

2007 University of Arkansas Combined Research and Extension Plan of Work

Agricultural Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 112 25% Watershed Protection and Management
- 133 5% Pollution Prevention and Mitigation
- 134 5% Outdoor Recreation
- 141 5% Air Resource Protection and Management
- 401 5% Structures, Facilities, and General Purpose Farm Supplies
- 403 40% Waste Disposal, Recycling, and Reuse
- 601 5% Economics of Agricultural Production and Farm Management
- 604 5% Marketing and Distribution Practices
- 605 5% Natural Resource and Environmental Economics

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Given current economic conditions, many agricultural producers and private landowners seek ways to generate income from their land. In Arkansas, it is not unreasonable for a landowner to lease a duck blind for \$2000 during the waterfowl season. The Arkansas recreational fishing industry has an economic impact of over \$440 million/yr. Improved economic conditions of some rural communities in the south have been attributed to income generated from alternative agricultural enterprises. However, these enterprises are not for everyone. This program helps landowners decide whether to invest in alternative agricultural enterprises through designing enterprise management plans, contracts and leases, and marketing strategies. Experts in the University of Arkansas System are available to provide basic information about content areas to help the landowner get started in his or her interest in alternative agricultural enterprises.

Arkansas has 1,750,000 head of cattle of which 24,000 are dairy cattle. There are 330,000 head of swine placed at one time. Annual broiler production is 1.2 billion birds. Turkey production is 22.5 million birds annually. Annual Arkansas farm gate income from livestock and poultry is \$4.2 billion (63%) of the states \$6.6 billion total farm cash receipts before support services, industry or further processing are added. (Information from USDA- Agricultural Statistics Service, Arkansas. <http://www.nass.usda.gov/ar/>)

A 1997 study indicated that animal production in Arkansas generated approximately 3.4 billion tons of manure on a dry weight basis each year. Annually the beef cattle, poultry, swine and dairy industries generated about 1.8, 1.3, 0.1 and 0.2 billion tons of manure, respectively. Given the increase in livestock production since 1997 the annual manure production will have also increased over the last decade.

The combination of increasing manure production, the vital economic importance of livestock agriculture, and an increasing non-agriculture population in traditionally rural areas is leading to an increase in both the perception and reality of potential environmental concerns. It is also leading to the necessity of changes in the way livestock housing and manure systems will need to be designed and managed. As a result there is a need to encourage changes to existing facilities and management systems. In addition there is a need to encourage new facilities to be designed and managed to address the concerns. Of course, economic concerns will tend to hinder these changes.

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Given current trends in declining numbers of farms, part-time and hobby farmers, specialized farming, and the globalization of agriculture, producers continually seek new and innovative ways to generate farm income. Identifying niche markets and capitalizing on specialized agricultural opportunities is a matter of economic survival for many agricultural producers.

Extension is strategically-placed as agricultural educators with access to experts and researchers in diverse fields throughout the University of Arkansas System.

- « It is economically vital to Arkansas to maintain a strong livestock industry.
- « It is also critical to protect water and air quality.
- « Regulations and court action will impose restrictions on manure management options.
- « Neighbor/Community perceptions must be considered in conjunction with planned agricultural practices.
- « The classic "personal property rights vs. public good" situation will require a blend of science, economics, legal, community relations, and compromises to address.
- « While there are similarities in the various livestock and poultry operations each farm is unique and will have unique solutions.
- « The root cause of the manure nutrient problem is typically more nutrients enter the confined animal farms as feed than leave as animal products.
- « To ultimately solve this problem economically viable alternative higher value uses of animal manure must be found.
- « For both water quality and air quality issues proper management of both existing and future systems will be critical.
- « There must be research, new options, economic incentives, and legal flexibility to enable operational changes to address

environmental concerns.

« Education regarding community perceptions and concerns, in concert with the transfer of agricultural system information and technology, is critical in order to support landowner planning and implementation of production system options.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to keep farmers in business and landowners in ownership of their property using sustainable land management practices to improve rural economies in Arkansas.

This is accomplished by:

- « Educating producers enabling them to make informed decisions about whether or not to establish an alternative agricultural enterprise.
- « Assisting in maintaining the economic viability of the livestock industry with its associated livelihoods of the individuals involved with animal based food production.
- « Assisting landowners to manage and minimized the adverse environmental impacts of livestock production.

V(F). Planned Program (Activity)

1. Activity for the Program

A broad range of direct and indirect methods will be used to provide information to both groups and individuals:

Educational meetings

Tours

Field days

Workshops

Farm visits

Articles and media interviews in publications targeting agricultural producers and private landowners