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## **Organic Farming – A Research Guide**

## By Florian Diekmann, Guest Columnist

Organic farming has been one of the fastest growing markets in agriculture during the last twenty years. It combines both tradition and science to produce crops and livestock that flourish in the absence of synthetic pesticides, herbicides, and hormones. The literature describing organic farming methods, history, and advances varies from personal narratives to highly controlled scientific investigations. Florian Diekmann has compiled an excellent collection of diverse materials for inclusion in agriculture, farming, and gardening collections. Diekmann is a food, agricultural, and environmental sciences librarian at The Ohio State University. He provides generalized and specialized reference, instruction, collection development, and liaises to multiple applied life sciences departments. He earned his MLIS from the University of Illinois Urbana-Champaign and a master's in agricultural economics from The Ohio State University. He earned his PhD in Agronomy from the Technische Universität München in Freising, Germany, where he worked on an organic farm for many years.—Editor.

Organic farming has been practiced for more than one hundred years, but organic agriculture has been seriously considered as an economically viable and more environmentally sound alternative to traditional production practices for only two or three decades. The philosophical and cultural roots of the organic farming movement can be traced back to the beginning of the twentieth century; they were strongly influenced by systems thinking and the philosophy of holism. Early organic farming pioneers advocated for viewing soils as living organisms dependent on microorganisms, promoted biological concepts of soil fertility, and viewed the entire farm as a complex system governed by interacting processes linking soil organic matter to crop, animal, and human health. Global in scope from the beginning, early concepts of organic farming were developed in Germany, England, New Zealand, and the United States. Still, organic agriculture did not start to grow substantially until much later in the century when farmers and consumers became increasingly aware of the threats of environmental degradation, declining soil fertility, and major structural changes affecting the food and agricultural sectors.

The early 1970s finally saw the birth of the International Federation of Organic Agriculture Movements (IFOAM), which subsequently led to the legitimization of organic agriculture by defining shared values and principles that allowed for the first time the introduction of common certification standards for production practices, processing, and labeling. Contemporary organic agriculture as defined by IFOAM is

a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.<sup>1</sup>

These principles and certifications standards have been codified in governmental regulations such as the National Organic Program in the United States and are legally enforced in many of the more than 160 countries in which organic farming is practiced today. The worldwide organic acreage is still small, with only approximately 1 percent of all arable land certified organic. But adoption rates of organic farming practices have been exceptionally high over the past decades, consistently exceeding growth rates of any other agricultural sector. This development is driven largely by the increasing success of certified organic foods in the marketplace, but favorable policies also helped to advance the cause of organic farming in many countries.

The rapid expansion of organic agriculture has also greatly benefited scientific research in organic farming systems. There has been a significant increase in global publication output on the topic since the late 1990s resulting in thousands of scholarly articles, books, newspaper and magazine articles, websites, and other information sources published annually. This annotated research guide to the literature presents a selected review of relevant, authoritative, and unbiased web resources, books and reference sources, audiovisual materials, periodicals, and databases to guide reference librarians and collection managers to familiarize themselves with important information resources related to organic agriculture. Many of the sources are freely available from government agencies, research and trade associations, and open access repositories, thus greatly benefiting worldwide dissemination of critical information to researchers, farmers, and consumers. Other essential sources require a fee-based subscription or purchase but most should be in reach for a broad range of public and academic libraries to meet their collection building needs.

This guide is primarily about certified organic farming and focuses less on other forms of sustainable agriculture. The interested reader will still find information and additional references to the literature covering these alternative forms of agriculture in many of the included resources.

Every effort was made to select the most relevant and useful sources for meeting a broad range of user needs, but readers should note that this is not an exhaustive bibliography on the topic and that there are many additional sources not listed in this guide.

### WEB RESOURCES

This section contains a selection of key institutions and organizations involved in organic farming research, education, and outreach programming that present valuable information and reference sources on their websites. Web resources were evaluated on their relevance, authority, depth of coverage, and timeliness.

