United States Department of Agriculture
National Institute of Food and Agriculture

A DISCUSSION OF ISSUES AND PROGRAMS AFFECTING FAMILY FARMS

A New Agency

On October, 2009 the Cooperative State Research, Education, and Extension Service was reorganized as the National Institute of Food Agriculture (NIFA.) All programs and authorities have transferred to NIFA which will continue to work with land grant universities, other colleges and Universities, non-governmental organizations, small business and others through national program leadership and Federal assistance.

Introduction to the Forum

This is the fourth issue of the Family Farm Forum. Its primary purpose is to enhance research, teaching and outreach programs on important topics affecting family farms. Secondary goals include:

- enhancing the impacts of USDA programs by sharing information with a broader audience
- generating more, good quality, appropriate submissions to competitively funded programs
- identifying research, education and extension opportunities on selected topics for national program leadership, federal assistance, and collaborative action through partnerships with stakeholders.

The Forum takes place twice a year and consists of a newsletter (Update) describing research and outreach on a key issue for family farms, followed by a Web-conference promoting discussion and networking among agency partners, colleges and Universities, farmers, ranchers, community based organizations and other interested stakeholders.

Updates and webinar transcripts of the first three forums—"Farm Transitions ," "Local Food Systems" and "Entrepreneurship" are posted on the website.

Socio-economic Issues in Small-scale Animal Production was selected as the next Forum topic by attendees at the last webinar and, following their suggestions, we have invited USDA-Agricultural Research Service to join us in this Forum to talk about their work on small farm, pasture-based beef.

This Update highlights some of the main issues and successful projects related to the topic but we invite you to participate in a more thorough discussion in the Webinar at 2 pm (Eastern) on November 19th. Check our website for information and a link to the webinar.

We would like the Family Farm Forum to become an important communication tool for enhancing the sustainability of small and medium-sized farms. Hence, please send any feedback and suggestions to help improve the forum to Suresh Sureshwaran or Patricia McAleer.

Socio-economic Issues in Small-scale Animal Production

Making a reasonable and secure living in small- and medium-sized livestock production is not easy. Selling animals or animal products in direct competition with large scale producers is a challenge because economies of scale in production and marketing generally allow the large scale operations to sell at lower prices than smaller operations can afford. Also, it may be easier for the larger operations to ride out market swings, like the recent surge in feed prices from the ethanol boom. On a related point, in 2010 USDA and the Justice Department will hold public workshops to explore competition issues in the agriculture industry.

Input costs are generally higher for smaller operations. Producer cooperatives help but there is still a need for technologies appropriate to small and mid-sized farms. Mobile slaughterhouses, for example, can reduce harvesting costs for a farmer with relatively few animals, but the cost per animal is unlikely to be as low as in a large operation.

Alternative milk technologies could allow artisanal cheese producers to pasteurize their milk without reducing the flavor of the finished product, but is there a sufficient market for the development of such technologies? Value added, niche markets, or direct marketing are generally seen as the best options for smaller livestock operations, but some of these practices have higher costs and lower profit margins.

Many small- and mid-sized livestock producers see local, state and federal regulations as an additional burden, and one that falls on them disproportionately. While the per-animal cost of animal identification, manure management, food safety guidelines and other regulations are likely to be higher in smaller operations, these regulations do bring benefits not just to society but to producers themselves. It could be argued that such costs are no more than the cost of doing business.

Research and outreach can increase the profitability and sustainability of small and mid-sized livestock operations. The ARS led, multi-disciplinary investigation of year round pasture raised beef, described below, holds great promise for many cow-calf operators in Appalachia. Similarly, the University of Nebraska outreach project is bringing together information and training to develop niche markets for many smaller-scale pork producers.

Beef from Forages – Small Farm Production Realities

The Appalachian region is not well suited to annual crop production but the rolling hills and mountains make it very conducive to perennial forage production and in fact the region used to be highly productive in grass-finished beef. After World War II, however, U. S. production moved primarily to the current grain based system which was inexpensive and produced an abundant, affordable, consistent and very palatable protein source. The growing "Eat Local" movement and increased demand for grass-finished beef now provide a window of opportunity for livestock farmers and movement away from a commodity market may improve their farm receipts and economic viability. Research at the ARS Appalachian Farming Systems Research Center, in

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cooperation with Virginia Tech, West Virginia, and Clemson Universities focuses on improving efficiency and quality of pasture- finished beef systems.

Consistency is the key issue facing pasture-finished beef production, and environmental conditions and management decisions make forage based systems inherently variable. Undoubtedly genetics, environmental conditions and forage species may impact product attributes both positively and negatively, but variability is also expected from farm to farm and region to region. Consistency doesn't imply, however, that all grass-fed beef should be exactly the same, but any producer or group of producers within an area must strive for repeatable quality, to provide consumers with a desirable product month in month out, and year in year out.

