



Alternative Farming Systems Information Center

Organic Livestock Production: A Bibliography

Selected citations from 1974-September 2004

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The Alternative Farming Systems Information Center (AFSIC) is one of several topic-oriented information centers at the National Agricultural Library (NAL). AFSIC specializes in locating and accessing information related to alternative agricultural systems including sustainable and organic production, alternative and industrial crops, and farmer direct marketing. AFSIC is supported, in part, by USDA's Sustainable Agriculture Research and Education (SARE) program and by a Cooperative Agreement with the University of Maryland, College Park.

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INTRODUCTION

Current Status of Organic Livestock Production in the U.S.

In 2003, the U.S. Department of Agriculture's Economic Research Service (ERS) published comprehensive data and analysis for organic crop and livestock production for the first time. Their findings revealed that organically raised livestock – beef cows, dairy cows, sheep, hogs and pigs, laying hens, and broilers – all exhibited strong growth between 1997 and 2001. In fact, two organic livestock sectors – poultry and dairy – were the fastest growing sectors in overall organic production. [*U.S. Organic Farming in 2000-2001: Adoption of Certified Systems*, by Catherine Greene and Amy Kremen (AIB780) April 2003 <http://www.ers.usda.gov/publications/aib780/>] From the report:

- Farmers and ranchers raised over 72,200 certified organic cows, pigs, and sheep in 28 States in 2001, up 28 percent from the previous year.
- The number of certified organic milk cows jumped 27 percent from 2000 to 2001, and nearly quadrupled between 1997 and 2001.
- Twenty-seven States contained almost 15,200 certified organic beef cows in 2001, up 243 percent since 1997.
- The United States had 1.6 million certified organic laying hens in 2001, up from 537,826 birds in 1997. Certified organic broilers totaled 3.29 million birds in 2001, up from 38,285 in 1997. The number of certified organic turkeys was 98,653 in 2001, up from 750 turkeys in 1997.
- Over 3,100 hogs and pigs were certified organic in 2001.
- Certified organic pasture and rangeland increased 109 percent between 1997 and 2001, and increased 28 percent from 2000 to 2001.

Certification and labeling of organic livestock product in the United States were very limited before 1999. Although organically produced eggs were exempted from USDA labeling restrictions, meat and poultry could not be labeled as organic until February 1999, when a provisional label was established by USDA. The current National Organic Program (NOP) standards, which went into effect in October 2002, do include production standards and labeling guidance for most livestock and livestock-derived products. The NOP standards include provisions for acceptable origin of animals, appropriate livestock feed, standards for health care practices, and living conditions that must be provided. [National Organic Program, Program Standards <http://www.ams.usda.gov/nop/NOP/standards.html>]

Since the implementation of USDA National Organic Standards and the availability of the USDA Organic Seal, growth in the market and sales of organic meat, poultry, eggs and dairy products have continued to expand. According to the Organic Trade Association's 2004 Manufacturer Survey, organic foods grew 20.4 percent in 2003 and accounted for \$10.38 billion in consumer sales. Of that total, organic dairy products, with 13 percent of organic food sales, accounted for \$1.38 billion with a 20.3 percent growth rate for 2003. Meat, fish and poultry accounted for \$75 million in sales, with a 77.8 percent growth rate during 2003. This rapidly growing sector comprises 1 percent of all organic food sales. [*OTA 2004 Manufacturer Survey Overview*, Organic Trade Association and *Nutrition Business Journal* <http://www.ota.com/pics/documents/2004SurveyOverview.pdf>]

Organic Livestock Research

Research activity pertaining to organic farming systems has lagged behind that for conventional agriculture. And organic livestock systems research remains a small portion of organic research efforts. In the 1997 USDA research study, *Searching for the "O" Word*, author Mark Lipson, of the Organic Farming Research Foundation (OFRF), identified just 34 projects that were explicitly focused on organic farming systems – out of a total 30,000 USDA funded projects at that time. (as documented in USDA's Current Research Information System (CRIS) database, <http://cris.csrees.usda.gov/>). Only one of these projects dealt with livestock husbandry. He also found several projects he termed "weak" organic, i.e. having an "organic component inferred": one livestock husbandry project and 17 rangeland and forage projects.

