meaning test to protect small restaurants from having to show secondary meaning while they are trying to meet the requirements for it, because the test now used by the courts is overly burdensome on small restaurants.

II. OVERVIEW OF HISTORY OF TRADEMARKS AND TRADE DRESS

American courts and legislatures have developed a system of trademark and trade dress laws to protect the distinctive logos and names of businesses from their competitors.[24] Congress established the Lanham Act[25] (The Act) to protect trademarks, but courts have held that the Act also provides similar protection to trade dress.[26] Even though Congress and the courts have been provided protection for trademarks[27] and trade dress[28] they have yet to adopt a standard that will adequately protect small restaurants while also protecting the consuming public and other companies against unfair competition.

A. History of Trademarks

A trademark, defined by Congress, is, "any word, name, symbol, or devise, or any combination thereof, used by a person, or which a person has a bona fide intention to use in commerce . . . to identify and distinguish his or her goods."[29] Enacted in 1946, the original Lanham Act was narrowly interpreted by the Supreme Court to protect against "false description or representation."[30] The statute was originally read narrowly so that it only prevented "false advertising and the common-law tort of 'passing off'."[31] The Court, however, started to read the statute more broadly and The Act began to be used as a tool to protect against unfair competition.[32]

---

23. *See Two Pesos, Inc.*, 505 U.S. at 763.
24. *Two Pesos, Inc.*, 505 U.S. at 767-68.
25. 15 U.S.C. § 1127 (2000).
26. *Two Pesos, Inc.*, 505 U.S. at 776.
27. *See* 15 U.S.C. § 1125(a)(1) (2000).
28. *See Two Pesos, Inc.*, 505 U.S. at 763, 776.
29. 15 U.S.C. § 1127 (2000).
30. *Two Pesos, Inc.*, 505 U.S. at 778 (citation omitted).
31. *Id.* The Court stated that the tort of passing off was construed in American and English common law as one who passes "off his goods as the goods of another." *Id.* at 779.
32. *Id.* at 779.

The language of The Act is broad, allowing many things to qualify as a trademark. The Supreme Court held that Section 43(a)(1) of The Act protects product symbols and even colors.[33] The Court's new interpretation of Section 43(a)(1) has made it so that many things may qualify as a trademark under The Act, since people may associate a business with more than just its name.[34]

The four categories of trademarks[35] are guidelines and advisory in their use, but have been difficult to apply.[36] A "generic" term describes more of the basic nature of an article or service "rather than the more individualis[tic] characteristics of a particular product."[37] These types of marks/terms/logos are unable to gain trademark protection.[38] Furthermore, if a registered trademark ever becomes generic, its registration is subject to cancellation.[39] An example of a generic term is "aspirin."[40]

A "descriptive" term is one that "identifies a characteristic or quality of an article or service."[41] These terms are usually not protectable as trademarks; however, they may gain protection through the assertion that the trade dress is inherently distinctive[42] or by showing secondary meaning.[43] An example of a descriptive term is "aloe" when used in "reference to products containing gel of the aloe vera plant."[44] The difference "between generic and descriptive terms is one of degree" but it is an important distinction, because

33. *Qualitex Co. v. Jacobson Products Co.*, 514 U.S. 159, 162 (1995) (holding that "[B]oth the language of the Act and the basic underlying principles of trademark law would seem to include color within the universe of things that can qualify as a trademark").

34. *Id.* at 162. "Since human beings might use as a 'symbol' or 'device' almost anything at all that is capable of carrying meaning, this language, read literally, is not restrictive." *Id.* The Court still required that the creator show that the trade dress color has established the necessary secondary meaning for a descriptive trade dress. *Id* at 163.

35. *Zatarains, Inc.*, 698 F.2d at 790 (noting the four categories as 1) generic; 2) descriptive; 3) suggestive; 4) arbitrary or fanciful).

36. *Id.*

37. *Id.*

38. *See* 15 U.S.C. § 1127 (2000).

39. *See id.*

40. *Zatarains, Inc.*, 698 F.2d at 790.

41. *Id.* (citation omitted).

42. *See generally Two Pesos, Inc.*, 505 U.S. at 763.

43. *Zatarains, Inc.*, 698 F.2d at 790.

44. *See generally id.* (citing *Aloe Crème Laboratories, Inc. v. Milsan, Inc.*, 423 F.2d 845 (5th Cir. 1970)).

generic terms never gain protection but descriptive terms may gain protection.[45]

A "suggestive" term is one that by its very nature "suggests, rather than describes some particular characteristic of the goods or services [that] it applies and requires the consumer to exercise [their] imagination . . . to draw a conclusion as to the nature of the goods and services."[46] Suggestive marks are inherently distinctive and are protected without the showing of secondary meaning.[47] An example is the term "Coppertone" when in reference to the sunscreen product.[48]

"*Arbitrary* or *fanciful* terms bear no relationship to either the product or services to which they . . . appl[y]."[49] These terms are protectable without the showing of secondary meaning, because they "bear no relationship to the product or service."[50] An example is the term "Kodak" when referring to photographic supplies.[51]

The purpose behind the Act is to protect the public from deceit and companies against unfair competition.[52] Even though there is protection for small restaurants in trademarks, most restaurants have tried to protect their menus and restaurant styles by a cause of action for trade dress infringement, due to findings that menus and restaurant styles are not patentable.[53] Even a showing of trade dress infringement has been a hard barrier to overcome for small restaurants, because of the high secondary meaning standard that the courts require all businesses to show.[54] This standard seems to go against the inherent purpose of the Act to protect against unfair competition.[55]

---

45. *Zatarains, Inc.*, 698 F.2d at 790-91.

46. *Id.* at 791 (italics in original).

47. *Id.*

48. *See id.* (citing *Douglas Laboratories, Inc. v. Copper Tan, Inc.*, 210 F.2d 453 (2nd Cir. 1954)).

49. *Zatarains, Inc.*, 698 F.2d at 791.

50. *Id.*

51. *See id.* (citing *Eastman Kodak Co. v. Weil*, 243 N.Y.S. 319 (1930)).

52. S.Rep. No. 1333, 79th Cong., 2d Sess., 3 (1946). The Senate Report stated that the Act has two goals: 1) to protect the public, so they know what they are buying; and, 2) the owner of the trademark is protected in their investment. *Id.*

53. *Buca, Inc. v. Gambucci's, Inc.*, 18 F. Supp. 2d 1193 (D. Kansas 1998) (holding that the trade dress did not meet the secondary meaning standard); *Two Pesos, Inc.*, 505 U.S. at 763 (holding that trade dress which is inherently distinctive need not show secondary meaning).

54. *Buca, Inc.*, 18 F. Supp. 2d at 1193.

55. *See* S.Rep. No. 1333, *supra* note 52.

B. The History of Trade Dress

Trade dress was designed to give protection against unfair competition.[56] Trade dress is defined as anything that involves "the total image of the business . . . include[ing] the . . . floor plan [to] . . . the menu" and dress of the servers."[57] To prove trade dress infringement the plaintiff must establish three elements: 1) that there is a likelihood of confusion among the consuming public; 2) "the appropriated features of the trade dress are nonfunctional";[58] and, 3) the creator must be able to show that the trade dress is distinctive.[59] The creator can choose one of two ways to show that their trade dress is distinctive; either by showing inherent distinctiveness or by proving that their trade dress "has acquired distinctiveness through secondary meaning."[60]

1. Secondary Meaning

Secondary meaning is used commonly to indicate that the trademark or trade dress has come, through use, to be associated with a specific source.[61] The Supreme Court has held that in an action about descriptive trade dress a small business owner must be able to show that product design has acquired secondary meaning in order to receive protection under The Act.[62] In a case about trade dress, a creator may show that their distinctive mark is inherently distinct to avoid having to show secondary meaning.[63]

"Proof of secondary meaning requires vigorous evidentiary requirements."[64] Relevant factors to prove secondary meaning include: "advertising expenditures, sales success, length and exclusivity of use, unsolicited media coverage, and consumer studies."[65] This evidentiary showing is a problem for small restaurants with a limited

---

56. 15 U.S.C. § 1125(a) (2000).

57. *Two Pesos, Inc.*, 505 U.S. at 763 (citing *Blue Bell Bio-Medical v. Cin-Bad, Inc.* 864 F.2d 1253, 1256 (5th Cir. 1989)).

58. Ingrida Karins Berzins, *The Emerging Circuit Split over Secondary Meaning in Trade Dress Law*, 152 U. PA. L. REV. 1661, 1666 (2004) (citations omitted).

59. *Id.*

60. *Id.*; *Two Pesos, Inc.*, 505 U.S. at 769.

61. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 13 Cmt. *e* (Tentative Draft No. 2, 1990) (noting that a source could be a person's goods, services, or business).

62. *Samara Brothers, Inc.* 529 U.S. at 206.

63. *Two Pesos, Inc.*, 505 U.S. at 776.

64. *Thompson Medical Co., Inc. v. Pfizer Inc.*, 753 F.2d 208, 217 (2nd Cir. 1985) (citation omitted).

65. *Cicena Ltd.*, 900 F.2d at 1551.

budget for advertising and a limited amount of product sold. To prove secondary meaning, companies must show that they have spent hundreds of thousands of dollars on advertising and that their volume of sales is substantial.[66]

Recently, the Supreme Court has started to apply different secondary meaning standards. In *Two Pesos, Inc. v. Taco Cabana, Inc.*, the Court held that product packaging could be inherently distinct; however, if the trade dress is found to be descriptive then secondary meaning will still be required.[67] In *Wal-Mart Stores, Inc. v. Samara Brothers, Inc.*, the Court held that in product design cases the creator must be able to show secondary meaning to meet the requirement of distinctiveness because product design cannot be inherently distinct.[68] Both these decisions impact trade dress infringement cases by requiring owners of product design trade dress to show secondary meaning but allowing owners of inherently distinctive products to avoid having to show secondary meaning.[69] Some lower courts have tried to protect creators of trade dress by using alternatives to the secondary meaning requirement.

2. Secondary Meaning in the Making

Secondary meaning in the making re-emerged in the case of *The National Lampoon, Inc. v. American Broadcasting Co., Inc.*[70] Cases have defined the doctrine of secondary meaning "in the making" to provide where secondary meaning has not yet developed, a "trade dress will [still] be protected against intentional [or] deliberate attempts to capitalize on a distinctive product."[71]

The purpose behind the doctrine is to protect the creator against unfair competition because they have spent money on secondary meaning but have yet to fully acquire the necessary requirements for secondary meaning.[72] A New York court held that secon-

---

66. *Zatarains, Inc.*, 698 F.2d at 795 (holding that Zatarains met their burden of proof by showing that they had spent $ 400,000 on advertising during the period of 1976 and 1981, and by showing that their sales from 1964 through 1979 were $ 916,385).

67. *Two Pesos, Inc.*, 505 U.S. at 763 (holding that if trade dress is inherently distinctive then there is no need to show secondary meaning).

68. *Samara Brothers, Inc.* 529 U.S. at 206.

69. *Id.*; *Two Pesos, Inc.*, 505 U.S. at 776.

70. 376 F. Supp. 733 (S.D.N.Y. 1974).

71. *Metro Kane Imports, Ltd. v. Federated Department Stores, Inc.*, 625 F. Supp. 313, 316 (S.D.N.Y. 1985).

72. *Cicena Ltd.*, 900 F.2d at 1549.

dary meaning in the making should protect a mark against people with actual knowledge or at least "good reason to know of its potential . . ." "or against someone intent on capitalizing on the quality of the mark."[73] The court went on to add that piracy should not be tolerated any more "in the earlier stages of development . . . than in" its later stages.[74]

Secondary meaning in the making has had a hostile response; many courts have decided not to broaden the doctrine of secondary meaning to include it.[75] The Second Circuit, in *Cicena Ltd. v. Columbia Telecommunications* Group, held that the circuit would not accept the doctrine because The Act only protected against "false designation of origin", so any product that had not acquired secondary meaning could not designate an origin.[76] The court went on to add that allowing a case to proceed without the showing of secondary meaning "would undermine the . . . purpose of" The Act, because it would not "show that the public associates the product with a source . . . ."[77]

Another major reason that courts choose not to endorse the doctrine is because most of the cases before the courts have either met the requirements for secondary meaning or have lacked the facts to support a finding of secondary meaning in the making.[78] Even though the Second Circuit has denied accepting the doctrine of secondary meaning, the court did state that the doctrine serves an admirable goal by "preventing the deliberate copier from capitalizing on the efforts of the [creator]."[79]

Many scholarly criticisms exist for the doctrine of secondary meaning in the making, and look to abandon the doctrine as a whole.[80] One of the major problems that many legal scholars have with the doctrine is the thought that it "is inimical to the purpose of

---

73. *Loctite Corp. v. National Starch and Chemical Corp.*, 516 F. Supp. 190, 211 (S.D.N.Y. 1981).

74. *Id.*

75. *Cicena Ltd.*, 900 F.2d at 1549.

76. *Id.* at 1550 (explaining that the United States Court of Appeals for the Federal Circuit decided that the Second Circuit would agree with the holding as the issue was one of first impression in the Second Circuit but decided by the Federal Circuit).

