Organic Livestock Research Needs
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Introduction:

The list of organic livestock research needs contained below has been compiled to guide the University of Minnesota and other research institutions in an effort to meet the needs of the growing organic livestock industry. While some topics are relatively new, other topics have been addressed through "traditional" livestock research, but not specifically from an organic system perspective.

Instructions:

Please review the list and indicate the level of priority that you feel should be assigned for each topic, on a scale of 1 to 5, with 1 being the lowest and 5 being the highest. Please indicate your profession – crop farmer, organic crop farmer, livestock producer, organic livestock producer, researcher, certifier, inspector, or other. Please also provide your state or country (if outside the U.S.) of residence.

1. General Topics:

a. Organic Best Management Practices (OBMPs) for least-toxic parasite management for various species.

b. Explore impacts of "systems" approach (rotational grazing, multi-species grazing, etc.) on internal and external parasite loads for various species.

c. OBMPs for least-toxic fly control for various species.

d. Examine holistic strategies for fly control, including: 1) augmentation or introduction of predators or parasites; 2) development of habitat for natural enemies; 3) non-synthetic controls such as lures, traps, and repellents; 4) manure management systems; 5) pasture rotation; 6) use of clean, dry bedding; and 7) impact of moisture control.

e. Investigate anecdotal reports of improved livestock health with organic management – review of on-farm case studies.

f. Organic methods of building soil fertility to optimize livestock health and thereby reduce or eliminate the need for medications, vaccines, parasiticides, and supplemental vitamins and minerals.

g. Breeds of various species best suited to organic production – feed utilization, grazing response, disease and parasite resistance, ease of reproduction, and minimization of stress.

h. Approved weed control strategies for pasture and forage management, especially for noxious weeds such as Canada thistle.

i. Nutritional value of weeds, how they can best be utilized in livestock diets, and threshold levels for inclusion in livestock rations.

j. Utilization of alternative grains to corn and soybeans which correspond with and complement organic crop rotation systems.

k. Analyze how livestock production impacts the entire diversified organic farm, including impacts on fertility management; weed, pest, and disease pressure; utilization of resources; water quality; farm labor; and profitability.

l. Comparison of grain-based organic livestock systems with grass-based organic systems.

m. Analysis of successful conversion strategies to develop OBMPs for the conversion of various types of livestock operations to organic production.

n. Develop OBMP checklist to help producers evaluate all aspects of the farm and then create action plans for successful conversion.

o. Develop hands-on learning tools for farmers, including field days and site visits, to convey research results.

p. Other [insert box for making comments]

2. Livestock Health Care:

a. Catalog animal health problems for various species, listing natural health care options and allowed synthetic materials.

b. OBMPs for the prevention of various diseases in various livestock species and breeds.

c. Inventory of non-genetically engineered and genetically engineered vaccines.

d. Efficacy of vaccines used in organic systems.

e. Efficacy studies, conducted under certified organic conditions, of natural health care practices and allowed medications for various species and age groups, including calf-hood medications.

f. Review of non-approved medications against criteria for organic use to determine compatible products and/or formulations not currently approved.

g. Review allowed vitamin and mineral supplements – efficacy trials of approved mineral and vitamin supplements for various species.

h. Examine natural, organic sources of vitamins and minerals within feed compared to use of supplementation materials.

i. Water quality and livestock health – impacts of nitrate, coliform, and/or pesticide residues on various species.

j. Physical alterations for various species which promote animal welfare while minimizing pain and stress, including the branding and dehorning of breeding, slaughter, and dairy animals.

k. Other [insert text box]

3. Housing and Living Conditions:

a. Research housing designs which promote health, minimize stress, and maximize production for various species in various regions.

b. Alternatives to lumber treated with copper chromium arsenate or other prohibited materials for fence posts and building materials.

c. Role of facility sanitation in promoting livestock health.

d. Outdoor and indoor living conditions and stocking rates for various species which accommodate health and natural behavior.

e. Winter housing designs which provide outdoor access while maximizing the health and productivity of animals.

f. Air quality impact on livestock health – various species.

g. Review costs and benefits associated with temporary confinement of various species and production systems.

h. Manure management systems which do not contaminate crops, soil, or water with plant nutrients, heavy metals, or pathogenic organisms and which optimize recycling of nutrients.

i. Other [insert comment text box]

4. Poultry:

a. Amino acid concentrates for poultry derived from organic agricultural products.

b. Meeting the nutritional needs of poultry within the restrictions of the organic standards, i.e. feed rations with no synthetic methionine.

c. Efficacy of various rations using organic feed ingredients and approved feed supplements for broilers, layers, and turkeys.

d. OBMPs for poultry outdoor access - investigation of system designs which meet organic requirements.

e. Investigate impact of outdoor access on disease exposure and incidence in organic flocks.

f. Alternatives to beak trimming of laying hens – breed selection, housing, stocking rate, gender mix, breed combinations, ration, diversions, and activities.

g. Review of poultry breeds that are best adapted for outdoor access.

h. Organic hatchery management – systems design and operation.

i. Other [insert text box]

5. Dairy:

a. Compile and analyze existing research results on organic rotational grazing.

b. OBMPs for prevention and treatment of mastitis.

c. Evaluation of teat dip formulations for efficacy and compliance with organic regulations.

d. Milk replacers comprised of organic ingredients and approved materials.

e. OBMPs for calf management and system designs which maximize health and productivity and allow for expression of natural behavior.

f. Evaluation of seasonal dairying - analysis of impacts on land, costs, and how this could fit into a diversified organic farming operation.

g. Other [insert comment text box]

6. Beef:

a. E. coli H7-0157 comparisons between organic and non-organic beef.

b. Efficacy of homeopathy for treatment of eye problems and hoof ailments.

c. Organic management systems to produce high quality beef – grade, tenderness, flavor, etc.

d. Effects of various dry aging techniques on the quality, taste, nutritional value, and marketability of organic beef.

e. Other [insert comment text box]

7. Hogs:

a. Herbal remedies for control and/or treatment of scours.

b. Herbal remedies for control and/or treatment of respiratory diseases.

c. Hoop house designs with outside access for organic hog production.

d. Other [insert comment text box]

8. Sheep:

a. Efficacy of natural parasiticides, including tobacco, diatomaceous earth, pumpkin seeds, and various herbs.

b. Other [insert comment text box]

9. Bees:

a. Organic Best Management Practices for prevention and control of diseases and parasites of honey bees.

b. Housing and living conditions best suited for organic honey production.

c. OBMPs for the conversion of conventional bee colonies to organic production.

d. Research to determine how long pesticide and antibiotic residues remain in wax, propylis, honey, brood food, hive bodies, etc.

e. Research the effects on the bee colony of various combustion materials used for smoking hives.

f. Other [insert comment text box]

10. Economics:

a. Livestock record keeping systems for sound management, profitability, and organic certification compliance.

b. Economic analysis of organic dairy, beef, lamb, pork, egg, broiler, and turkey production systems in the Upper Midwest.

c. Comparison of investments needed, rate of return, and profitability of organic and non-organic livestock systems.

d. Study impacts of organic livestock operations on local and regional economic development.

e. Market survey of supply and demand for organic meat products in the Upper Midwest.

f. Analysis of distribution channels used for organic livestock products and recommendations for improved processing, handling, and distribution systems.

g. Other [insert comment text box]

11. Other:

a. Analyze the nutritional and health value of organically produced livestock products, especially pasture raised or grass fed livestock.

b. Other [insert comment text box]