### **Government Resources**

US Department of Agriculture, Agricultural Marketing Service (USDA-AMS): National Organic Program (www.ams.usda.gov/AMSv1.0/nop)

USDA-AMS administers the National Organic Program, the regulatory program responsible for developing standards for organically produced agricultural products in the United States. The website provides access to the NOP newsletter, factsheets, presentations, standards resources, and other regulatory references.

US Department of Agriculture, Economic Research Service (USDA-ERS): Organic Agriculture (www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture.aspx)

USDA-ERS is the premier governmental source for economic and policy research involving food, agricultural, natural resources, and rural development. The website provides an extensive overview and background information as well as readings and statistics on organic farming in the United States.

US Department of Agriculture, National Agricultural Library, Alternative Farming Information Center (AFSIC): Organic Production (http://afsic.nal.usda.gov/organic-production)

The AFSIC organizes and provides access to information related to sustainable and alternative agricultural systems. The website provides access to an extensive collection of information and reference sources on organic agriculture including subject guides, reports, bibliographies and reference briefs, presentations, databases, news, and online resources and information tools.

US Department of Agriculture, National Agriculture Statistics Service (USDA-NASS): Census of Agriculture, Organic Production Survey (www.agcensus.usda.gov/Publications/Organic Production Survey) USDA-NASS is the nation's leading provider of unbiased information and statistics on the state of US agriculture. The website provides the most recent available statistics on organic farming including production, marketing, and economics data.

US Department of Agriculture, National Institute of Food and Agriculture (USDA-NIFA) (formerly: Cooperative State Research, Education, and Extension Service): Organic Agriculture (www.csrees.usda.gov/organicagriculture.cfm)

USDA-NIFA provides federal assistance and national program leadership for the food and agricultural sciences by supporting research, education, and extension programs in the landgrant university system and other partner organizations. The website provides access to official reports, data, web resources, and funding information related to organic agriculture.

European Commission, Agriculture and Rural Development: Organic Farming (http://ec.europa.eu/agriculture/organic/home\_en)

This website provides a one-stop entry point for finding official information and reference sources on organic farming in the European Union. It features access to news, policy information, online tools, and databases providing quick access to many organic farming institutions and organizations in Europe.

Food and Agriculture Organization of the United Nations (FAO): Organic Agriculture (www.fao.org/organicag/en)

This website presents information on organic agriculture available at FAO, including production information for various countries, mandates and reports, projects, publications, meeting and event reports, a multilingual glossary, and related web resources.

## **Industry Organizations and Associations**

International Federation of Organic Agriculture Movements (IFOAM) (www.ifoam.org/index.html)

IFOAM is the worldwide umbrella organization of the organic agriculture movement representing member organizations in more than one hundred countries. The website covers organic farming worldwide and contains an extensive collection of information resources on organic production, business and marketing, research, statistics, news, events, and standards and certification. The website also contains several directories and bibliographies and provides access to training materials.

National Sustainable Agriculture Information Service (ATTRA), National Center for Appropriate Technology: Organic Farming (https://attra.ncat.org/organic.html)

ATTRA offers technical assistance related to sustainable agriculture to farmers and ranchers, extension agents, researchers, educators, and other agricultural professionals through its website, publications, and other media. The Organic Farming website provides access to factsheets, workbooks, bulletins, and other publications related to organic crop and livestock production, business and marketing, and certification.

### Organic Trade Association (OTA) (www.ota.com)

The OTA is the trade organization for the organic industry in North America. The website provides access to OTA news and events, policy briefs, reports and fact sheets, market data, and directories of organic products, businesses, and services.

### Soil Association (www.soilassociation.org)

The Soil Association was established in 1946 as one of the first organizations promoting organic agricultural practices and grew to become the largest organic farming association in the United Kingdom. The website provides access to news and events, technical information for farmers, market and business information, and certification resources.