77. *Id.*

78. *Id.*; *see generally Scholastic, Inc. v. MacMillian, Inc.*, 650 F. Supp. 866 (S.D.N.Y. 1987); *Loctite Corp.*, 516 F. Supp. at 210.

79. *Id.* at 1550.

80. Ralph S. Brown, *Design Protection: A Overview*, 34 UCLA L. REV. 1341, 1374 (1987). "[T]here is a notion at large called secondary meaning in the making. It should be stamped out." *Id.*

. . . secondary meaning . . . ."[81] One criticism that arose from the scholarly debate is that arguing for an underdeveloped doctrine such as secondary meaning in the making would allow courts to dispense with the requirements of secondary meaning.[82] However, the main concern over applying the doctrine of secondary meaning in the making is that the courts could be giving protection to trade dress that might not otherwise be protectable.[83]

3. Tort of Passing Off

Another action that is available to an owner of a trade dress is the common law action of passing off. Passing off occurs when person A tries to sell person B's products under the name or mark of person A.[84] Express passing off is when one company "labels its goods or services . . . identical to another" company's or when a company deliberately "misrepresents the origin of the" product.[85] Implied passing off is when competitor A uses its advertising materials to imply that competitor A is making the product, although the product is made by competitor B.[86]

Even though this cause of action is available to the small restaurant owner, it requires them to show that the competitor intended to pass off their product as the competitors own.[87] When a cause of action is brought under The Act, the intent of the competitor is not required.[88] If a small restaurant owner could combine the common law tort of passing off with secondary meaning in the making it would greatly increase the chance of protection because even if the owner could not prove the intent of their competitor they would still only have to show that they were in the process of gaining secondary meaning to gain protection. If secondary meaning in the making is not available, then the small restaurant owner will either have to show intent of the competitor or that secondary meaning has been acquired.

---

81. RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 13 Cmt. *e* (Tentative Draft No. 2, 1990).

82. John M. Scagnelli, *Dawn of a New Doctrine? Trademark Protection for Incipient Secondary Meaning*, 71 TRADEMARK REP. 527 (1981).

83. Ralph S. Brown, *Design Protection*, 34 UCLA L. REV. 1374, 1377-1378.

84. *Lamothe v. Atlantic Recording Corp.*, 847 F.2d 1403, 1406 (9th Cir. 1988).

85. *Id.*

86. *Id.*

87. *Id.*

88. *See* 15 U.S.C. § 1127 (2000).

4. Recent Developments

Recent trade dress cases have given the same protection to trade dress as registered trademarks.[89] Even with this protection for trade dress, small restaurants still have a hard time securing trade dress protection when courts require a showing of secondary meaning.[90] The Act does not state that cases alleging trade dress infringement must show secondary meaning, but the Supreme Court has held that secondary meaning or distinctiveness have become a universal standard.[91] Courts offer protection for trade dress only if the trade dress meets the standards of a qualifying mark under The Act, which requires a showing of secondary meaning unless the trade dress is inherently distinct.[92] Therefore, secondary meaning has long been held a factor necessary to acquire protection in trade dress infringement cases.

III. ANALYSIS

If trade dress is inherently distinct, then the owner does not have to show that it has acquired secondary meaning for protection.[93] The *Two Pesos* decision has not cleared up the confusion that has been imposed by the secondary meaning requirement,[94] especially when a small restaurant is trying to enforce its trade dress rights. Courts continue to address secondary meaning for trade dress differently.[95] Until the courts adopt a uniform ruling or alternative requirement for small businesses, small restaurant owners will continue to be unsuccessful when trying to protect their trade dress.[96]

A. Two Pesos, Inc. v. Taco Cabana, Inc.

The *Two Pesos* case arose when a Mexican restaurant chain sued another Mexican restaurant chain for trade dress infringement un-

89. *Two Pesos, Inc.*, 505 U.S. at 776 (1992).
90. *See Buca, Inc.*, 18 F. Supp. 2d at 1208.
91. *Samara Brothers, Inc.* 529 U.S. at 210-211.
92. *Id.*
93. *Two Pesos, Inc.*, 505 U.S. at 776.
94. *Samara Brothers, Inc.*, 529 U.S. at 206 (holding that in cases where product design is trying to be protected as an unregistered trade dress, secondary meaning must be established).
95. *See Samara Brothers, Inc.*, 529 U.S. 205.
96. *See* Wells, *supra* note 1, at A1.

der the Act.[97] The trial court instructed the jury that Two Pesos had to prove that its trade dress was inherently distinctive, or that it had acquired secondary meaning in order to uphold its action for trade dress infringement.[98] The court of appeals upheld the trial court's finding that the trade dress was distinctive but had not acquired the necessary secondary meaning. to qualify for a trade dress infringement action.[99]

The Supreme Court reiterated the basis for the Act, which was to protect businesses against unfair competition.[100] The Court held that the rule regarding trade dresses distinctiveness was clear: the mark needed to be inherently distinctive or have its distinctiveness acquired through secondary meaning and the plaintiff need not have to show both.[101] The Court took a dramatic step by holding that plaintiffs only needed to show inherent distinctiveness or secondary meaning. The Court's decision has made it easier for businesses to protect their trade dress, since they no longer have to show both inherent distinctiveness and secondary meaning.[102]

The Court has shown "a trend of [giving] broader protection" to a company's trade dress/trademark,[103] but this has not always been the case for small businesses. Some owners still have difficulty showing inherent distinctiveness or secondary meaning because their trade dress may be seen as generic.[104] The marks cannot be merely descriptive, because they may only become protected under The Act if the descriptive marks "become distinctive of the [company's] goods in commerce."[105] The ultimate test "is whether the public is likely to be deceived or confused by the similarity of the marks" or dress.[106]

The Court in *Two Pesos* held that inherently distinctive trade dress was protectable even though it had not acquired secondary meaning.[107] Some scholars interpret the holding in *Two Pesos* to es-

---

97. *See Two Pesos, Inc.*, 505 U.S. 765.
98. *Id.*
99. *Id.* at 767-768.
100. *Id.* at 767.
101. *Id.* at 769 (citing RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 13 (tentative draft No. 2, 1990)).
102. David Gurnick, *Intellectual Property in Franchising: A Survey of Today's Domestic Issues*, 20 OKLA. CITY U. L. REV. 347, 361 (1995).
103. *Id.* at 362.
104. *See Buca, Inc.*, 18 F. Supp. 2d at 1199-1202.
105. *Two Pesos, Inc.*, 505 U.S. at 769.
106. *Id.* at 783 (Stevens, J., concurring).
107. *Id.*

tablish the foundation of the secondary meaning in the making doctrine.[108] The rationale for the secondary meaning in the making doctrine is to protect the creator of trade dress, who has spent money and effort in creating good will and consumer association, from unfair competition, thus allowing additional time to meet the requirements for secondary meaning.[109] The Court made a dramatic step, and by doing so helped small restaurants by applying a rationale interpreted by some scholars to support the secondary meaning in the making doctrine. However, the Court failed to explicitly state secondary meaning in the making as a possible alternative that small restaurants may use as a tool to protect their trade dress. Accordingly, there continues to be debate over the validity of the doctrine.[110]

B. Wal-Mart Stores, Inc. v. Samara Brothers, Inc.

The Supreme Court's decision in *Two Pesos* was limited to product packaging and did not apply in cases involving product design.[111] The *Samara Bros.* Court noted that "distinguishing *Two Pesos* [might] force [lower] courts to draw [a] difficult line between product-design and product-packaging trade dress."[112] However, "the difficulty of having to distinguish between [the two] will be much less than the frequency and difficulty of having to decide when a product design is inherently distinctive."[113]

Samara Brothers, a designer and manufacturer of children's clothing, brought an action against Wal-Mart for selling "knock-offs" of its clothing line for a reduced price.[114] Samara Brothers won at trial and the court of appeals upheld the trial court's findings.[115] The Supreme Court reiterated its holding from *Two Pesos* by stating that "distinctiveness [was a] prerequisite for registration of [a] trade dress . . . ."[116] Product design is never inherently distinctive.[117]

---

108. Willajeanne F. McLean, *The Birth, Death and Renaissance of The Doctrine of Secondary Meaning in the Making*, 42 Am. U. L. Rev. 737, 771 (1993).
109. *Id.*
110. *Id.* at 757.
111. *Samara Brothers, Inc.*, 529 U.S. at 206.
112. *Id.*
113. *Id.*
114. *Id.* at 207-08.
115. *Id.* at 208.
116. *Samara Brothers, Inc.*, 529 U.S. at 210.
117. *Id.* at 213.

> The fact that product design almost invariably serves purposes other than source identification not only renders inherent distinctiveness problematic; it also renders application of an inherent-distinctiveness principle more harmful to other consumer interests.[118]

The *Samara Bros.* Court distinguished the *Two Pesos* decision by holding that restaurant decor was not a product design, but was more like product-packaging, which does not require secondary meaning if there is inherent distinctiveness.[119] The Court went one step further, holding that if lower courts were confused as to which test should be applied, then they "should err on the side of . . . product design" and apply the secondary meaning standard.[120]

The *Samara Bros.* decision raised the bar and narrowed the Court's protection of trade dress. Now, creators either have to show that their trade dress is product packaging, requiring only a showing inherent distinctiveness or if trade dress is categorized as product design, creators must show proof that secondary meaning has been acquired.[121] This test has confused many federal courts that are now trying to figure out which test they should apply.[122]

Samara Bros. could have drastic results for small restaurant owners seeking trade dress protection. The small restaurant owner must first distinguish whether they are dealing with a product packaging infringement or a product design infringement. Next, the small restaurant owner will have to determine how courts in their jurisdiction are applying the standards set out from the *Two Pesos* and *Samara Bros.* decisions, since there is now a court split between the two decisions.[123] If these decisions are not properly applied at the trial level the small restaurant owner may lose any chance for trade dress protection, or they could find themselves in a continuing legal battle.[124]

---

118. *Id.*
119. *Id.* at 215.
120. *Id.*
121. *See generally id.*
122. Ingrida Karins Berzins, *The Emerging Circuit Spilt over Secondary Meaning in Trade Dress Law,* 152 U. PA. L. REV. 1661, 1672 (2004).
123. *See Generally* Ingrida Karins Berzins, *The Emerging Circuit Spilt,* 152 U. PA. L. REV. 1661.
124. *See generally Fuddrckers, Inc. v. Doc's B.R. Others, Inc.* 826 F.2d 837 (9th Cir. 1987)

C. Examples of the Confusion in Restaurant Trade Dress Infringement Cases

1. *Buca, Inc. v. Gambucci's, Inc.*

In this case, Buca, a Minnesota restaurant, sought to enjoin Gambucci, a Kansas restaurant, from featuring particular décor elements that they claimed were protected trade dress.[125] Buca claimed that excess was a key to their restaurant decor.[126] It used excess in the amount of pictures and art objects that hung on the wall, and the velour drapes found in the restaurant.[127] Buca claimed that the items found in the restaurant were "normally found in an Italian restaurant."[128] The décor was used in a non-traditional manner to make customers feel like they were in a Southern Italian restaurant in the 1940's or 1950's.[129] Buca's restaurant was also featured in many restaurant magazines from around the country.[130]

Gambucci's restaurant also was designed to look like a Southern Italian restaurant from the 1940s or 1950s.[131] The Director of New Concepts for Gambucci's made several trips to Buca's to conduct research ideas for a Southern style Italian Restaurant, but the director also made trips to several other Italian restaurants around the country.[132] The architect for Gambucci's restaurant testified that he received no instructions from the owners and based the concept of the restaurant from a play and a theme park he visited in Florida.[133]

In this action, "Buca maintain[ed] that its trade dress [was] 'suggestive'," thus it required no showing of secondary meaning, "because 'it require[ed] the use of customer . . . imagination as to the" specific nature of the restaurant.[134] Gambucci argued that the trade dress was merely generic, which is always unprotected.[135] The judge ruled that the product was not inherently distinctive merely because the two restaurants looked exactly the same.[136] The judge

125. *Buca, Inc.*, 18 F. Supp. 2d at 1196.
126. *Id.* at 1197.
127. *Id.*
128. *Id.*
129. *Id.*
130. *Buca, Inc.*, 18 F. Supp. 2d at 1197.
131. *Id.*
132. *Id.*
133. *Id.* at 1198.
134. *Id.* at 1203.
135. *Buca, Inc.*, 18 F. Supp. 2d at 1203.
136. *Id.*

held that the trade dress was descriptive and not suggestive, thus requiring Buca to show secondary meaning.[137]

"Consumer testimony . . . advertising . . . unsolicited media coverage . . . exclusivity . . . sales success, and . . . intentional copying . . ." were several factors the court used to determine whether secondary meaning had been acquired.[138] The judge ruled that even though Buca's restaurant had received plentiful media coverage, it did not mean that the restaurant was well known in the area for it to have acquired secondary meaning.[139] Buca also tried to show that it had acquired secondary meaning by using its trade dress for the statutory period,[140] but just because it had acquired secondary meaning in one place does not mean that it has acquired it in another remote location.[141] This case represents a primary problem for small restaurants, which may be able to protect their trade dress in a closely located spot but not in a location that is farther away.