Research has shown that winter performance for cattle transitioning from weanlings to stockers can vary considerably without impacting consumer acceptability. This is extremely important given variability in winter forages, and environmental conditions throughout Appalachia. Personal experience has shown that genetics profoundly influence product quantity within a given time frame. Cattle of similar age and breed makeup from two different farms produced animals with 150 to 200 pounds difference in body weight at both 15 and 18 months of age. Such a difference in salable beef per animal will have a profound impact on net income.

Grass-fed beef tastes different than grain-fed and consumers expect this, but some flavors are considered objectionable. This could be related to specific forages but recent research does not support this explanation. Another cause could be rumen environment, specifically the end products of digestion from microbial fermentation, and research is underway to explore this possibility. Research questions that have not been addressed previously are essential to moving the grass-fed industry forward.

Product marketing is very important for sustainability. The finest beef on earth is of little value if it cannot be marketed economically. The "Eat Local" movement is very helpful from a marketing standpoint, and numerous entrepreneurs are selling natural, organic, and or grass-fed beef products. Some of them have been in business for a long time while others may be out of business quite expeditiously. Intricate marketing and production plans are essential to succeed in a business where the product is precisely identifiable with source. Remember, the best way to come up with a good plan is by learning from those who've already been there and done that.

For more information, contact Dr. Jim Neel
USDA-ARS Appalachian Farming Systems
Research Center, Beaver, WV

Pork Production on Small- and Medium-Sized Family Farms

Any size of swine operation has to be well managed to maximize profit. Small- and medium-sized family (SMSF) farms have significant challenges when trying to establish and maintain a sustainable pork production enterprise. The major challenges for SMSF farms are reproductive performance of the sow herd, controlling input cost, market access, and easy access to science-based information about various aspects of alternative pork production systems.

Low farrowing rate and high preweaning death loss of piglets is a serious problem on most SMSF farms. Data from 41 SMSF farms indicate an average of 6.7 pigs weaned per litter, 10.1 pigs weaned per sow per year, and 1.5 litters weaned per sow per year. "Traditional" pork producers will average 10.0 pigs weaned per litter, 23.4 pigs weaned per sow per year, and 2.3 litters per sow per year. Producers selling to companies marketing niche pork are required to use specialized production standards that can increase production costs and reduce the potential number of pigs marketed per sow per year. For example, eliminating the use of farrowing crates can increase preweaning death loss and using an extended weaning age decreases the number of litters per sow per year.

Feed cost represents about 60% of the total cost for producing a piglet. Feed costs for pork producers have increased at least 150% in the past three years due to the expansion of the ethanol industry.

Alternative marketing is often necessary for SMSF farms to survive because they do not produce a large volume of market pigs. The cost of transporting pigs from the farm to a traditional abattoir can be extremely high. Market access and transportation costs have led to a number of new marketing groups and niche pork companies trying to aggregate supply into viable numbers. Some SMSF farms are having their pigs processed at a local abattoir to supply niche markets with fresh and cured pork products.

SMSF farms need access to information on how to increase reproductive performance of the sow herd, how to control feed cost, evaluate marketing alternatives, and numerous other factors influencing the sustainability of their swine enterprise.

The University of Nebraska – Lincoln is leading a project to gather and prepare educational materials and programs specifically designed to help SMSF farms and marketers to be sustainable. Educational materials will be prepared in a modular format whereby all the educational items related to specific subject matter can be easily found by the end-user. The modules will contain written materials, video clips, pictures, Powerpoint presentations, website addresses, home study courses, and information for contacting a subject matter specialist. These materials will be placed into a website that is linked to the eXtension web pages. In addition, curriculum will be developed for use by teachers at high schools, colleges and universities. This project is supported by the National Research Initiative of the National Institute of Food and Agriculture, USDA, Grant #2008-04179.

For more information, contact Dr. Donald G. Levis
Northeast Research & Extension Center
University of Nebraska, Lincoln

Mobile Processing Units Strengthen Regional Food Systems

Many smaller producers face barriers to participating in local and regional food systems. Nowhere are these obstacles more evident than in the case of meat processing. A lack of government-inspected, local meat processing facilities has all but smothered retail sales of local, identity-preserved meat cuts in many regions of the country.

Finding local meats at retail outlets in Washington State has recently become more likely thanks to the innovation and determination of a handful of farmers, community organizers, farm support organizations, and WSU Extension educators. Four new USDA-inspected mobile meat processing units are facilitating the growth of value-added markets for locally-raised beef, lamb, pork, and goat.