### **Research Institutions**

International Centre for Research in Organic Food Systems (ICROFS) (www.icrofs.org)

Founded in 2008 after an expansion of the former Danish Agricultural Research Centre for Organic Farming (DARCOF), ICROFS initiates, coordinates, and participates in organic farming and food systems research and education with a national and international focus. The website provides access to the most recent research, publications, and news from ICROFS. The organization also hosts and administers the Organic Eprints archive.

### International Society of Organic Agriculture Research (ISOFAR) (www.isofar.org)

Established in 2003, ISOFAR works to promote and support organic farming research by facilitating worldwide research, methodological development, education and knowledge exchange. The website provides access to the most recent publications, news, and events from ISOFAR.

#### Organic Farming Research Foundation (OFRF) (http://ofrf.org)

OFRF has aimed to foster the improvement and widespread adoption of organic farming systems by conducting and sponsoring organic farming research, disseminating research results to farmers and agricultural professionals, and educating the public and policymakers about organic agriculture since 1992. The website provides access to numerous information resources, including a grant database, organic education materials, and policy information.

Research Institute of Organic Agriculture (FiBL) (www.fibl.org/en.html)

FiBL is an independent, nonprofit research institute with offices in Switzerland, Germany, and Austria, specializing in advancing organic farming science, research, and education since 1973. FiBL conducts applied research in the field of organic agriculture and provides advisory and training services for researchers, farmers, extension professionals, and government agencies in organic soil management, crop production, animal husbandry, and economics and business management. The website provides access to the most recent research, publications, and news from FiBL.

#### Rodale Institute (http://rodaleinstitute.org)

Originally named the Soil and Health Foundation, the Rodale Institute was established in 1947 as the first research organization in the United States to focus on advancing knowledge of organic farming and other systems of sustainable agriculture. In addition to conducting research, the Rodale Institute engages farmers and consumers through outreach and education initiatives. The website provides access to publications, news, online tools, databases, and educational materials.

#### The Louis Bolk Institute (www.louisbolk.org)

The Louis Bolk Institute conducts organic farming research and international development projects and provides advisory services for farmers and businesses. Headquartered in the Netherlands, the Louis Bolk Institute has additional offices in Ghana and Uganda. The website provides access to more than 1,725 publications authored by staff members. The Organic Research Centre Elm Farm (www.organicresearchcentre.com)

Established in 1980, the Organic Research Centre has become the leading research and development and advisory organization for organic agriculture in the United Kingdom. The website provides access to news and press releases, research articles and bulletins, conference proceedings, descriptions of current and completed research projects, and web links.

US land-grant universities and local extension and advisory services provide many critical resources on organic farming research and production, often in the form of bulletins, factsheets, and performance and field trial results, targeted toward farmers, agricultural educators, government agency employees, university faculty and staff, and extension educators interested in organic farming systems. A few examples of useful information gateways are here:

- Cornell University, Agricultural Experiment Station: Organic at Cornell (http://cuaes.cornell.edu/organic)
- University of Minnesota, Southwest Research and Outreach Center: Organic Ecology (http://swroc.cfans.umn.edu/ResearchandOutreach/OrganicEcology/index.htm)

- The University of Vermont, Northwest Crops and Soils Program: Organic Farming (www.uvm.edu/extension/cropsoil/organic-farming)
- University of Tennessee, Institute of Agriculture: Organic and Sustainable Crop Production (http://organics.tennessee.edu)

The US Department of Agriculture provides information about sponsored past and current organic farming research activities primarily in two databases:

US Department of Agriculture, National Institute of Food and Agriculture (USDA-NIFA): Current Research Information System (CRIS) (http://cris.csrees.usda.gov)

Focusing on the USDA-NIFA administered grant programs, CRIS provides documentation and reporting for ongoing and completed agricultural, food science, human nutrition, and forestry research, education and extension activities sponsored by for the U.S. Department of Agriculture.