This case further illustrates the utter confusion in trade dress litigation involving restaurants. In the *Buca* case, the court followed the factors that were required for product design cases,[142] although it seemed that *Buca's* trade dress was product packaging similar to that found in *Two Pesos*,[143] which would have allowed it to show inherent distinctiveness and avoid having to showing proof of secondary meaning.[144] On the other hand, to avoid this confusion, if secondary meaning in the making was a possible alternative for *Buca* it could have shown that they were taking steps, through marketing and surveys, to acquire secondary meaning and therefore should receive protection from the courts while engaged in this process. Allowing Buca to show secondary meaning in the making would not have a chilling effect on the market because it would help to elicit new product designs and foster competition.[145] Secondary meaning in the making would allow inventors to protect their trade dress against piracy throughout its entire phase of creation and not just

137. *Id.*
138. *Id.* at 1204.
139. *Id.* at 1205.
140. 15 U.S.C. § 1052(f) (2006).
141. *Buca, Inc.*, 18 F. Supp. 2d at 1205-06 (citing 15 U.S.C. § 1052(f) (2000)).
142. *See id.* at 1204.
143. *See generally Two Pesos, Inc.*, 505 U.S. 763 (1992).
144. *Samara Brothers, Inc.*, 529 U.S. at 214-15.
145. Daniel J. Gifford, *The Interplay of Product Definition, Design and Trade Dress*, 75 MINN. L. REV. 769, 786 (1991).

when the product is complete and has acquired full secondary meaning.[146]

2. *Rainforest Café, Inc. v. Amazon, Inc.*

In 1992, a small restaurant called the Amazon Bar and Grill opened in Santa Monica, California.[147] The opening of the Amazon Bar and Grill was nationally televised on the E (Entertainment) Network and in 1993 the second Amazon Bar and Grill opened in Los Angeles, California, again covered on national television.[148] The Rainforest Café (Rainforest) was designed in 1979, but did not materialize into a restaurant until October 3, 1994.[149]

Amazon Bar and Grill brought a claim for trade dress infringement against the Rainforest in Minnesota.[150] Rainforest then filed a motion for summary judgment.[151] The court first concluded that the rainforest theme of the restaurants was functional, because the Act only serves to protect non-functional trade dress, but that the core concept of the rainforest theme was not protected under the Act because it would discourage others from using any type of rainforest theme.[152] The court held unless Amazon Bar and Grill can show inherent distinctiveness it would have to show that its restaurant style had acquired secondary meaning.[153]

Amazon Bar and Grill tried to show that its restaurant style was inherently distinct to avoid having to show secondary meaning.[154] The court, in its determination of inherent distinctiveness, held that the issue is not about the impact of the trade dress on the consumer but rather on the arbitrariness of the trade dress and its relevance to the product thus taking away consumer association, a key part of The Act.[155]

When applying the distinctiveness test, the court found a genuine issue of fact as to whether the elements composing the rainforest theme created by the Amazon Bar and Grill were dictated by a

146. *Id.*
147. *Rainforest Café, Inc. v. Amazon, Inc.*, 86 F. Supp. 2d 886, 890 (D. Minn. 1999).
148. *Id.*
149. *Id.* at 890, 892.
150. *Id.* at 892-93.
151. *Id.*
152. *Rainforest Café, Inc.*, 86 F. Supp. 2d at 894.
153. *Id.* at 895.
154. *Id.* at 896.
155. *Id.* (citing *Abercrombie & Fitch Co. v. Hunting World, Inc.*, 537 F.2d 4, 9 (2d Cir. 1976)).

common rainforest design or whether Amazon's trade dress was unique and unusual in the field thus making it inherently distinct.[156] Amazon survived summary judgment but still has a high standard to meet, because they must show that their rainforest theme is unique and not part of a common design.[157] If Amazon is unable to do this then they must show that their rainforest theme has acquired secondary meaning.

Amazon, as a small restaurant chain, is faced with the difficult position of showing that its trade dress is unique from a general rain forest theme.[158] This could be difficult because Amazon may have inherent distinctiveness to the locality, in which it located, but the court will look to a broader area. Since the case is in Minnesota it is unlikely that Amazon will be able to show that its trade dress is distinct from Rainforest even though they may look entirely similar.[159] The Amazon Bar and Grill would likely receive protection if it could prove to the court that it has acquired secondary meaning in the making through their preliminary marketing and survey data. Allowing Amazon Bar and Grill to show secondary meaning in the making would promote the goals of The Act by impeding unfair competition and protecting a creator from unfair competitors while they are achieving secondary meaning.[160] The court in its decision also seemed confuse the standards of secondary meaning and unfair competition by ignoring the association the product has with its consumers, and this is an important part of the secondary meaning standard that has been used by the courts.[161]

D. A New Approach for Courts When Deciding Trade Dress Infringement Issues for Small Restaurants

After the *Two Pesos* and *Samara Bros.* decisions, courts have developed a split when deciding trade dress infringement cases because of the confusion in the Supreme Court's opinions.[162] Small restaurants are just one of the many small businesses that have been adversely affected by the courts confusion and inconsistency in this area. Small restaurants do not have the time or money to gamble as

156. *Id.* at 896-97.
157. *See Rainforest Café, Inc.*, 86 F. Supp. 2d at 896-897.
158. *Id.*
159. *See id.* at 886.
160. McLean, *The Birth, Death and Renaissance of The Doctrine of Secondary Meaning in the Making*, 42 AM. U. L. REV. at 771.
161. *Rainforest Café, Inc*, 86 F. Supp. 2d at 896.
162. Berzins, *The Emerging Circuit Spilt*, 152 U. PA. L. REV. at 1672.

to which standard the court is going to apply in their trade dress infringement cases, but their business usually depends on having their trade dress defended by the courts.[163]

The courts should follow the underlying rationale in *Two Pesos*, which stated that where inherent distinctiveness is found in cases involving product packaging, secondary meaning is not needed.[164] In *Two Pesos*, the Court's decision has been interpreted by some scholars to resound the doctrine of secondary meaning in the making.[165] The use of this doctrine could protect small restaurant owners who are in the works of acquiring secondary meaning. If the courts do not give this protection then many small restaurant owners could spend vast amounts of money on their restaurants, but if they have not yet acquired secondary meaning the courts will give no protection unless the owner can prove another cause of action like the common law tort of passing off.[166] However, the tort of passing off requires that the owner be able to show the intent of the competitor, which could be a difficult barrier for the owner to prove in court.

In *Samara Bros.*, the Court reinstated secondary meaning in cases that involve product design, but the Court did not effectively define when a case was a product design case or a product packaging case.[167] To avoid confusion and undue prejudice, courts should loosen the secondary meaning requirements and not force small restaurants to show that they have acquired secondary meaning, but have the restaurants show that they are in the process of acquiring secondary meaning through secondary meaning in the making.

The purpose of The Act is to prevent unfair competition and protect consumers.[168] Secondary meaning in the making will give small restaurant owners a fighting chance against competing larger restaurant chains that come into the small restaurants area and steal the restaurants style and menu and then market it nationally without compensating the small restaurant owner. Also, secondary meaning in the making will not have a chilling effect on the small restaurant market, but will encourage restaurant owners to readily develop new

---

163. *See* Wells, *supra* note 1, at A1, A16.

164. *See generally Two Pesos, Inc.*, 505 U.S. 763.

165. McLean, *The Birth, Death and Renaissance of The Doctrine of Secondary Meaning in the Making*, 42 AM. U. L. REV. at 771.

166. *See* Wells, *supra* note 1.

167. *See generally Samara Brothers, Inc.*, 529 U.S. 205.

168. *See* S.Rep. No. 1333, *supra* note 55. The Senate Report stated that the Act has two goals: 1) to protect the public, so they know what they are buying; 2) the owner of the trademark is protected in their investment. *Id.*

trade dress without the fear that their new ideas will be stolen and used against them.[169] Secondary meaning in the making will protect consumers by placing confidence in them that they are purchasing the products from the owner of the trade dress.[170]

IV. CONCLUSION

The United States Supreme Court has various approaches to dealing with trade dress infringement cases.[171] In some cases, all that a creator of trade dress needs to prove is that their product has become inherently distinct and the court will use the Lanham Act (the Act) to protect the owners trade dress.[172] In other cases, the Court will require a creator to show that their trade dress has acquired secondary meaning in order for it to receive protection under the Act.[173] This confusing circuit split does little to protect small restaurant owners.[174]

In order for small businesses, especially small restaurants, to protect their trade dress it is time for the Court to apply an alternative secondary meaning standard, so that small restaurants may survive in the modern competitive market. The Court took the right step in *Two Pesos*,[175] but failed to help small businesses by ignoring any further alternatives to the secondary meaning standard. The Court further digressed from clearing up any confusion when it decided *Wal-Mart Stores, Inc. v. Samara Brothers, Inc.*,[176] and held that in cases involving product design, owners would have to show secondary meaning and seemed to sidestep the rationale it used in *Two Pesos*.[177]

Secondary meaning in the making, while controversial, is the appropriate route for the courts to take to ensure that small restau-

---

169. McLean, *The Birth, Death and Renaissance of The Doctrine of Secondary Meaning in the Making*, 42 AM. U. L. REV. at 771.

170. Secondary meaning in the making has not developed a standard to use when deciding whether the creator has taken enough necessary steps to receive protection from the courts. This article does not suggest what standard a court should use in deciding whether there is secondary meaning in the making, but instead advocates the initial position that an alternative to secondary meaning needs to be considered by the courts to protect small restaurants.

171. *See generally Samara Brothers, Inc.* 529 U.S. 205; *Two Pesos, Inc.*, 505 U.S. 763.

172. *See Two Pesos, Inc.*, 505 U.S. 763.

173. *See Samara Brothers, Inc.* 529 U.S. 205.

174. *See generally* Wells, *supra* note 1.

175. *See Two Pesos, Inc.*, 505 U.S. 763.

176. *See Samara Brothers, Inc.*, 529 U.S. 205.

177. *See id.*

rants are protected against unfair competition and that consumers are protected, so that they know that the product they are buying is coming from a trusted source.

UNITED STATES FOOD LAW UPDATE: PASTEURIZED ALMONDS AND COUNTRY OF ORIGIN LABELING

A. Bryan Endres[*]

The last six months of 2008 found the nation occupied with a heated presidential election campaign and the transition to a new party's control of the executive branch. The outgoing president, as is often the case in the waning months of an administration's time in office, attempted to finalize several policy initiatives. This version of the *Food Law Update* will discuss two major developments with significant long-term impact on the law of food: the implementation of mandatory country of origin labeling (COOL) for most unprocessed agricultural commodities; and the increasing use of the United States Department of Agriculture's (USDA) Agricultural Marketing Service to regulate food safety via marketing orders/agreements. Specifically, this update will discuss new rules mandating treatment of raw almonds to reduce the risk of Salmonella bacteria. As an update, this article does not attempt to exhaustively analyze the implications of these developments, but merely to identify and briefly discuss the issues as a departure point for further analysis.

As in previous editions of this update, necessity dictates that not every change is included; rather, this update is limited to significant changes within the broader context of food production, distribution, and retail. The intent behind this series of updates is to provide a starting point for scholars, practitioners, food scientists, and policymakers determined to understand the shaping of food law in modern society. Tracing the development of food law through

* Assistant Professor of Agricultural Law, University of Illinois. This research is supported by the Cooperative State Research Education & Extension Service, USDA, Project No. ILLU-470-309. Any opinions, findings, conclusions or recommendations expressed in this publication are those of the author and do not necessarily reflect the view of the funding agency. The author expresses his appreciation for the excellent research assistance of two law students at the University of Illinois: Daniel S. Lohse (J.D. 2009) and Stephanie B. Johnson (J.D. expected 2010).

these updates also builds an important historical context for the overall development of the discipline.

I. MANDATORY COUNTRY OF ORIGIN LABELING (COOL)

Most items imported for sale in the United States require some type of label to indicate the product's country of origin.[1] Over the years, one prominent exception to these ubiquitous stickers on the back of products has been agricultural products in their "natural" (unprocessed) state.[2] Food products imported in consumer-ready packages, however, must bear a country of origin declaration on each package in accordance with the Tariff Act of 1930.[3] As of September 30, 2008, many unprocessed food products must now comply with country of origin labeling rules. The implementation of this labeling program, however, was not without significant controversy and vigorous debate regarding the merits of this rule continues.

Some farm groups advocate the imposition of mandatory COOL as a means to increase domestic consumer demand, and thus prices, for US farmers and ranchers.[4] Many of these producers may be smaller in scale, producing entirely for the domestic market, or face cost pressure from imported commodities. Supporters also contend that U.S. consumers, if offered a choice, would select foods of domestic origin to support "local" farmers and achieve a higher perceived degree of food safety.[5] Finally, consumer advocates sup-

---

1. Tariff Act of 1930, 19 U.S.C. § 1304 (2006).

2. *See* 19 C.F.R. § 134.33 (2008) (exempting from country of origin labeling under the Tariff Act "Natural products, such as vegetables, fruits, nuts, berries, and live or dead animals, fish and birds; all the foregoing which are in their natural state or not advanced in any manner further than is necessary for their safe transportation.").