In Washington, only USDA-slaughtered and processed meat products may be re-sold by the cut or pound through higher value markets such as farm stores, farmers markets, CSA, or direct to retailers such as groceries, institutions, and restaurants. However, the number of traditional USDA approved and inspected slaughter and processing facilities in the Northwest has declined drastically over the past 30 years and, of those that remain, many require farmers to have a minimum number of animals or a contract. Some only accept cattle. Without a nearby USDA facility available to independent and small producers, farmers must truck their animals long distances or are restricted to selling live animals at auction or "on-the-hoof" to end-consumers. Consumers who purchase live animals directly from producers, may then elect to have their animals slaughtered and processed using "custom" facilities regulated by the Washington State Department of Agriculture (WSDA). Custom processed meat is not considered "inspected" and cannot be resold; it is limited to the sole consumption of the animal owner.

Inspected mobile slaughter units allow small and mid-sized livestock producers to avoid trucking their animals long distances to access the few remaining USDA-inspected facilities, while maintaining the unique identity and quality of their farm products. Such units have been approved by USDA for slaughtering cattle, swine, sheep, and goats. Four USDA-inspected mobile processing units are currently operating in WA: one in the San Juan Islands and neighboring north Puget Sound counties, one in the southern Puget Sound region and two others in Eastern Washington. These constitute four out of seven such units in operation nationwide. Each project came about in a unique way and faces its own distinct challenges. In the first example, a group of livestock owners in San Juan County, conceived and developed the first USDA-approved mobile meat unit (MPU) for red meat in the country. Operationalized in 2002, this project was the result of a multi-year, community-led initiative to improve farm viability and availability of local farm products that began in 1996.

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Working in partnership with the WSU San Juan County Extension office and the Lopez Island Land Trust, farmers formed a cooperative known as the Island Grown Farmers Cooperative (IGFC) and obtained grants and donations to finance the unit up front. A Lopez Island farmer and founding member of IGFC was contracted to design and build the MPU in accordance with USDA specifications. IGFC also obtained the use of a fixed cut and wrap facility (also USDA approved and inspected) at a nearby site on the mainland to work in tandem with the slaughter unit. A butcher was hired to manage both the MPU and the cut and wrap facility.

The IGFC mobile meat processing unit consists of a diesel truck, which pulls an 8-by-34 foot trailer containing a 300-gallon water tank, cooling locker, carcass hooks and a sink. During each slaughter, a USDA-approved inspector oversees the butchering process. The inspector checks the condition of the animal before it is killed and then closely monitors the cutting process. They can process 9-10 head of beef at a time (or 40 sheep, 24 pigs). The cooperative recently purchased a second trailer so they could process more volume at one time for larger operations. Currently the IGFC mobile unit and processing facility is operating at full capacity and serves 60 cooperative members from the San Juan Islands, and three nearby counties.

The second unit that became operational in 2006 was developed in Stevens County, an extremely rural and remote region in Northeast WA, in a partnership between the County Extension office and a local non-profit. This unit operates on a part-time basis in conjunction with a local USDA-cut and wrap facility that previously had no slaughtering capacity. The third unit began operating in 2007 in another remote area in the Southeastern region of the state and was built by a private producer primarily for his own use. Along with the USDA cut-and-wrap facility he also owns, these facilities have permitted him to develop thriving direct markets for his premium quality, grassfed meats.

The fourth unit, developed by a producer's cooperative in the urbanized southern Puget Sound region processed its first animal in August 2009. This project received funding support from producers in a five-county area and the local conservation district. They are working with a newly licensed, privately owned USDA cut-and-wrap facility.

While each of these facilities has met with a certain degree of initial success, the economics of slaughtering meat on a smaller scale can be challenging. Initial capital costs for construction costs can be high. Many of these groups succeeded at first because they were able to attract grants and donations. Operational costs can also be difficult to meet because of the limited number of animals that can be slaughtered per day. These units require hiring a butcher to travel along and may incur high fuel costs. Finally, their limited capacity sometimes restricts their ability to serve all of the producers needing services. Nevertheless, recent numbers suggest that both the consumer and producer demand for these units and their specialty products remain strong .

More information, contact Dr. Marcy Osrtom
Small Farms Program
Washington State University

Environmental Stewardship for Small Livestock and Poultry Farms

Animal manure management is necessary for small and medium sized farms in addition to the large farms. Most of the national attention has been focused on the large Concentrated Animal Feeding Operations (CAFOs) which may not have enough land to apply the manure at an appropriate agronomic rate. The issues regarding animal manure management are : water pollution from nutrients and pathogens and air quality from odors and greenhouse gasses (carbon dioxide, methane and nitrous oxide.)