Since the OFRF report, attention to, and funding for, organic livestock systems and husbandry research has been growing. Most recently, USDA's Cooperative State Research, Education, and Extension Service (CSREES) Integrated Organic Program awarded \$4.5 million in grants. Four of the 11 projects awarded focused specifically on livestock issues [USDA Press Release No. 0423.04, Sept. 29, 2004 http://www.csrees.usda.gov/newsroom/releases/organic_agproject.html]:

- University of Arkansas, \$305,015, for slow-growing broilers in organic production: an alternative to supplemental methionine and a marketing opportunity
- Tufts University, \$197,768, for strengthening the scientific foundation of organic standards on animal health and welfare
- Cornell University, \$518,306, for the transitioning dairy: identifying and addressing challenges and opportunities in milk quality and safety
- University of Vermont, \$301,161, for profitability and transitional analysis of northeast organic dairy farms

The Sustainable Agriculture and Research (SARE) program has funded and continues to fund projects on organic production and husbandry. [SARE Project Reports <http://www.sare.org/projects/>] A recent count (Oct. 12, 2004) of project reports with "Organic" in the title found about 20 that focused on livestock issues out of a total 2713 reports cited in this database. In addition, USDA's Agricultural Research Service (ARS) has initiated several organic research projects pertinent to animal husbandry and health, livestock systems, and forage production.

Information Resources

Information resources for livestock producers and marketers have likewise become more numerous and available. A search for Extension outreach publications will now yield helpful guidance and contacts. ATTRA, the National Sustainable Agriculture Information Service, funded by USDA, provides excellent practical information and publications about organic livestock production, marketing, and certification.

Bibliographic databases, in addition to helping searchers locate individual publications, can be good indicators as to a topic's informational "status." Using the search capabilities to quantify database content, in terms of publication year, general topic, and language, can reveal a great deal. For instance, a recent search (Oct. 13, 2004) of CAB Abstracts (CABI Publishing) for organic livestock-related documents published during the past five and a half years (1999-2004) turned up 665 citations. Of these, 425 were in English and 241 – more than a third – were written in other languages. Only 28 citations pertained specifically to U.S. or North American activities; 372 were specific to Europe; and 32 were specific to Asia. (Some citations were not geographically labeled.) The total number of relevant citations found for these five years is more than three-times the number found in the previous five year period, 1994-1998 (219 citations).

Analogies may also be observed in this data. For example, the topic of Dairy Cattle Production displays a disproportionately large number of citations for research and conference papers, and of marketing data, originating in Northern Europe. This pattern in the literature reflects the level and kinds of activity in these areas in Europe where there is an active dairy farming and research community, supportive government policy, and strong consumer markets.

Electronically accessible data sources, including databases and the Internet, contain only a small portion of the "knowledge base" relevant to organic livestock production. Many books and reports pre-date electronic formats. Also, a great deal of farmer-generated information is confined to organizational newsletters and networks with limited circulation. Research results often don't make it to accessible venues, or rest within the covers (paper and virtual) of expensive professional journals. Finally, a great deal of relevant research is documented in German, French, Danish, Russian, and other languages, with limited translations into English.

About this Bibliography

This bibliography attempts to represent selected documentation from a wide range of resources: bibliographic databases, conference proceedings, Extension publication lists, research archives, and more. (See Appendix A for a sampling of sources searched in compiling this bibliography.) Some of the citations provide links to full-text documents; most do not. All publications cited are in English, and were produced starting in the early 1970s up until September 2004. Cited items held by the National Agricultural Library (NAL) are noted with NAL call numbers.

Citations are arranged by animal species, with a substantial chapter on General Livestock Production, containing citations for publications that are not species-specific, or are about multiple species. Each chapter is broken down into subsections related to Animal Husbandry and Welfare, Veterinary Practices, Certification, Economic Issues, Marketing, Processing, Food Quality. Some chapters have been augmented with sections about animal products, e.g. eggs and dairy products.

Although there are many veterinary-related publications listed in this bibliography, this compilation strives to address overall animal husbandry and health and is not meant to be comprehensive in terms of therapy, drugs, and other medical treatments for animals. References descriptive of animal health and welfare topics separate from veterinary care issues are listed in the Animal Husbandry sub-topic sections in each chapter. This publication also comes with the following caveat: all husbandry and veterinary practices, as well as meat, poultry, dairy and egg handling operations, are subject to organic standards and other regulations which vary with certifying agent, regulatory agency, and from country to country. Careful study should be applied before attempting any organic livestock production, handling or marketing enterprise.

Artwork appearing on the title page of this publication is by Rini Templeton.

Disclaimers

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