3. Tariff Act of 1930, 19 U.S.C. § 1304(a) (2006); *see also* Mandatory Country of Origin Labeling of Beef, Pork, Lamb, Chicken, Goat Meat, Perishable Agricultural Commodities, Peanuts, Pecans, Ginseng, and Macadamia Nuts, Interim Final Rule with Request of Comments, 73 Fed. Reg. 45,106, 45,112 (Aug. 1, 2008).

4. Geoffrey S. Becker, *Country-of-Origin Labeling for Foods*, CRS Report for Congress, RS22955, Jan. 15, 2009.

5. Wendy J. Umberger, *Will Consumers Pay a Premium for Country-of-Origin Labeled Meat?*, CHOICES, 4th Quarter, 2004, at 15, *available at* http://www.choicesmagazine.org/2004-4/cool/2004-4-04.htm. USDA, however, does not consider the COOL program a food safety or traceability program, but rather a consumer information program. Mandatory Country of Origin Labeling of Beef, Pork, Lamb, Chicken, Goat Meat, Wild and Farm-Raised Fish and Shellfish, Perishable Agricultural Commodities, Peanuts, Pecans, Ginseng, and Macadamia Nuts, Final Rule, 74 Fed. Reg. 2658, 2679 (Jan. 15, 2009).

port a mandatory COOL program, framing their argument as a "right to know" issue.[6]

Other agricultural groups have opposed COOL as a form of trade protectionism that may undermine concurrent efforts to reduce agriculture-based trade barriers in other countries or infringe existing World Trade Organization or North American Free Trade Agreement obligations.[7] Additional opposition has centered on the extensive compliance costs, estimated by the United States Department of Agriculture (USDA) as $2.6 billion for first-year implementation, broken down as an average of $370 for each commodity producer, $48,219 for each wholesaler or processor, and $254,685 per retailer.[8] Some scholars, however, estimated that an increase in aggregate demand for domestic products of as little as two or three percent would offset producer welfare losses due to the implementation costs of a mandatory COOL program.[9]

There may also be regional variations among commodity group support for mandatory COOL based upon the degree of integration with cross-border agricultural activities. For example, some animal producers in the northern part of the United States rely on imports from Canada of young animals, which the domestic producer will feed until slaughter in the United States. These individuals could lose market share as they would no longer have "U.S. Origin" claims and/or Canadian producers may raise the animal until slaughter rather than exporting to the United States.[10]

The Farm Security and Rural Investment Act of 2002 (2002 Farm Bill) settled this debate, temporarily, in favor of a mandatory COOL program.[11] Section 10816 of the Act established country of origin labeling at the retail level (final point of sale) for certain "covered commodit[ies]."[12] The Act defined a "covered commodity" as "(i) muscle cuts of beef, lamb, and pork; (ii) ground beef, ground

---

6. Allison Linn, *At Long Last, Food Labeling Law Set to Take Effect* (Sept. 30, 2008), http://www.msnbc.msn.com/id/26890660 (last visited Apr. 11, 2009). *See also* 73 Fed. Reg. at 45,114 (noting that the majority of comments received on the proposed mandatory COOL rules were from consumers expressing support).

7. Becker, *supra* note 4, at 1, 7. *See also* 74 Fed. Reg. at 2678.

8. Becker, *supra* note 4, at 7.

9. Jayson L. Lusk & John D. Anderson, *Effects of Country-of-Origin Labeling on Meat Producers and Consumers*, 29 J. AGRIC. & RESOURCE ECON. 185, 202 (2004).

10. *Id.* Similar concerns with respect to trade with Mexico were raised in comments received in response to the interim final rule. *See* 74 Fed. Reg. 2669 (Jan. 15, 2009).

11. Pub. L. No. 107-171, § 10816 (2002).

12. *Id.*

lamb, and ground pork; (iii) farm raised fish; (iv) wild fish; (v) a perishable agricultural commodity [as defined by Section 1(b) of the Perishable Agricultural Commodities Act of 1930, 7 U.S.C. § 499a(b); and] (vi) peanuts."[13] The Act excluded from the labeling requirement covered commodities used as ingredients in a processed food item, as well as products prepared, served or sold at food service establishments (e.g., restaurants, taverns, cafeterias, etc.).[14] A beef, lamb or pork commodity could bear a "United States" label only if derived exclusively from an animal "born, raised and slaughtered in the United States."[15] The statute imposed similar requirements for fish (e.g., caught and processed in waters of the United States) and peanuts (e.g., exclusively produced in the United States).[16]

The Act ordered the USDA to issue voluntary guidelines for COOL by September 2002 and to promulgate regulations for mandatory COOL not later than September 30, 2004, with an effective date of the same.[17] In October 2002, USDA published its *Guidelines for the Interim Voluntary Country of Origin Labeling of Beef, Lamb, Pork, Fish, Perishable Agricultural Commodities, and Peanuts.*[18] One year later, in October 2003, the agency published its proposed rule for implementation of mandatory COOL.[19] Not surprisingly, the proposed transition to mandatory COOL scheduled for September 2004 engendered significant controversy within the food and agricultural community,[20] and Congress, in its 2004 Consolidated Appropriations Act, delayed mandatory COOL implementation for all covered commodities except wild and farm-raised fish and shellfish until September 30, 2006.[21] The 2006 Food and Agricultural Ap-

13. *Id.*

14. *Id.*

15. *Id.* A limited exception was made for beef from an animal born and raised in Alaska or Hawaii and then transported for a period not to exceed 60 days through Canada to the United States and subsequently slaughtered in the United States. *Id.*

16. Pub. L. No. 107-171, § 10816 (2002).

17. *Id.*

18. 67 Fed. Reg. 63,367 (Oct. 11, 2002).

19. 68 Fed. Reg. 61,944 (Oct. 30, 2003).

20. The agency extended the comment period for the proposed mandatory COOL regulations to accommodate a rigorous debate. *See* 68 Fed. Reg. 71,039 (extending comment period for 60 days).

21. Pub. L. No. 108-199, § 749 (2004) ("Section 285 of the Agricultural Marketing Act of 1946 (16 U.S.C.1638d et seq.) is amended by striking '2004' and inserting '2006, except for 'farm-raised fish' and 'wild fish' which shall be September 30,

propriations Act further delayed mandatory COOL (except wild and farm-raised fish and shellfish) until September 30, 2008.[22] The Food, Conservation and Energy Act of 2008 (2008 Farm Bill) reaffirmed the September 30, 2008 implementation date for mandatory COOL and added several previously omitted commodities to the program—chicken and goat meat, pecans, ginseng and macadamia nuts.[23]

Is addition to expanding the definition of covered commodities, the 2008 Farm Bill provided additional requirements for labeling products with "multiple countries of origin."[24] It is these "blending" rules for multiple countries of origin items that have engendered the most controversy in the transition to mandatory COOL. For example, products derived from an animal that was "not exclusively born, raised and slaughtered in the United States," may bear a label indicating it is a product of the United States, as well as the other country(ies) in which the animal was born . . . raised or slaughtered.[25] This is in contrast to the rule for products derived from animals imported into the United States for immediate slaughter. In the later case, the product may bear a label indicating both countries, but the retailer must first designate the product as from the country of export, followed by the United States.[26] With respect to ground meat products, the country of origin notification must list all countries of origin contained in the lot or "a list of all reasonably possible countries of origin . . . ."[27]

The 2008 interim final rule for mandatory COOL clarified the 2008 Farm Bill requirements for domestically produced perishable agricultural commodities, ginseng, peanuts, pecans and macadamia nuts. These items commingled in a package for retail sale with the same commodity from another country must have a mark indicating each country of origin.[28] The 2008 interim final rule for mandatory COOL also clarified the labeling requirements for an item *produced* in the United States, but further *processed* or handled in a foreign

---

2004'."). The USDA published an interim final rule for fish and shellfish on October 4, 2004. 69 Fed. Reg. 59708.

22. Pub. L. No. 109-97, § 792 (2006) ("Section 285 of the Agricultural Marketing Act of 1946 (7 U.S.C. 1638d) is amended by striking '2006' and inserting '2008'.").

23. Pub. L. No. 110-234, § 11002 (2008).

24. *Id.* (to be codified at 7 U.S.C. § 1638a).

25. Id. (to be codified at 7 U.S.C. § 1638a(a)(2)(B)).

26. *Id.* (to be codified at 7 U.S.C. § 1638a(a)(2)(C)). *See also* 73 Fed. Reg. 45,114 (discussing interim final rule for labeling multiple counties of origin muscle cuts of meat).

27. Pub. L. No. 110-234, § 11002 (to be codified at 7 U.S.C. § 1638a(a)(2)(E)).

28. *Id.* (to be codified at 7 U.S.C. § 1638(a)(4)); 73 Fed. Reg. at 45111.

country.[29] The interim final rule noted that so long as "the identity of the product is maintained along with records to substantiate the origin claims," the product may bear a United States origin designation.[30] For example, "peanuts grown in the United States and processed in another country such that a substantial transformation does not occur" remains eligible for a United States country of origin mark.[31]

On January 15, 2009, five days before the inauguration, USDA issued its final rule for mandatory COOL.[32] The rule, effective March 16, 2009, made substantial changes to the interim rule in operation since September 30, 2008. As noted above, the interim final rule specifically allowed United States origin products to be further processed or handled in a foreign country without losing its qualification for a United States label.[33] In response to comments, the USDA deleted this express provision allowing for United States origin labels on products re-imported into the United States. Although no longer subject to COOL rules, the agency acknowledged, however, that other federal regulations (e.g., Customs and Border Patrol) may authorize "Product of the U.S." on some of these products.[34]

Labeling treatment of beef products underwent the most extensive alterations between the interim and final rules. The statute simply lists "ground beef" as a "covered commodity."[35] The interim rule interpreted "ground beef" to include three separate products with Food Safety and Inspection Service (FSIS) standards of identity: ground beef,[36] hamburger,[37] and beef patties.[38] Several commenters objected to USDA's inclusion of hamburger and beef patties when the statute only listed ground beef.[39] If Congress intended to include hamburger and beef patties, these individuals argued, it would have included those items in the statute. The agency acknowledged the discrepancy with the statute, but reasoned that most customers do not distinguish between ground beef and hamburger and would

29. 73 Fed. Reg. 45,117.
30. *Id.*
31. *Id.*
32. 74 Fed. Reg. 2658 (Jan. 15, 2009).
33. 73 Fed. Reg. at 45117.
34. 74 Fed. Reg. at 2668.
35. 7 U.S.C. § 1638(2)(A)(ii).
36. 9 C.F.R. § 319.15(a) (2009).
37. 9 C.F.R. § 319.15(b) (2009).
38. 9 C.F.R. § 319.15(c) (2009).
39. 74 Fed. Reg. 2665 (Jan. 15, 2009).

not understand why beef marketed as ground beef would have a label in the meat case while the adjacent hamburger would not, especially because the standards of identity for the two products are virtually identical with the exception of added fat in hamburger.[40] On the other hand, the agency, in its final rule, agreed that mandatory COOL would not include beef patties because those products typically contain binders or extenders and, from the public's perception, is not interchangeable with beef that is ground or marketed as hamburger.[41] Accordingly, only products meeting the FSIS standard of identify for ground beef or hamburger are subject to mandatory COOL.[42]

The final rule also clarified issues related to labeling muscle cuts of meat derived from animals that were not born, raised and slaughtered exclusively in the United States (and not imported for immediate slaughter). Such mixed-origin products may bear a multiple origin designation—"Product of the U.S. and Country X."[43] Products of mixed or foreign (i.e., imported for immediate slaughter) origin that are commingled during a production run with products of exclusive U.S. origin, would have a similar mixed-origin label—"Product of the U.S. and Country X."[44] In each of these instances, the countries of origin may be in any order.[45] This final rule has raised the ire of many, as it allows otherwise "foreign" products to bear at least a mixed-origin U.S. label if only one step of the production process occurs in the United States. Critics accuse the Bush administration of promoting this interpretation as a way for meatpackers to avoid congressional intent and undermine the provisions advocated by domestic livestock producers and consumer advocates.[46]

Rather than further delay implementation of COOL while attempting to close this perceived loophole, Secretary Vilsack issued a letter to industry representatives requesting voluntary compliance

40. 74 Fed. Reg. 2666 (Jan. 15, 2009).
41. 74 Fed. Reg. 2666 (Jan. 15, 2009).
42. 74 Fed. Reg. 2705 (to be codified at 7 C.F.R. § 65.115 (defining "Ground Beef")).
43. 74 Fed. Reg. 2659 (Jan. 15, 2009).
44. 74 Fed. Reg. 2659 (Jan. 15, 2009).
45. 74 Fed. Reg. 2659 (Jan. 15, 2009).
46. Aliya Sternstein, *Agriculture Secretary Issues Stricter Labeling Guidelines for Meat Products*, CONGRESSIONAL QUARTERLY (Feb. 20, 2009), *available at* http://www.cqpolitics.com/wmspage.cfm?docID=news-000003057598.

with a revised labeling program for mixed-origin meat.[47] Specifically, the Secretary requested meatpackers to provide voluntary information regarding which "product step occurred in each country . . . ."[48] For example, an animal born in Country X and raised and slaughtered in the United States, under the current regulation, could state "Product of the U.S. and Country X."[49] Compliance with the voluntary program would require the meatpacker to state "Born in Country X and raised and slaughtered in the U.S."[50]

The generous exemption for processed foods also has engendered substantial criticism. The current version of mandatory COOL excepts covered commodities that have "been combined with at least one other covered commodity or other substantive food component . . . ."[51] For example, the addition of breading, sauce, or chocolate to a covered commodity creates a product that is considered "combined" and thus exempts the end product from COOL.[52] Likewise, a package of peas and a package of carrots would each require a label indicating origin, but a package of peas and carrots would be a combined product and qualify for the processed food exemption.