US Department of Agriculture, Sustainable Agriculture Research and Education (SARE): Project Reports (www.sare.org/Project-Reports)

SARE's national database of research, education, and extension projects contains reports for the more than five thousand projects that were funded since 1988.

## **BOOKS AND REFERENCE SOURCES**

Titles contained in this section present the most relevant works published on the topic since 2000. Items were selected by considering multiple sources including holdings of major land-grant libraries, positive reviews in standard reference sources and relevant scholarly journals, citation counts in the Web of Science database, reputation of publisher, and publication date.

Lammerts van Bueren, E. T., and James Robert Myers. *Organic Crop Breeding*. Hoboken, NJ: Wiley-Blackwell, 2012. ISBN: 978-0-470-95858-2.

This well-researched title provides an excellent overview of the theory and practice of plant breeding for organic farming systems. *Organic Crop Breeding* introduces readers to a number of general topics in the first part of the book and then covers specific field crops in the second part. Written by leading experts in the field, the book provides a global perspective on the important issue of organic plant breeding and contains extensive references to the scientific literature making it a valuable resource for crop breeders and geneticists, crop science professionals, researchers, and students.

Blair, Robert. *Nutrition and Feeding of Organic Cattle*. Wallingford, UK: CABI, 2011. ISBN: 978-1-84593-758-4.

Blair, Robert. *Nutrition and Feeding of Organic Poultry*. Wallingford, UK: CABI, 2008. ISBN: 978-1-84593-406-4.

Blair, Robert. *Nutrition and Feeding of Organic Pigs*. Wallingford, UK: CABI, 2007. ISBN: 978-1-84593-191-9.

Written by an acknowledged expert in the field of animal sciences, this trilogy provides readers with a solid reference source for understanding and researching organic livestock production. All books provide additional references for further study and should be of interest to animal scientists, veterinarians, feed manufacturers and consultants, farmers, and students of these fields.

Reed, Matthew. *Rebels for the Soil: The Rise of the Global Organic Food and Farming Movement*. London: Earthscan, 2010. ISBN: 978-1-84407-597-3.

*Rebels for the Soil* offers a useful review of the history of organic farming as a social movement from its beginning in the 1930s to the present from a political sociology perspective. The book is well-researched and easy to read and introduces the reader to a review of social movement theory before it investigates the defining periods of the organic food and farming movement.

Barker, Allen V. *Science and Technology of Organic Farming*. Boca Raton, Florida: CRC, 2010. ISBN: 978-1-4398-1612-7.

This title is recommended as a recent reference source for understanding the scientific basis of organic farming. The book provides a comprehensive introduction to all aspects of organic crop production and includes a brief bibliography and a glossary. *Science and Technology of Organic Farming* is a title highly valuable for students, crop scientists, agricultural professionals, and practitioners and won a CHOICE Outstanding Academic Title Award in 2011.

Francis, Charles A. 2009. *Organic Farming: The Ecological System*. Madison, WI: American Society of Agronomy, 2009. ISBN: 978-0-89118-173-6.

Written by key researchers and experts in the field, *Organic Farming: The Ecological System* is an excellent reference source on organic agriculture and recommended reading for researchers, students, and farmers alike. Focusing on the US and Canadian context, the twentynine authors review the current knowledge of organic farming systems and provide a wellwritten summary of the history of the organic movement, organic certification, design of organic farming systems, production practices, marketing and food systems, and implementation and outreach activities. The book also presents a survey of the future of organic farming in the context of industrialized food production. The text provides many references for further study.

Cooper, Julia, Urs Niggli, and Carlo Leifert. *Handbook of Organic Food Safety and Quality*. Boca Raton, Florida: CRC, 2007. ISBN: 978-0-8493-9154-5.

This comprehensive book is a recommended reference title for researchers, professionals, and producers, summarizing available scientific evidence and best practices for the safety, sensory, and nutritional quality of organic foods. The first part of the book provides an introduction to basic quality and safety of organic food, including a discussion of factors affecting nutritional quality, quality assurance, and consumer expectations. The second part presents issues surrounding organic livestock husbandry and animal production while the third section discusses organic crop and vegetable production.

