

Agricultural Outlook Forum 2001

Presented: Friday, February 23, 2001

THE OUTLOOK FOR NUTRACEUTICALS AND FUNCTIONAL FOODS

Dr. Karen Lapsley
Director of Scientific Affairs, Almond Board of California

Speech Outline

- 1) Definitions of functional foods and nutraceuticals.
- 2) Overview of Japanese market.
- 3) U.S. retail food sector with subdivisions for functional foods.
- 4) Health trends in USA.
- 5) How interest in phytochemicals and antioxidants brings fruits and vegetables into functional foods arena.
- 6) Overview of health claims in USA.
- 7) Other food industry trends which could benefit the fruit and vegetable sector.

Overview

In the U.S. market, where inflation and population growth are the only ways to increase earnings, functional foods remain of keen interest to food corporations (Aarts, 2000). The challenge is to define exactly what functional foods are and how healthy, convenience trends fit into this market sector. As the U.S. population ages (1996—33% 45 yr. + to 2030—42% 45 yr.+) health concerns increase with “positive eating” and “self care” becoming mainstream (Sloan, 2000).

U.S. functional food sales reached \$14.8 billion in 1998 or 3% of retail food sales; mainly from beverages, energy bars and dairy products. The natural/organics and “lesser-evil” food categories were over \$50 billion and , therefore, larger than functional foods alone. It is important to realize there are lots of opportunities for growth for the fruit and vegetable sector within the “market standard”—\$450 billion.

Selected References on Phytochemicals and Fruits and Vegetables

Aarts, T., 2000. **Nutraceuticals and Functional Foods IV.**, *Nutr. Bus. J.* (5).

Aruoma, O.I., 2000. **Conceptualization of the Prooxidant and Antioxidant Actions of Plant Food Chemicals**, *Phytochemicals and Phytopharmaceuticals*, Eds. F. Shahidi and C-T. Ho, AOCS Press, Champaign, Illinois, (4) 32-46.

Bruce, B., Spiller, G., Klevay, L., Gallagher, 2000. **A Diet High in Whole and Unrefined Foods Favorably Alters Lipids, Antioxidant Defenses, and Colon Function**, *J. Am. Col. Nutr.* 19 (1) 61-67.

Dwyer, J.T., 2000. **Classification and Categorization of Food Components**, *Nutr. Today*, 35 (5) 184-195.

Eastwood, M.A., 1999. **Interaction of Dietary Antioxidants in Vivo: How Fruit and Vegetables Prevent Disease?** *Quart. J. Med.* 92:527-530.

Haddad, E.H., Bert LS, Kettering, J.D., Hubbard R.W., Peters W.R., 1999. **Dietary Intake and Biochemical, Hematologic, and Immune Status of Vegans Compared with Nonvegetarians.** *Am. J Clin. Nutr.* 70:586S-593S.

Hasler, C.M., Blumberg, J.B., 1999. **Introduction to Symposium on Phytochemicals: Biochemistry and Physiology,** *J. Nutr.* 129:756S-778S.

Kafatos, A.G., 1999. **Diet, Antioxidants and Health—Case Study: The Cretan Experience.** *Antioxidant Status, Diet, Nutrition, and Health,* CRC Press, New York., 119-129.

Miller, H.E., Rigelhof, F., Marquart, L., Prakash, A., Kanter, M., 1999. **Antioxidant Content of Whole Grain Breakfast Cereals, Fruits and Vegetables,** *J. Am. Col. Nutr.* 19 (3) 312S-319S.

Monsen, E.R., 2000. **Dietary Reference Intakes for the Antioxidant Nutrients: Vitamin C, Vitamin E, Selenium, and Carotenoids,** *J. Am. Dietetic Assn.* 100 (6) 637-640.

Pietta, P.G., 2000. **Review: Flavonoids as Antioxidants,** *J. Nat. Prod.,* 63:1035-1042.

Sloan, E., 2000. **Functional Foods – Trends and Solutions.** Presentation to Annual Conference, Almond Board of California.

Tribble, D., 1999. **Antioxidant Consumption and Risk of Coronary Heart Disease: Emphasis on Vitamin C, Vitamin E, and Beta-Carotene.,** AHA Sci. Advisory Committee, *Circulation.* 99:591-595.

Watanabe, S., Arai, Y., Haba, R., Uehrar, M., Adlercreutz, H., Shimoi, K., Kinae, N., 2000. **Dietary Intake of Flavonoids and Isoflavonoids by Japanese and Their Pharmacokinetics and Bioactivities,** *Phytochemicals and Phytopharmaceuticals,* Eds. F. Shahidi and C-T. Ho, AOCS Press, Champaign, Illinois, (14) 164-174.