Also exempted as a processed food are those covered commodities that have "undergone specific processing resulting in a change in the character of the covered commodity."[53] Processing resulting in a change in character encompasses a long list including, but not limited to, frying, boiling, steaming, baking, curing and roasting.[54] In response to this broad exemption, Secretary Vilsack requested processors to voluntarily label products subjected to "curing, smoking, broiling, grilling or steaming."[55]

In addition to domestic concerns regarding a mandatory COOL program, Canada and Mexico, in December 2008, filed requests for formal World Trade Organization (WTO) consultations on COOL. Both filings assert that COOL results in a less favorable treatment of products of foreign origin and that the labeling rules reduce the

47. Letter from Secretary Vilsack to Industry Representative, Feb. 20, 2009, *available at* http://www.usda.gov/documents/0220_IndustryLetterCOOL.pdf.
48. *Id.*
49. *Id.*
50. *Id.*
51. 74 Fed. Reg. at 2705 (2009) (to be codified at 7 C.F.R. § 65.220 (2009)).
52. *Id.*; *see also* Letter from Secretary Vilsack, *supra* note 47.
53. 74 Fed. Reg. at 2705 (2009) (to be codified at 7 C.F.R. § 65.220 (2009)).
54. *Id.*
55. Letter from Secretary Vilsack, *supra* note 47.

value of their exported products.[56] Although the WTO filings presumably covered all products, it was "the Canadian beef and pork industries [that] . . . actively pushed their government to initiate a WTO challenge."[57] The Canadian Cattlemen's Association estimates annual losses of $500 million as a result of COOL.[58] Although as of this writing Canada has suspended its WTO challenge while analyzing the changes incorporated in the final rule (issued January 15, 2009), the issue is far from settled and was a discussion topic during President Obama's first visit to Canada in March 2009.[59]

In sum, the mandatory COOL program may not be perfect on many fronts, but after initial passage in the 2002 Farm Bill, followed by four years of implementation delays, this imperfect program certainly will be subject to continued scrutiny and regulatory adjustments in the future as it adapts to meet the needs of various political constituents and international trade regimes.

II. ALMOND "PASTEURIZATION"

In 2001, an unusual Salmonella strain not previously associated with non-animal products was traced to raw almonds sold in bulk bins.[60] Authorities further traced the almonds to three California orchards, which contained Salmonella bacteria.[61] The grower, huller/seller, and handler, in close coordination with the California Department of Health Services, implemented a program to treat the almonds prior to introduction into commercial channels.[62]

The Almond Board of California (Almond Board), the administrator of the California Almond Marketing Order,[63] embarked on an extensive research effort to understand the occurrence of Salmonella in almond orchards. The result was an industry education program for Good Agricultural Practices (GAPs), Good Manufacturing Practices (GMPs), and Sanitation Standard Operating Procedures,

---

56. Becker, *supra* note 4, at 8.
57. *Id.*
58. *Id.*
59. Charles Abbott, *U.S. meat label idea may revive Canada trade spat*, Reuters (Feb. 18, 2009), *available at* http://www.reuters.com/article/domesticNews/idUSTRE51H6MT20090218.
60. Almonds Grown in California; Outgoing Quality Control Requirements, 72 Fed. Reg. 15,021, 15,022 (Mar. 30, 2007).
61. Fed. Reg. 15,021, 15,022 (Mar. 30, 2007).
62. Fed. Reg. 15,021, 15,022 (Mar. 30, 2007).
63. *See* 7 C.F.R. §§ 981.1-.481 (Almonds Grown in California).

(SSOPs).[64] Despite these efforts, a second Salmonella outbreak in raw almonds occurred in 2004, resulting in the handler's initial recall of 5 million pounds of product.[65] The handler subsequently expanded the recall to 15 million pounds, including product exported to eight countries.[66] The source of the outbreak "was traced to Paramount Farms, the world's largest supplier of pistachios and almonds, with 9000 total acres in nut crop production . . . ."[67]

"In the summer of 2004, the [Almond] Board unanimously approved a voluntary [industry] action plan [to treat] all almonds to reduce the potential for *Salmonella*."[68] The Almond Board, in February 2006, proposed to the USDA the creation of a mandatory treatment (pasteurization) plan as part of the federal Marketing Order for Almonds.[69] The objective of the pasteurization program is to achieve a minimum 4-log reduction in Salmonella bacteria prior to shipment, with no significant degradation of the sensory and quality characteristics.[70]

The Agricultural Marketing Agreement Act of 1937 (AMAA) authorizes the USDA to issue marketing orders to achieve "parity prices" and establish 'orderly marketing conditions' for agricultural commodities.[71] To achieve these goals, the AMAA authorizes several

---

64. 72 Fed. Reg. 15,022 (Mar. 30, 2007).

65. 72 Fed. Reg. 15,022 (Mar. 30, 2007).

66. 72 Fed. Reg. 15,022 (Mar. 30, 2007). *See also* Press Release, FDA, FDA Issues Alert on Additional Recalled Stocks of Paramount Farms Raw Almonds (May 21, 2004), http://www.fda.gov/bbs/topics/news/2004/NEW01072.html (last visited Apr. 11, 2009)

67. *See* Cornucopia Inst., *Fact Sheet: Mandatory Sterilization of Raw Almonds*, at 1, http://www.cornucopia.org/alomond/Almond_Fact_Sheet.pdf (last visited Apr. 11, 2009)

68. 72 Fed. Reg. 15,022 (Mar. 30, 2007).

69. *See* Almond Board of California, *Almond Action Plan: Pasteurization Treatments* (Dec. 2008) *available at* http://www.almondboard.com/files/December%202008%20%20Pasteurization%20treatments.pdf (on file with the author).

70. *See* 72 Fed. Reg. at 15034 (to be codified at 7 C.F.R. § 981.442(b), Quality Control). *See also*, Almond Board of California, *Food Quality & Safety: Action Plan and Pasteurization, available at* http://www.almondboard.com/Programs/content.cfm?ItemNumber=890&snItemNumber=450 (on file with the author). A log reduction refers to the reduction in bacteria during a process. A 4-log reduction decreases bacteria by 10,000 fold. Milk and juice industries achieve a 5-log reduction (100,000 fold) while some canned food manufacturing requires up to 12-log reduction. *Id.* The Almond Board, in 2006, allocated $1 million in research to ensure that Salmonella reducing treatment did not result in a significant degradation of almond quality. 72 Fed. Reg. at 15,031.

71. *See* Daniel Bensing, *The Promulgation and Implementation of Federal Marketing Orders Regulating Fruit and Vegetable Crops Under the Agricultural Marketing Agreement*

regulatory actions, including, *inter alia*: restrictions on the quantity of a commodity entering the market, limits of the grade, size or quality of a commodity, regulation of pack and container size, and the creation of commodity market research, development and promotion programs.[72] It is the regulation of commodity quality upon which the almond pasteurization rule resides.[73]

As an active relic of President Roosevelt's New Deal effort to counterbalance the economic power of small, independent growers against large commodity handlers, the underlying premise of marketing orders is to place restrictions on the actions of "handlers" (e.g, packing houses and processing plants) for the principal benefit of growers.[74] The USDA received four comments in full opposition to the mandatory pasteurization rule—three from small handlers and one from an agricultural consultant.[75] The basis for their opposition was the contention that the rule would "put small handlers out of business" due to the expensive technological investment required for pasteurization and the high cost of contracting for pasteurization services.[76] The USDA calculated that approximately half of the 112 domestic almond "handlers" are small businesses and that the largest 24 percent of the handlers cumulatively process 82 percent of the California almond crop.[77] To the extent that small handlers would be forced out of the business, the industry would see further concentration, perhaps even exacerbated by the forecasted 50 percent harvest increase and resulting price depression within the next three to five years due to new acreage coming into production.[78] USDA's impact projections, however, did not account for the potential substitution of imported raw (untreated) almonds in product formulation. The pasteurization rules of the almond marketing order only apply to domestically produced almonds. Importers remain free to deliver untreated almonds of foreign origin to food processors and consumers.

Act of 1937, 5 SAN. JOAQUIN AGRIC. L. REV. 3, 5 (1995) (citing 7 U.S.C. § 602(2) and Block v. Community Nutrition Inst., 467 U.S. 340 (1984)).

72. *Id.* at 7 (citing 7 U.S.C. § 608c(6)).

73. 72 Fed. Reg. at 15,031.

74. Bensing, *supra* note 71, at 8. *See also*, *Bailey Farm Dairy Co. v. Anderson*, 157 F.2d 87, 90 (8th Cir. 1946) (noting that the purpose of the marketing order is to benefit the commodity producer). For a more detailed discussion of the AMAA, *see* 9 NEIL E. HARL, AGRICULTURAL LAW §§ 70.01-70.07 (1993 & Supp. 1994).

75. 72 Fed. Reg. 15,031-2.

76. 72 Fed. Reg. 15,032.

77. 72 Fed. Reg. 15,025-6.

78. 72 Fed. Reg. 15,025.

This raises a question posed on an increasingly frequent basis by some within the food production community—the appropriateness of using marketing orders administered by the USDA's Agricultural Marketing Service (AMS) to impose food safety requirements.[79] Few politicians with hopes of a continuing career in elected office will argue against stronger technology-based food safety measures, especially those promoted by the industry itself. And marketing orders, by virtue of their initiation and enforcement via industry organizations such as the Almond Board, have the *de facto* blessing of the regulated community.[80] What may be overlooked in this deferral to industry and its devotion to a technology-focused approach to food safety is the impact of these new regulatory initiatives on small-scale producers that usually are in competition with members of the industry boards with regulatory power.[81] Regarding the almond industry, it is the small "handlers" objecting to expensive technology requirements and the potential loss of profitable spe-

79. *See* Letter from United Fresh Produce Association to Michael V. Durando, Chief, Marketing Order Administration Branch (Dec. 3, 2007), *available at* http://www.unitedfresh.org/assets/files/Comments%20to%20AMS%2012-3-07.pdf (noting that the "AMS is not a food safety regulatory agency, has no authority to set standards for food safety, and cannot be considered an alternative to regulation by the legally empowered health regulatory agency the U.S. Food and Drug Administration" but acknowledging that "marketing tools can be helpful to industries in addressing common challenges") (on file with the author). Professors Padberg and Hall go a step further and question the continued necessity of marketing order regardless of subject matter, arguing that "today's producer is much more specialized and functions more like an industrial producer. . . . The market does less coordinating; the more mature marketing infrastructure does more. In many situations, these changes may lead to less need for marketing orders. This is especially true where a large sophisticated manufacturer is involved. Where a farm commodity goes directly to sale to consumers, marketing orders may be more important." Daniel I. Padberg & Charles Hall, *The Economic Rationale For Marketing Orders*, 5 SAN JOAQUIN AGRIC. L .REV. 73, 84 (1995).

80. *See* 7 C.F.R. § 981.38 (2008) (authorizing the board to (a) administer the regulations; (b) make rules and regulations to effectuate the marketing order; (c) receive and investigate complaints of violations; and (d) recommend amendments to the marketing order).

81. *See* Bensing, *supra* note 71, at 42 (questioning continued appropriateness of "giving industry leaders the authority to administer a program that regulates their competitors and themselves"). The actual representativeness of these industry elected boards warrants further research beyond the scope of this article. *See generally*, DANIEL COHEN, THE HISTORY, POLITICS & PERILS OF THE CURRENT FOOD SAFETY CRISIS 36-37 (2008), *available at* http://www.caff.org/CAFF.Policy.Guide.l.pdf (noting that often only the largest farms have representatives on industry boards and are able to vote based on production volumes).

cialty markets to imported almonds.[82] With respect to leafy greens (e.g., lettuce, spinach, etc.), another commodity subject to AMS food-safety related rulemaking, small-scale farmers, often producing for specialty or organic markets, have raised objections to proposed food safety rules incorporated within marketing agreements[83] that may have a disparate impact on scale.[84]

Embedded in this opposition is the contention that the food safety concerns (and the potential for more wide-spread damage) that necessitate expensive investment in technological solutions arise from production factors inherent only (or with greater frequency) in larger-scale operations. Accordingly, it is only these large operations that should bear the burden of mandatory investment in technological solutions.[85] Smaller-scale production activities, with a history of product safety, should have the flexibility to adopt scale-appropriate, preventative food safety programs rather than undertaking forced investment in high cost "best available technology."[86]

It is this tension between society's demand for defect-free food and the small-scale producers' ability to manage (and adjust to) changing environmental conditions that may present a potentially adverse impact on food safety that results in opposition to a technology-based, one-size-fits-all mandate imposed via the USDA's marketing order approach to food safety. This is not to say that market-

82. *See* Cornucopia Inst., *supra* note 67, at 3 (noting cost of equipment and transportation and that the projected cost of contract pasteurization services is for large volumes, making it up to five times more costly for small-scale producers, and even more costly for organic producers due to segregation issues).