Lockeretz, William. *Organic Farming: An International History*. Wallingford, UK: CABI, 2007. ISBN: 978-1-84593-876-5.

Organic Farming: An International History presents a comprehensive review of the origins and development of organic farming in the past century. The book's sixteen chapters with their many references create a useful reference source for researchers, students, and the general public. The editor, an acclaimed scholar in the field himself, draws on an impressive list of leading experts to present a synopsis of the historical development of the organic movement, key policy and market issues, and a number of important organizations and institutions that shape the organic farming movement today.

## Lockie, Stewart. *Going Organic: Mobilizing Networks for Environmentally Responsible Food Production*. Wallingford, UK: CABI, 2006. ISBN: 978-1-84593-132-2.

This title presents a thorough investigation of the organic food supply chain including production, marketing, and consumption issues. Written from a social science perspective, the authors examine common misconceptions about organic food production and markets and provide valuable perspectives on the future of the organic farming movement amid the rapid growth of the organic food sector over the last decade.

## Kristiansen, Paul, Acram M. Taji, and John P. Reganold. *Organic Agriculture: A Global Perspective*. Wallingford, UK: CABI, 2006. ISBN: 978-0-8014-4524-8.

Presenting a comprehensive, scientific review of the major organic farming systems around the world, Organic Agriculture: A Global Perspective provides a valuable and useful resource for researchers and students wanting to explore the organic farming movement from a global standpoint. Written by more than fifty authors from thirteen countries, the eighteen chapters of this book provide a solid overview of technical and scientific issues surrounding organic farming systems as well as addressing the economic, social, and political dimensions of organic agriculture.

Holt, Georgina, and Matthew Reed. *Sociological Perspectives of Organic Agriculture: From Pioneer to Policy*. Wallingford, UK: CABI, 2006. ISBN: 978-1-84593-038-7.

This title presents a collection of eighteen essays exploring a number of contemporary issues the organic farming sector is facing. Written mainly by economists and social scientists and aimed at academic researchers involved in sustainable food systems research, the book investigates the history of organic movements in various countries and discusses a diverse range of topics, such as the quality of organic foods and consumer behavior, challenges for organic farmers around the globe, principles and practices of organic farming systems, and future directions.

Guthman, Julie. *Agrarian Dreams: The Paradox of Organic Farming in California*. Berkeley: University of California Press, 2004. ISBN: 0-520-24095-2.

This book provides an insightful account of some of the contemporary challenges of the organic farming movement using California as a case study. While realizing many of the original ideas, such as developing a more environmentally sound food production system, the book illustrates that the economic realities of present day organic farming sometimes fail to adequately address some of the social causes of the organic farming movement.

Conford, Philip, and Jonathan Dimbleby. *The Origins of the Organic Movement*. Edinburgh, Scotland: Floris, 2001. ISBN: 978-0-86315-336-5.

*The Origins of the Organic Movement* started as the first author's doctoral thesis and developed into one of the most detailed accounts of the emergence of the organic farming movement during the early twentieth century. Much of the focus of the title is on developments in Great Britain with particular attention paid to the history of the Soil Association, but the authors include many references to other countries and continents that became critical to the philosophical foundations of the organic farming movement. This fascinating book contains a biographical list of influential people and an annotated list of important organizations and periodicals.

## AUDIOVISUAL MATERIALS

Materials in this section highlight different aspects on the topic. Items were selected for their relevance and content and identified by searching WorldCat, the Internet, and reviews in the literature.

Anthony, Christine, and Owen Masterson. Grow! Atlanta, Georgia: Anthony-Masterson, 2011.

*Grow!* is a sixty-minute award-winning documentary featuring twelve young farmers showcasing organic and sustainable farming practices on their Georgia farms.