83. *See* Handling Regulations for Leafy Greens Under the Agricultural Marketing Agreement Act of 1937, 72 Fed. Reg. 56,678 (issuing advance notice of proposed rulemaking in response to industry interest in establishing a marketing agreement addressing food safety for leafy greens).

84. *See e.g.*, Community Alliance with Family Farmers, *Policy: Leafy Green Marketing Agreement*, *available at* http://www.caff.org/policy/leafygreen.shtml (last visited Apr. 11, 2009) (listing several links to position papers opposing the marketing agreement's potential impact on small farms) (on file with the author). Examples of the disparate impact in proposed leafy green marketing agreements include testing requirements as these costs would comprise a large percent of the operations total budget, and setback requirements which would be spread over fewer acres of potential production. *See* Community Alliance with Family Farmers, *Comments to Joint Assembly and Senate Committees on Agriculture*, Feb. 27, 2007, at 5, *available at* http://www.caff.org/policy/CAFFCommentsonFoodSafety.pdf (on file with the author).

85. *See* Cohen, *supra* note 81, at 38-39.

86. *See* Cornucopia Inst., *supra* note 67, at 5 (advocating that the Almond Board should focus on the benefits of organic and sustainable farming in preventing bacterial outbreaks rather than "technological Band-Aids").

ing orders should be blind to food safety issues, but rather better tailored with respect to the process of policy formation to incorporate the various scales of production and distribution channels in our diverse agricultural system. As noted by United Fresh Produce Association, the industry:

> is also now facing significant challenges in the use of market power to compel compliance with a host of different food safety practices down the supply chain. Some of those practices may be wise and good steps that all producers should take; but, others may be less grounded in science or based more on the unique opinion of certain buyers upstream from growers. . . . USDA should carefully consider the wisdom of investing collective market power upstream in the supply chain to compel grower behavior . . . .[87]

USDA's increasingly frequent use of the AMAA to impose safety standards developed by handlers, without adequate consultation with the full scope of the grower community, has the danger of shifting even more market power away from growers and undermining the purpose of the AMAA—to place restrictions on handlers for the principle benefit of growers.[88]

III. CONCLUDING THOUGHTS

Country of origin labeling illustrates a complex intersection between consumer preferences for a labeling system, economic considerations of domestic farmers and ranchers, and our increasing globalized food supply chain that incessantly seeks out low-cost goods. Underlying these supply chain issues is consumer apprehension due to the lack of control over their food, especially in light of previous imported food safety incidents discussed in this series of updates. These concerns provided political support for final implementation of a COOL program promoted as one way to reestablish a sense of ownership over food choices and to provide domestic producers a potentially positive economic outcome. Threatened WTO/NAFTA challenges notwithstanding, COOL also fits nicely into the current economic downturn in which "buy American" clauses have political popularity. Accordingly, a mandatory COOL program, perhaps eventually linked to a national animal

87. Letter from United Fresh Produce Association, *supra* note 79, at 4.

88. *See supra* note 74 and accompanying text (discussing purpose of the AMAA). *See also* Bensing, *supra* note 71, at 42; Koretoff v. Vilsack, 2009 WL 585651 (D.D.C. Mar. 9, 2009) (dismissing almond growers, handlers, and grower-handlers challenge to the almond pasteurization rule as growers have no right to judicial review under the statute and handlers failed to exhaust their administrative remedies).

identification program, will be a permanent fixture in the nation's food law.

Food safety rules embedded within commodity marketing orders issued by the Agricultural Marketing Service and administered by industry boards, on the other hand, may have a more limited shelf-life. This is not because of their potential effectiveness, but gradual movement toward a consensus on the overhaul of the food safety system that would consolidate government oversight in a single (or at least fewer) agencies. Although it is difficult (and perhaps not prudent) to disaggregate food safety from marketing, the procedural difficulties with the AMAA may make it an opportune target for reform.

EUROPEAN UNION FOOD LAW UPDATE

*Emilie H. Leibovitch**

I. INTRODUCTION

The year 2009 was chosen to be the *European Year of Creativity and Innovation*.[1] Every year, the European Union selects a theme for a campaign targeted at raising awareness on a particular matter. Creativity and innovation are to be emphasized. Although skeptics will find plenty to demonstrate these two words ought to be taken with a grain of salt, one thing is certain: 2009 is the year of "New". In June 2009, European Union citizens will elect a new European Parliament, and in November 2009, a new European Commission will be appointed. In addition, the application of the Treaty of Lisbon is still uncertain, and in the middle of this heavy procedural and political turmoil, laws must still be negotiated, enacted, implemented, and enforced.

The following is an overview of the recent developments that have taken place since last European Food Law Update in the areas of genetically-modified organisms, novel foods, feed safety, animal welfare, transmissible spongiform encephalopathy, food additives, food contact materials, food quality, food labeling, and nutrition/health claims.

II. GENETICALLY MODIFIED ORGANISMS

Last December, the European Commission "authorized the import of the genetically modified RoundupReady2 soybean" developed by Monsanto, and the import of "food and feed products de-

* Emilie H. Leibovitch is a member of the Arkansas Bar and the District of Columbia Bar, and is an associate member of the Brussels Bar. She practices international law and U.S. law at her law office located in Brussels, Belgium

1. European Commission, *How the EU promotes creativity and innovation - 20 projects showcased in Brussels*, http://ec.europa.eu/news/eu_explained/090302_1en.htm (last visited April 11, 2009).

rived from it."[2] This means that technically unavoidable traces of this soybean are now allowed in agricultural imports.[3] The Commission followed the safety evaluation issued by the European Food Safety Authority (EFSA), which concluded that products from this GM RoundupReady2 soybean are as safe as those from comparable conventional soybeans.[4]

With respect to the genetically modified maize lines Bt11 and 1507, Member States were unable to achieve an agreement since the Standing Committee on the Food Chain and Animal Health did not reach a qualified majority.[5] These two applications are of particular importance because they "represent[] an important signal of whether agricultural application of green gene technology will be possible in the EU."[6] However, environmental and consumer organizations pressure Member States not to grant these authorizations. The EFSA's GMO Panel made an initial assessment of the risks in 2005-2006 and had concluded that maize Bt11 and 1507 was "unlikely to have an adverse effect on human and animal health or the environment in the context of its proposed use."[7] In 2008, the EFSA confirmed this conclusion.[8] Last January, the EFSA issued a

---

2. GMO Compass, *New genetically modified soybean authorised in the EU*, Dec. 5, 2008, http://www.gmo-compass.org/eng/news/407.docu.html (last visited Apr. 11, 2009).

3. *Id.*

4. European Food Safety Authority, Opinion of the Scientific Panel on Genetically Modified Organisms on an application (Reference EFSA-GMO-NL-2006-36) for the placing on the market of glyphosate-tolerant soybean MON89788 for food and feed uses, import and processing under Regulation (EC) 1829/2003 from Monsanto, 2008 E.F.S.A. 758, 1-23.

5. GMO Compass, *No majority: political blockade in the EU of the genetically modified maize 1507 and Bt11*, Feb. 26, 2004, http://www.gmo-compass.org/eng/news/419.docu.html (last visited Apr. 11, 2009).

6. *Id.*

7. *See* European Food Safety Authority, Opinion of the Scientific Panel on Genetically Modified Organisms on a request from the Commission related to the notification (Reference C/F/96/05.10) for the placing on the market of insect-tolerant genetically modified maize Bt11, for cultivation, feed and industrial processing, under Part C of Directive 2001/18/EC from Syngenta Seeds, 2005 E.F.S.A. 213, 1-33; *See* European Food Safety Authority, Opinion of the Scientific Panel on Genetically Modified Organisms on an application (Reference EFSA-GMO-UK-2004-05) for the placing on the market of insect-protected and glufosinate and glyphosate-tolerant genetically modified maize 1507 x NK603, for food and feed uses, import and processing under Regulation (EC) No 1829/2003 from Pioneer Hi-Bred and Mycogen Seeds, 2006 E.F.S.A. 355, 1-23.

8. *See* European Food Safety Authority, Scientific Opinion of the Panel on Genetically Modified Organisms on a request from the European Commission to re-

new opinion following the review of new evidence relating to the risk assessment of Bt11; however, once again, the EFSA confirmed the previous findings.[9] On the basis of the assessments the Commission formulated in 2007, a decision was drafted that recommending that Member States allow the cultivation of both maize lines under specific conditions. Now, the Council of Ministers can issue a decision, and if it cannot reach one, the Commission can implement its draft decision. In the meantime, "Bt maize MON810 remain[s] the only [genetically-modified] plant for which cultivation is approved in the EU."[10]

In addition, despite the Commission's draft decision requesting that Austria and Hungary lift their cultivation bans on the genetically modified maize lines MON810 and T25, they will remain valid for now. A qualified majority of the EU ministers for the environment pushed for the bans to remain on the grounds that consumers and farmers do not want genetically-modified plants. The EFSA had found that there was no evidence to support the claim that cultivating these maize lines was dangerous or had undesired effects.[11] In addition, these national bans may be challenged at the World Trade Organization level.[12] Nevertheless, France and Greece are also trying to have Member States support their respective bans on MON810.[13] As of yet, they have not been able to gather the support of a qualified majority of Member States. This means that they might have to lift their bans, following the Commission's request.

---

view scientific studies related to the impact on the environment of the cultivation of maize Bt11 and 1507, 2008 E.F.S.A. 851, 1-27.

9. *See* European Food Safety Authority, Scientific opinion of the Scientific Panel on Genetically Modified Organisms on an application (Reference EFSA-GMO-RX-Bt11) for renewal of the authorisation of existing products produced from insect-resistant genetically modified maize Bt11, under Regulation (EC) No 1829/2003 from Syngenta, 2009 E.F.S.A. 977, 1-13.

10. *See* GMO Compass, *supra* note 5.

11. *See* European Food Safety Authority, Scientific Opinion of the Panel on Genetically Modified Organisms on a request from the European Commission related to the safeguard clause invoked by Austria on maize MON810 and T25 according to Article 23 of Directive 2001/18/EC, 2008 E.F.S.A. 891, 1-64; *See* Euopean Food Safety Authority, Request from the European Commission related to the safeguard clause invoked by Hungary on maize MON810 according to Article 23 of Directive 2001/18/EC, 2008 E.F.S.A. 756, 1-18.

12. GMO Compass, *Cultivation ban on genetically modified maize in Austria and Hungary remains*, http://www.gmo-compass.org/eng/news/422.docu.html (last visited Apr. 11, 2009).

13. Europolitics, *GMOs: French and Greek safeguard clauses in the balance*, Feb. 17, 2009.

In February, the European Court of Justice ruled that the general public has the right to know the location of fields planted with genetically modified crops.[14] This case started five years ago, when a Frenchman's request for disclosure of the current and future location of fields containing genetically-modified crops was denied by a Mayor, on the ground that disclosing such information might endanger the privacy and safety of the farmers involved.[15] Therefore, the plaintiff took his case to the French Administrative court, which referred it to the European Court of Justice.[16] The Court held that the information the plaintiff requested could not be kept confidential pursuant to article 25(4) of Directive 2001/18 on the deliberate release into the environment of genetically modified organisms,[17] and that the protection of public order is not a valid reason to refuse the disclosure of information.[18]

Moreover, Poland has decided to allow research on genetically modified organisms in its laboratories,[19] despite its 2006 ban on genetically-modified organisms, and its ban on the movement of genetically-modified seeds, which was challenged by the Commission as a violation of Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms.

III. NOVEL FOODS

In December 2008, the European Parliament Environment, Public Health and Food Safety (ENVI) Committee voted on Rapporteur Liotard's Draft Report and the amendments made to it, and issued its official report.[20] The report contains an amendment prohibiting the inclusion of food from cloned animals or their descen-

14. Case C-552/07, Commune de Sausheim v. Pierre Azelvandre, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:62007J0552:EN:HTML (last visited Apr. 11, 2009).

15. *Id.*

16. *Id.*

17. Council Directive 2001/18/EC, 2001 O.J. (L 106) 1, 14.

18. *Commune de Sausheim v. Pierre Azelvandre, supra* note 14.

19. *Poland Gives Green Light to GMO Research,* EU FOOD LAW WEEKLY, Nov. 28, 2008, at 19.