Rogers, Shelley, Emily Triantaphyllis, John Ickerd, Frederick L. Kirschenmann, Joan Dye Gussow, and Seth Goldman. What's Organic About Organic? United States: Shelley Rogers, 2010.

This ninety-minute documentary film contains interviews and stories of organic farmers and explores the implications of a grassroots agricultural movement evolving into a booming global industry.

Siegel, Taggart. The Real Dirt on Farmer John. New York: Gaiam Media, 2008.

*The Real Dirt on Farmer John* tells the story of John Peterson, a third-generation American farmer and artist, who saved his farm by transforming it to Angelic Organics, a community-supported agriculture enterprise. The eighty-two-minute feature won numerous awards.

Demers, Jocelyn, Dan Jason, Ross Huguet, Herb Barbolet, Shannon Binns, Pat Howard, Guy Dauncey, Devon Page, Dag Falck, and Sam Elkady. *Gardens of Destiny*. Vancouver, BC: Monde Films, 2008.

This sixty-one-minute feature presents Dan Jason's Seed and Plant Sanctuary for Canada, a network of gardeners from around the world dedicated to preserve plant diversity. *Gardens of Destiny* explores contemporary issues, such as genetic engineering, terminator seeds, and the challenges of industrial agriculture in North America, and discusses a number of solutions, including to support organic agriculture.

Bedford, Christopher, and Jody Hovland. *The Organic Opportunity*. Montague, MI: Center for Economic Security, 2007.

This twenty-five-minute documentary presents a case study of organic farming as an economic development tool in Woodbury County, Iowa, which created a number of economic incentives for farmers who transition to organic agriculture or relocate to the county to farm organically.

### SCHOLARLY PERIODICALS

Because of the interdisciplinary nature of the scholarship of organic farming, research results are broadly published in hundreds of journal titles covering the sciences, social sciences, and arts and humanities disciplines. The titles contained in this section are periodicals with the highest frequency of publications relevant for the topic of organic farming based on searches in Web of Science and Scopus. The titles are listed in order of impact factor.

*Agriculture, Ecosystems & Environment.* Amsterdam, Netherlands: Elsevier B.V., 1983–. 16 issues per year. ISSN: 1873-2305.

*Agriculture, Ecosystems & Environment* publishes papers focusing on the interface between agro-ecosystems and the natural environment. Specifically, the articles focus on the influence of agriculture on the environment and the impact of those changes on agro-ecosystems.

*Renewable Agriculture and Food Systems* (formerly: *American Journal of Alternative Agriculture*). Cambridge, UK: Cambridge University Press, 2004–. 4 issues per year. ISSN: 1742-1713.

*Renewable Agriculture and Food Systems* publishes papers focusing on the economic, ecological, and environmental impacts of agriculture, the effective use of renewable resources and biodiversity in agro-ecosystems, and the technological and sociological implications of sustainable food systems.

*Journal of Sustainable Agriculture*. Philadelphia, Pennsylvania: Taylor & Francis, 1982–. 8 issues per year. ISSN: 1540-7578.

The *Journal of Sustainable Agriculture* publishes papers focusing on the emerging fields of agro-ecology and sustainable agriculture. It promotes an interdisciplinary approach to the design and management of food systems as one process in a complex landscape of agricultural production, conservation, and human interaction.

*Biological Agriculture and Horticulture*. Philadelphia, Pennsylvania: Taylor & Francis, 1982–. 4 issues per year. ISSN: 2165-0616.

*Biological Agriculture and Horticulture* publishes papers focusing on alternative systems of biological husbandry in agriculture, horticulture, forestry, and other essential topics in both temperate and tropical climates, with a particular focus on the biological approach to food production.

*Acta Horticulturae*. Leuven, Belgium: International Society for Horticultural Science, 1975–. Irregular, 40–50 volumes per year. ISSN: 0567-7572.

*Acta Horticulturae* is a peer-reviewed monographic series containing mainly the proceedings of International Society for Horticultural Science symposia and the International Horticultural Congress. These publications cover all branches of horticultural sciences and frequently contain reports and papers on various aspects of organic horticulture.

## **Additional Titles**

Organic Agriculture. Berlin, Germany: Springer, 2011-. 4 issues per year. ISSN: 1879-4246.

*Organic Agriculture* publishes original research and invited review papers focusing on principles and practice of organic agriculture and food systems. *Organic Agriculture* is the official journal of *The International Society of Organic Agriculture Research*.

*Ecology and Farming*. Bonn, Germany: International Federation of Organic Agriculture Movements, 1982–. 3 issues per year. ISSN: 1016-5061.

*Ecology and Farming* is a trade magazine covering the global development of organic agriculture. Ecology and Farming is the official publication of the International Federation of Organic Agriculture Movements.

### LITERATURE DATABASES

The following research databases, listed in alphabetical order, are recommended because of their comprehensiveness, coverage, and content relevance for researching the scholarship of organic farming.

### AGRICOLA. Ipswich, Massachusetts: EBSCO, coverage varies

*AGRICOLA* (Agricultural Online Access) provides access to over 4.9 million bibliographic references to agricultural literature acquired by the National Agricultural Library (NAL) and cooperating institutions, and collections of related subjects, such as food and nutrition, agricultural economics, parasitology, forestry, aquaculture, wildlife, and environmental science supplied by information centers. *AGRICOLA* has used the freely accessible NAL Thesaurus as indexing vocabulary since 2002. A search for "organic production OR organic farming OR organic agriculture" returns approximately five thousand results, including peerreviewed journal articles, conference proceedings, book chapters, theses, technical reports, and trade publications ranging from 1941 to the present. *AGRICOLA* is also freely accessible through NAL's public interface at http://agricola.nal.usda.gov.

AGRIS. Rome, Italy: Food and Agriculture Organization of the United Nations (FAO), 1975-.

*AGRIS* (International Information System for the Agricultural Sciences and Technology) created by the FAO as an open access database to facilitate information exchange and to identify world literature dealing with all aspects of agriculture provides access to 2.8 million bibliographic records. A search for "organic farming OR organic agriculture" returns more than seven thousand results, including peer-reviewed journal articles, conference proceedings, book chapters, technical reports, and trade publications ranging from 1976 to the present.

### CAB Direct. Wallingford, UK: CABI, 1910-.

The premier databases for the applied life sciences provides access to over 9 million bibliographic references covering research and development literature in the fields of agriculture,

forestry, human health, human nutrition, animal health, and the management and conservation of natural resources. *CAB Direct* incorporates *CAB Thesaurus*, an online index of CABI terms. A search for "organic farming OR organic agriculture" returns more than fifteen thousand results, including peer-reviewed journal articles, conference proceedings, book chapters, and trade publications ranging from 1973 to the present.

*Organic Eprints*. Tjele, Denmark: International Centre for Research in Organic Food Systems, 2002–.

This international open access database indexes papers and projects related to organic food and farming research with the goal of improving the dissemination and impact of research findings and facilitating international use and cooperation. *Organic EPrints* provides access to more than ten thousand bibliographic references.

Scopus. Amsterdam, Netherlands: Elsevier B.V., 1823-.

This multidisciplinary database indexes over nineteen thousand titles from more than five thousand international publishers and provides access to over 47 million bibliographic records for the scientific, technical, medical, social sciences, and arts and humanities fields. *Scopus* provides citing reference information for 26 million records dating back to 1996. A search for "organic farming OR organic agriculture" returns more than four thousand results, mostly peer-reviewed journal articles and conference proceedings ranging from 1954 to the present.

Web of Science. New York, New York: Thomson Reuters, 1898-.

This multidisciplinary database consists of multiple citation indexes and provides access to more than 46 million bibliographic records covering more than twelve thousand high-impact titles from the sciences, social sciences, and arts and humanities. *Web of Science* provides citing reference information for journal articles dating back to 1898, conference proceedings dating back to 1990, and books dating back to 2005. A topic search for "organic farming OR organic agriculture" returns approximately 3,400 results, including peer-reviewed journal article, conference proceedings, and book chapters ranging from 1928 to the present.