20. *See* Eur. Parl., Comm. on Public Health and Food Safety, *Report on the proposal for a regulation of the European Parliament and of the Council on novel foods and amending Regulation (EC) No XXX/XXXX [common procedure]* , A6-0512/2008 (Dec. 18, 2008), *available at* http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A6-2008-0512+0+DOC+PDF+V0//EN [hereinafter *Liotard Report on Novel Foods*].

dants in the Community list of authorized novel food products.[21] The ENVI Committee does not want food produced from cloned animals or their descendants to be merely subject to the comitology procedure; instead desiring a separate regulation of the European Parliament and of the Council to be enacted under codecision.[22] The decision of whether a specific novel food should be included in the Community list is done by Comitology procedure; this requires the Commission to submit a proposal to a comitology committee, which is composed of Member State experts, and which votes in favour of or against the proposal on the basis of qualified majority. In this case, the comitology committee involved is the Standing Committee on the Food Chain and Animal Health; however, the Parliament would prefer foods from cloned animals and their descendants to be regulated through codecision, the typical procedure to enact regulations. The report also introduces a definition for "foods produced with the aid of nanotechnology," which reads "product which contains, consists of or is produced with intentionally manufactured material with one or more external dimensions or an internal structure, (i) on the scale from 1 to 100 nm, or, (ii) where larger than 100 nm, is generally scientifically accepted as a product of nanotechnology."[23] In January 2009, a trialogue meeting between the European Commission, the European Parliament, and the Council was held to attempt a first reading agreement. Although the definition of nanotechnology was relatively well-received, the issue of cloning spurred a major debate, which put in jeopardy the first reading agreement hoped for. It is now likely that the Proposal will be reviewed for a second reading. The Commission refused the Parliament's suggestion to expressly add clones and their offspring in the regulation because this would require food produced from cloned animals or they descendants to receive prior approval.[24] The Commission believes an approval would not be granted, given the anti-cloning sentiment throughout the EU.[25] The Parliament rejected the Commission's stance to wait for further studies until drastic measures, such as bans, are taken.[26]

---

21. *Id.* at amendment 51, p. 33-34.
22. *Id.*
23. *Id.* at amend. 37, p. 27.
24. *Novel Foods Deal Off as MEPs Opt to Vote on Cloning*, EU FOOD LAW WEEKLY, Mar. 6, 2009, at 5.
25. *Id.*
26. *Id.*

Furthermore, following the EFSA's draft opinion on nanotechnology in October 2008, the agency published its final opinion in March 2009 and concluded that risk assessment of engineered nanomaterials ought to be performed on a case-by-case basis.[27] It recognized that "risk assessment processes are still under development with respect to characterisation and analysis of [engineered nanomaterials] in food and feed, optimisation of toxicity testing methods for [engineered nanomaterials] and interpretation of the resulting data," and that therefore "any individual risk assessment is likely to be subject to a high degree of uncertainty."[28] The opinion also lists what still needs to be researched related to engineered nanomaterials.[29]

Moreover, the European Court of Justice recently issued a preliminary ruling, initially requested by a German court, concerning the German authorities' prohibition of the M-K Europa GmbH & Co. KG from marketing a food product from Japan called Man-Koso 3000.[30] "Man-Koso 3000 is obtained from over 50 plant ingredients by means of a fermentation process."[31] When this product was introduced in Germany, the authorities prohibited its marketing; the company appealed the ban, but this appeal was rejected. The company then brought the case in front of another Germany judicial body, which dismissed the claim on the ground that Man-Koso 3000 was a novel food and thus regulated by Regulation (EC) No 258/97. The company appealed once again, and the court referred the case to the European Court of Justice to make a preliminary ruling on the interpretation of Article 1(1), (2), and (3) of Regulation No 258/97. The Court held that "[T]he fact that all the individual ingredients [here, algae] of a food product meet the requirement laid down in Article 1(2) of Regulation No 258/97 . . . [on novel foods and novel food ingredients], or have a safe history, cannot be regarded as sufficient for that regulation not to apply to the food product concerned."[32] "[T]the competent national authority must

27. European Food Safety Authority, Scientific Opinion of the Scientific Committee on a request from the European Commission on the Potential Risks Arising from Nanoscience and Nanotechnologies on Food and Feed Safety, 2009 E.F.S.A. 958, 1-39.

28. *Id.* at 2.

29. *Id.* at 26-27.

30. Case C-383/07, M-K Europa GmbH & Co. KG v. Stadt Regensburg, European Court of Justice, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:62007J0383:EN:HTML (last visited Apr. 11, 2009).

31. *Id.*

32. *Id.*

proceed on a case-by-case basis, taking into account all the characteristics of the food product and of the production process."[33] "Experience regarding the safety of a food product existing exclusively outside Europe is not sufficient to establish that the product concerned falls within the category of food products 'having a history of safe food use' within the meaning of Article 1(2)(e) of Regulation No 258/97."[34]

IV. FEED SAFETY

In February, the European Parliament voted in favor of the agreement for a Regulation on the placing on the market and use of feed. The Commission had issued a Proposal a year ago,[35] and the Parliament approved a compromise text in first reading.[36] Now, Farm Ministers are to vote on the matter at the next Council session on March 23-24, and the final regulation will be published in the Official Journal in May or June. An important component of this agreement is the establishment of a catalogue of feed materials that stakeholders will create in a comprehensive way to help customers have a better understanding of the products that are on the market.[37]

V. TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHY

Beginning in 2009, the Commission published additional regulations relating to bovine spongiform encephalopathy (BSE).[38] On February 26, 2009, the Commission issued Commission Regulation (EC) No 162/2009, "amending Annexes III and X to Regulation (EC) No 999/2001 . . . laying down rules for the prevention, control

---

33. *Id.*

34. *Id.*

35. *See Proposal for a regulation of the European Parliament and of the Council on the placing on the market and use of feed*, COM (2008) 124 final, Mar. 3, 2008, *available at* http://ec.europa.eu/food/food/animalnutrition/labelling/COMM_PDF_COM_2008_0124_F_EN_ACTE.pdf ; *See* Emilie H. Leibovitch, *European Food Law Update*, 4 J. FOOD L. & POL'Y 155, 160 (2008).

36. European Parliament legislative resolution of 5 February 2009 on the proposal for a regulation of the European Parliament and of the Council on the placing on the market and use of feed, Feb. 5, 2009, available at http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P6-TA-2009-0050

37. *Id.*, art. 24-26.

38. Commission Regulation (EC) 162/2009, 2009 O.J. (L 55) 11; Commission Regulation (EC) No 163/2009, 2009 OJ (L 55) 17.

and eradication of certain transmissible spongiform encephalopathies."[39] These annexes respectively cover the monitoring procedure and the reference laboratories, sampling and laboratory analysis methods. Annex III was amended to cover additional methods of disposal for a body of an animal that has been tested for BSE and for a body of an animal found positive or inconclusive to the rapid test.[40] Given the results of various scientific assessments performed, Annex X was amended to allow diagnosed atypical scrapie cases to be relieved from further testing for BSE.[41] In addition, on the same day, the Commission published Commission Regulation (EC) No 163/2009 amending Annex IV to Regulation (EC) No 999/2001, which covers animal feeding.[42] This amendment allows Member States to authorize "the feeding to farmed animals of feed materials of plant origin and feedingstuffs containing such products following the detection of insignificant amounts of bone spicules . . . if there has been a favourable risk assessment."[43]

VI. RAPID ALERTS

In December 2008, the Irish government recalled all domestically-produced pork products after high levels of dioxin were discovered in animal feed and pork fat samples. The problem was found while performing a routine monitoring, during which "elevated levels of polychlorinated biphenyls were found" in pork.[44] Following this scare, the Commission mandated the European Food Safety Authority (EFSA) to give "scientific assistance on the risks for human health related to the possible presence of dioxins in pork and products containing pork,"[45] and the EFSA concluded that serious human contamination was unlikely. The debate surrounds

39. Commission Regulation 162/2009, 2009 O.J. (L 55) 11.

40. Regulation 162/2009, 2009 O.J. (L 55) 11, 13.

41. Regulation 162/2009, 2009 O.J. (L 55) 11, 12.

42. Commission Regulation 163/2009, 2009 O.J. (L 55) 17.

43. Regulation 163/2009, 2009 O.J. (L 55) 17, 18; *But see* Al Goodman, *Woman dies from mad cow disease in Spain*, http://edition.cnn.com/2009/WORLD.europe/03/07/spain.mad.cow/ (last visited Apr. 11, 2009) (indicating that in March 2009, a woman died from the Creutzfeldt Jakob disease, the human form of the mad cow disease. It is Spain's fifth case since 2005).

44. European Food Safety Authority, Statement of EFSA on the Risks for Public Health Due to the Presence of Dioxins in Pork from Ireland, 2008 E.F.S.A. 911, 1-15.

45. Press Release, European Food Safety Authority, EFSA Responds to Commission's Urgent Request on Dioxins in Irish Pork (Dec. 10, 2008), *available at* http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902210953.htm.

the fact that the Irish government decided to recall all of the pork products as a precautionary measure. Officials recognize that there was a traceability deficiency, which is why they were not able to distinguish contaminated products from non-contaminated ones. In January, the Irish Ministry of Agriculture, Fisheries and Food announced that Ireland was "launching a 'comprehensive review' of the way the authorities handled the dioxin contamination scandal . . ." to then make recommendations on potential adjustments on the way crises are addressed.[46]

VII. FOOD ADDITIVES

In December 2008, the Commission issued a Directive "laying down specific purity criteria concerning colors for use in foodstuffs."[47] Moreover, in February 2009, the Commission updated the purity criteria for food additives by issuing a Directive that incorporates the European Food Safety Authority (EFSA)'s latest opinions on various additives, such as nisin, formaldehyde, guar gum, E504(i) magnesium carbonate, E526 calcium hydroxide, E529 calcium oxide, E901 beeswax, E905 microcrystalline wax.[48] Biphenyl and thiabendazole are no longer permitted as food additives. Member States have now one year to update their national laws.

VIII. FOOD CONTACT MATERIALS

In February 2009, the Belgian food safety agency recalled cereals after it was discovered that they had been contaminated with 4-Methylbenzophenone and Benzophenone.[49] These substances were contained in the ink used on the packaging and then migrated into the food. Given the urgency of the situation, the Commission ordered the European Food Safety Authority (EFSA) to perform a risk assessment of 4-Methylbenzophenone and review the risk assessment of Benzophenone.[50] The EFSA concluded that the level of ex-

46. *Ireland Launches Review After Dioxin Contamination Crisis*, EU FOOD LAW WEEKLY, Feb. 6, 2009, at 17.

47. Commission Directive 2008/128/EC, 2009 O.J. (L 6) 20.

48. Commission Directive 2009/10/EC, 2009 O.J. (L44) 62.

49. *Belgian Agency Recalls Cereals Contaminated with Ink*, EU FOOD LAW WEEKLY, Feb. 27, 2009, at 3.

50. *See Conclusions of the Standing Committee on the Food Chain and Animal Health Section Toxicological Safety* (Mar. 6, 2009), *available at* http://ec.europa.eu/food/food/chemicalsafety/foodcontact/docs/conclusions.pdf [hereinafter *SCFCAH Toxicological Safety*]

posure could not pose any health danger to adults, but might have health consequences for children.[51] As a result, the Commission convened the Standing Committee on the Food Chain and Animal Health's section on Toxicological Safety[52] and concluded that food contact materials printed with inks containing these chemicals must not be in contact with food unless they fall below a certain threshold. The Standing Committee also recommended that Member States monitor the levels of the chemicals in foods on the market and to monitor food packers to ensure they have appropriate documentation to prove measures are adequately taken to reduce the migration. Once the EFSA submits its final opinion, the Commission will reevaluate what needs to be done at European level.[53]

IX. FOOD QUALITY

Following the October Green Paper on food quality adopted by the Commission,[54] the European Parliament Agriculture and Rural Development (AGRI) Committee adopted a resolution on 10 March 2009 "ensuring food quality, including harmonization or mutual recognition of standards."[55] The Committee agreed that in order to protect the quality of agricultural products within the European Union (EU) and ensure that European products remain competitive on the global scale, there should be conditions of fair competition for imported products, where the imported products meet the same quality standards as those imposed on European farmers.[56] The AGRI Committee also expressed its concern for the "big retail chains['] . . . standardisation and reduction of variety of agricultural and food products," and called for regulation of the "reverse tendering practices" imposed by these chains.[57] In addition, it called for more simplification of marketing standards and more guidelines to

51. *Id.*

52. *Id.*

53. *Id.*

54. *See Green Paper on Agricultural Product Quality: Product Standards, Farming Requirements and Quality Schemes*, COM (2008) 641 final (Oct. 10, 2008), *available at* http://ec.europa.eu/agriculture/quality/policy/consultation/greenpaper_en.pdf.

55. *See* Resolution on Ensuring Food Quality, Including Harmonisation or Mutual Recognition of Standards, 2008/2220(INI) (Mar. 10, 2009), http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P6-TA-2009-0098&language=EN (last visited Apr. 11, 2009) [hereinafter *EP Resolution on food quality*].

56. *EP Resolution on food quality, supra* note 55.

57. *EP Resolution on food quality, supra* note 55.

avoid misleading practices.[58] AGRI Members of Parliament (MEPs) also supported a mandatory indication of place of production through a country of origin label such as "produced in the EU," optional reserved terms and specific quality systems like protected geographical indications, protected designations of origin, and guaranteed traditional specialties. They even suggested the creation of a European Agency for Product Quality, which would collaborate with the EFSA and the Commission and would oversee applications for the aforementioned specific quality systems. The issue of origin labelling is also dealt with in the Commission's Proposal for a Regulation on the provision of food information to consumers,[59] and will be addressed further in the following part devoted to the Food Information Proposal. With respect to organic food, the AGRI Committee supported an organic label with mandatory indication of the "country of origin [for] . . . organic products imported from third countries."[60] The report suggested encouraging programs for local markets to emphasize local processing and marketing initiatives. It also called for the establishment of criteria for quality initiatives (e.g., voluntary GMO-free labelling schemes), and it rejected the idea of additional certification systems.[61]

X. FOOD LABELING

Following last November's publication of Member of Parliament (MEP) Renate Sommer's Draft Report on the Commission' Food Information Proposal,[62] the MEPs of the European Parliament Environment, Public Health and Food Safety (ENVI) Committee issued amendments to her Draft Report.[63] The amendments are

58. *EP Resolution on food quality*, *supra* note 55.