## LEGISLATION AND LEGAL RESOURCES

### **United States**

US Department of Agriculture, Agricultural Marketing Service, National Organic Program (www.ams.usda.gov/AMSv1.0/nop)

The standards codified by the National Organic Program describe the specific requirements verified by accredited certifying agents before any food product can be labeled USDA organic.

- 7 CFR Part 205—National Organic Program; Final Rule (http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=3f34f4c22f9aa8e6d9864cc2683cea02&tpl=/ecfrbrowse/Title07/7cfr205\_ main\_02.tpl)
- Program Handbook (www.ams.usda.gov/NOPProgramHandbook)

University of Arkansas, National Agricultural Law Center: Reading Room, National Organic Program (www.nationalaglawcenter.org/readingrooms/organicprogram)

Includes an agricultural law bibliography, Congressional Research Service reports, and references to statutes, regulations, and other information relevant to organic agricultural production.

US Department of Agriculture, National Agricultural Library, Alternative Farming Information Center: Guide to US Organic Marketing Laws and Regulations, Special Reference Briefs Series no. SRB 2003-01, 2008 (www.nal.usda.gov/afsic/pubs/OAP/OAPGuide1.shtml)

A subject guide on US Federal laws and regulations, state laws and regulations pertinent to marketing organic products, other organic-related certification programs, selected background documents about US standards, general federal food-related labeling and regulatory programs and information, general state food-related labeling and regulatory programs and information, and related food safety resources.

## **European Union**

- European Commission, Agriculture and Rural Development: Organic Farming, Legislation (http://ec.europa.eu/agriculture/organic/eu-policy/legislation\_en): Presents summary information on the specifics of the EU organic legislation, the Standing Committee on Organic Farming, and the Organic Farming Information System.
- Council Regulation (EC) No. 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No. 2092/91 (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:189:0001:0023:EN:PDF).
- Commission Regulation (EC) No. 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No. 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control (http://eur-

lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:250:0001:0084:EN:PDF).

• Commission Regulation (EC) No. 1235/2008 of 8 December 2008 laying down detailed rules for implementation of Council Regulation (EC) No. 834/2007 as regards the arrangements for imports of organic products from third world countries (http://eur-lex.europa.eu/LexUriServ.do?uri=OJ:L:2008:334:0025:0052:EN:PDF).

# International Federation of Organic Agriculture Movements (IFOAM) (www.ifoam.org)

- IFOAM Family of Standards
  (www.ifoam.org/about\_ifoam/standards/family\_of\_standards/family\_of\_standards.html)
  : Contains all standards worldwide (private and government) officially endorsed as
  organic by IFOAM.
- IFOAM Organic Guarantee System (OGS) (www.ifoam.org/about\_ifoam/standards/ogs.html): A package of activities and services developed by IFOAM to assist, unite, and lead the world of organic standards and verification systems.

# World Health Information and Food and Agriculture Organization of the United Nations, Codex Alimentarius (www.codexalimentarius.org)

The Codex Alimentarius contains internationally recognized food standards, guidelines, codes of practice, and other recommendations to ensure the health of the consumers and fair trade practices.

- Organically Produced Foods, 3rd ed., 2007. ISBN: 978-92-5-105835-0. (ftp://ftp.fao.org/codex/Publications/Booklets/Organics/organic\_2007e.pdf).
- Food Labelling, 5th ed., 2007. ISBN: 978-92-5-105840-4. (ftp://ftp.fao.org/codex/Publications/Booklets/Labelling/Labelling\_2007\_EN.pdf)

## Reference

1. "Definition of Organic Culture," International Federation of Organic Agriculture Movements, accessed January 15, 2013, www.ifoam.org/growing\_organic/definitions/doa/index.html.