59. *See Proposal for a regulation of the European Parliament and of the Council on the provision of food information to consumers*, COM (2008) 40 final (Jan. 30, 2008), *available at* http://ec.europa.eu/food/food/labellingnutrition/foodlabelling/publications/proposal_regulation_ep_council.pdf. [hereinafter *Food Information Proposal*]

60. *See Food Information Proposal*, *supra* note 59.

61. *See Food Information Proposal*, *supra* note 59.

62. *See Food Information Proposal*, *supra* note 59; *See* Sommer Draft Report on thePproposal for a Regulation of the European Parliament and of the Council on the Provision of Food Information to Consumers, 2008/0028(COD) (Nov. 7, 2008), http://www.europarl.europa.eu/sides/getDoc.do?pubRef=//EP//NONSGML+COMPARL+PE-415.015+01+DOC+PDF+V0//EN&language=EN (last visited Apr. 11, 2009) [hereinafter *Sommer's Draft Report*].

63. *See generally* Amends. 144-310 to Sommer's Draft Report, 2008/0028(COD) (Jan. 28, 2009), http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//

numerous since there are more than six hundred of them, and many are inconsistent with each other. The nutrition labeling is the issue the most debated on. The MEPs, even those within the same political parties, share different opinions on which nutrients should be declared, and whether they should be declared on a mandatory or voluntary basis. Many differ on whether nutrition declaration should be expressed on a per 100 g/ml basis or on a per portion basis, or both, and MEPs disagree on which nutrition information ought to be placed on the front of the pack and on the back of the pack. Some MEPs disagree with Rapporteur Sommer's decision to delete the possibility for Member States to issue national schemes, and some still bring up the option of traffic lights.[64]

With respect to origin labeling, MEPs' positions vary. Some disagree with Rapporteur Sommer's position that origin labeling should remain voluntary; however, in the event origin were to be declared, the manufacturer would have to indicate "made in the EU."[65] Sommer states that "for poultry and meat, other than beef and veal, the indication on the country of origin or place of provenance may be given only as the place where animals have been reared and/or fattened, i.e. not the place of breeding, slaughter, processing or packing."[66] For fresh fruit and vegetables, she suggests that the place of agricultural production can be the only indication as to the country of origin or place of provenance.[67]

Sommer's proposal to delete the entire Article 4 of the Claims Regulation (EC) 1924/2006, which establishes nutrient profiles,[68] was also received with some opposition. Article 4 of Regulation

---

NONSGML+COMPARL+PE-416.699+02+DOC+PDF+V0//EN&language=EN (last visited Apr. 11, 2009); *See generally* Amends. 311-543 to Sommer's Draft Report, 2008/0028(COD) (Jan. 23, 2009), http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-418.218+01+DOC+PDF+V0//EN&language=EN (last visited Apr. 11, 2009); *See generally* Amends. 544-648 to Sommer's Draft Report, 2008/0028(COD) (Feb. 24, 2009), http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-418.219+02+DOC+PDF+V0//EN&language=EN (last visited Apr. 11, 2009); *See generally* Amends. 649-751 to Sommer's Draft Report, 2008/0028(COD) (Mar. 2, 2009), http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-418.220+03+DOC+PDF+V0//EN&language=EN (last visited Apr. 11, 2009).

64. Press Release, Europa - Parliament Food Health Claims Divide MEPs (Mar. 22, 2006), *available at* http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+IM-PRESS+20060320IPR06493+0+DOC+XML+V0//EN.

65. *Sommer's Draft Report, supra* note 62, at 66 (amend. 113).

66. *Id.* at 67 (amend. 114) (emphasis omitted).

67. *Id.* at 68 (amend. 115).

68. *Id.* at 75 (amend. 124).

(EC) 1924/2006 calls for the establishment of nutrient profiles by January 19, 2009.[69] However, Rapporteur Sommer believes that nutrient profiles are not scientifically-based and are purely political, and are only "indoctrina[ting]" consumers.[70] This next part on nutrition claims will discuss this issue further.[71]

Although the vote in the ENVI Committee is scheduled for March 31, 2009 and the vote in Plenary is scheduled for May, it is unlikely that the Parliament will vote on this Report in first reading before the June Parliamentary elections. This text will more than likely be in the hands of the new Parliament. In addition, the Commission and some MEPs' proposal for the use of Guideline Daily Amounts (GDAs) has come under heavy criticism by some consumer associations. In Denmark, where GDAs are depicted as misleading consumers because they are based on portions that are unrealistically small and thus supposedly give consumers wrong ideas by making a portion appear low in calories, for example, when in fact the only reason why the portion does not have an important energy value is because the portion itself is small.[72]

XI. NUTRITION AND HEALTH CLAIMS

In December 2008, the Commission issued a revised Working Document on the Setting of Nutrient Profiles for Foods Bearing Nutrition and Health Claims,[73] and in February 2009, the Commission issued a preliminary draft in anticipation of the vote at the Standing Committee on the Food Chain and Animal Health scheduled for March 27, 2009.[74] If the Standing Committee votes in favor of these proposed nutrient profiles, they will be adopted by the Commission through the comitology procedure and will enter into force following publication in the Official Journal of the European Communities. However, should Sommer's amendment deleting the entire Article 4 of the Claims Regulation be adopted, this whole

69. Corrigendum to Council Regulation 1924/2006, art. 4, 2007 O.J. (L12) 8 (EC).

70. *Sommer's Draft Report*, *supra* note 62, at 75 (amendment 124).

71. *See infra* Part XI.

72. *See genrally* stopGDA.eu, *available at* http://www.stopgda.eu (last visited Apr. 11, 2009).

73. *Working Document on the Settling of Nutrient Profiles* (Dec. 16, 2008), *available at* http://www.food.gov.uk/multimedia/pdfs/consultation/ecsettingnp.pdf.

74. *Working Document on the Settling of Nutrient Profiles*, (Feb. 13, 2009), *available at* http://www.aesan.msc.es/AESAN/docs/docs/notas_prensa/the_setting_of_nutrient_profile.pdf.

process would become moot. Nutrient profiles were initially created to prevent nutrition claims from misleading consumers. In other words, with nutrient profiles, nutrition claims will be able to be made only if the reduction of sodium, sugar, and/or fat, depending on the claim, makes this (these) nutrient(s) fall below a certain threshold. Nutrient profiles are being criticized for not being scientifically-based.

In addition, the European Food Safety Authority (EFSA) is still reviewing health claims falling under Article 13 of the EC Regulation on nutrition and health claims No 1924/2006. These claims refer to the "role of a nutrient or other substance in growth, development and the functions of the body; psychological and behavioural functions; [or] . . . slimming and weight control or a reduction in the sense of hunger or an increase in the sense of satiety or to the reduction of the available energy from the diet."[75] The Commission must establish a positive list of permitted health claims by January 2010, and EFSA is to provide scientific recommendations on the submitted claims.[76] However, given the number of submitted claims to EFSA so far, meeting the January 2010 deadline is more and more seen as a challenge.

XII. CONCLUSION

As we approach the June elections, it is expected that an increasing number of decisions will be left to the new Parliament.

75. Corrigendum to Council Regulation 1924/2006, art. 13., *supra* note 69, at 11.

76. Council Regulation 1924/2006, art. 13, 2007 O.J. (L 12) 11

THE SLOW FOOD STORY: POLITICS AND PLEASURE (PAPERBACK)

by Geoff Andrew

PUBLISHED BY MCGILL-QUEEN'S UNIVERSITY PRESS (2008)

Reviewed by Emily Reynolds

Geoff Andrews' historical account of the development of "Slow Food" is an inspiring and descriptive story detailing the rise and impact this movement has had on a worldwide scale. Beginning with the movement's origins, first in Italy, in the 1960s and 1970s, Andrews is able to provide readers with an understanding of the motives behind founder Carlo Petrini's desire to develop the Slow Food way of thinking. This in-depth examination of the culture and politics behind the Slow Food movement both critiques the modern fast-pace world in which we live, and also promotes the idea that Slow Food's alternative ideals can extend to all aspects of the future.

The term "Slow Food" was first used following a demonstration outside a future McDonald's location near the Spanish Steps in the centre of Rome, in response to the growing dominance of fast-food restaurants, chain supermarkets and industrialized agriculture. Following this demonstration, the Slow Food Manifesto was written, describing the movement's philosophies and spreading Slow Food's ideals beyond Italy, setting in motion what is now seen as a widespread political and cultural movement. In critiquing the "fast life," the Slow Food Manifesto says:

> We are enslaved by speed and have all succumbed to the same insidious virus: Fast Life which disrupts our habits, pervades the privacy of our homes and forces us to eat fast food ... In the name of productivity Fast Life has changed our way of being and threatens our environment and landscapes. So Slow Food is now the only progressive answer.

In recent years, this Italian movement has found a following on six continents as it attempts to reconnect people from all walks of

life to the pleasures of food, and in doing so, to the passions of a slower-paced way of life. Slow Food quickly spread to the United States with the development of Slow Food USA, which has become the second largest Slow Food association in the world. Discouraged by the fast-pace American way of life, Alice Waters was behind the rise of Slow Food USA. Describing the passion behind her vision, Waters said, "We had the sense that we could do anything and we could change the world. We wanted to live differently."

At its core, Slow Food's basic ideological principle, and most distinctive feature, centers on "eco-gastronomy," which combines the pleasures associated with producing, preparing and consuming food with a concern for the environment. This contemporary view of gastronomy is based on the consequences and costs associated with modern diets, globalization and an interest in food culture. Slow Food advocates believe that there is no future for gastronomy without also focusing on the environmental context. Members of the movement also believe in sustainability and have taken interest in initiatives on sustainable agriculture.

Further, Slow Food's principles of "good, clean and fair" help to explain the movement's objectives and philosophies. "Good" relates to the palate and the mind. "Clean" concerns the naturalness in the way in which food is produced, with an emphasis on whether food is sustainable. "Fair" focuses on a commitment to social justice as it relates to whether food has been produced in a way that respects labor through adequate pay and conditions. Slow Food activists want to promote a global community comprised of producers, chefs and academics, as a means of reaching these objectives. By intertwining these three principles, the movement's purpose takes aim at a more enjoyable, safer and respectable living environment.

While some argue that Slow Food is an elitist "dining club," author Michael Pollan believes otherwise, noting that "Slow Food's potential as a 'political movement' is clear from its commitment to 'virtuous globalization' and 'eco-gastronomy.'" In reality, the people behind Slow Food come from a wide variety of cultural backgrounds, each having in common an appreciation for good food and an interest in bettering the world. According to Andrews, "the 'gastronome' is someone who has 'a finely tuned sense of taste,' but also a 'knowledge of food production that makes him care very much about the world around him.'" These characteristics are shared by Slow Food members from far-reaching and vastly differing cultures and communities. Based on their passion for food and ability to

create critical global environmental awareness, Slow Food leaders have quickly become a new face in the political arena.

Without doubt, there is a "local" feel to the Slow Food movement. However, members also encourage a global awareness of the impact of the "fast life" on people throughout the world. Summing this idea, Slow Food has been referred to as an "international actor for the global promotion of the local." Focusing on "virtuous globalization," Slow Food members believe that there must be a global system set in place to aid farmers in local communities so that they are self-sufficient, yet also sustained through interdependent support.

The cultural politics brought to life through the Slow Food movement have raised serious questions concerning the future of food worldwide. Now an international organization with more than 80,000 members in over 100 countries, Slow Food examines the relationship between consumers and producers, the connection between local and global communities, the importance of identity, culture and differences, and the dialect of social and political change. But it is the connection between pleasure and responsibility that seems to truly define Slow Food politics. It is this relationship that has helped create a spectrum of thinking broader than merely food, with focuses on issues such as local government strategy and quality of life.

Andrews encourages readers to embrace the fascinating ideals of the Slow Food movement, suggesting that the blending of pleasure and politics, with emphases on the desire of the palate and the future of the planet, has influential implications on a global level. Undoubtedly, food has become a key issue in the political agendas of many nations, including the United States. As governments focus on issues such as obesity, animal treatment, factory farming and local food production, the ideas advocated by the Slow Food movement provide an innovative, food-focused and environmental-friendly approach to facing the battles of the future. Andrews' story provides a fresh outlook on the foods people eat and their vast implications on all aspects of modern lifestyles. Perhaps readers will be intrigued enough to trade in the usual trip to Wal-Mart for a shopping experience at a local farmers' market or pass by McDonald's to dine at one of the Slow Food restaurants listed by Andrews. By embracing Slow Food objectives, people worldwide may be able to discover a slower gear in today's fast-pace society, enabling them to appreciate food, and, in turn, the other joys of life, as well.