All small farms should strive to achieve good land and animal stewardship. Well managed farms will:

1. Minimize barnyard and manure runoff into streams or wetlands
2. Properly account for manure spread on crop or pastureland
3. Properly store manure to utilize this resource during the growing season
4. Manage animals and manure on pastures to maintain pasture quality, control field erosion, and control animal traffic near streams
5. Keep records about their operation.

Animal feeding operations (AFOs) are agricultural enterprises where animals are kept and raised in confined situations. As defined by the Environmental Protection Agency (EPA), and your state regulatory agency, an AFO is a lot or facility where animals have been, are, or will be stabled or confined and fed, or maintained for a total of 45 days or more in any 12-month period. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures or fields or on rangeland. Animals are not considered to be stabled or confined when they are in areas such as pastures or rangeland that sustain crops or forage growth during the entire time that animals are present.

Small farms must first determine if they meet the definition of an AFO. If not, they are considered a "pasture based operation." If the operation meets the definition of an AFO, then they must determine if they meet the definition of a CAFO (small or medium). This determination is a function of size and connection to surface water resources. There are times when a pasture based operation may be subject to regulation. Any Animal Feeding Operation (AFO) that discharges manure or wastewater into a natural or man-made ditch, stream or other waterway can also be defined as a CAFO, regardless of size.

Small farms are typically smaller in size, with fewer animal numbers, less acreage and have a lighter regulatory burden than larger farms, which may often be designated as Concentrated Animal Feeding Operations or CAFO's. Small farms are often able to implement lower cost solutions to animal waste concerns than are larger farms.

The USDA and EPA give broad definitions of what constitutes a small farm. A small farm could have 150 dairy cows in the midwestern or western dairy belt or it could be a 30–head flock of sheep raised for an organic market. It could be a 100 head sow herd or 10 head of beef cows and their calves on a retirement farm. Small farms may include both commercial and hobby farms.

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Small farms are often quite diverse. A horse-boarding farm in the northeast that exports all manure off-site is very different from a 150-head dairy farm that spreads all manure on owned acreage. Both could be called small farms but the management challenges would be very different for each. A majority of residential/lifestyle farms may also experience high stocking rates (or animal units per acre). Farms with limited land resources must rely on exporting manure to manage the animal waste.

Small farm manure management poses different kinds of challenges than does manure management on larger farms. The eXtension web site will connect with some of the best resources about managing manure on small farms. http://www.extension.org/

For more information, contact Richard Hegg, National Program Leader, NIFA

Socioeconomic Challenges of Value Added, Direct and Niche Marketing

Value added, direct and niche marketing sound like great ideas for small farmers, and they turn out that way for some. However, too many small farmers find out too late that being successful with value added, direct and niche marketing may require as much knowledge, time, effort, and other resources as required to produce the product in the first place. This can especially true for value added.

It may also require a different personality than often found among people who choose to farm. Agricultural producers tend to be introverts who can feel fulfilled without constant human interaction. Successful marketers tend to be "people people." Few families and fewer individuals have the range of personalities well suited to handle both production and marketing side of the business.

It is also hard for one person or family to be as good at production, processing, advertizing, marketing, etc. as specialists in each function hired by an organization.

Our society has also become accustomed to handling items on a large scale that are anything but user friendly to small scale producers. Consequently, processing equipment, facilities, rules, and inspections are often geared to large scale processing. Many consumers are accustomed to "one stop shopping".

Even when rules, inspections and cost of processing (whether self processed or by someone else) doesn't prevent small producers from adding value etc, they will have to find enough customers to buy enough of their product to make it all worthwhile.

Possibly the biggest advantage of marketing a commodity is that one can usually sell their entire production. A major disadvantage of selling a commodity is the producers' lack of price control. Reduced sales and reduced price can both be bad for producers.

If you double the price of your product but can only sell half as much as before, you haven't increased your gross income. However, you have likely increased your expenses from your marketing activities making you worse off financially than before.

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Some small farmers have successfully added value, direct marketed and have developed niche markets and others will too. Many of those who have succeeded were at the right place at the right time. Many of those who have succeeded started slow and gradually developed their markets.

To reduce risks and improve your chances of succeeding,

1. Do enough homework before making a commitment to add value or direct market.
2. Seek others who have succeeded in what you hope to do to serve as mentors, cooperators and/or partners.
3. Seek out opportunities that already have overcome some of the barriers (for example, going to a current farmer's market instead of starting your own).
4. Consider doing something simple first. For example, direct marketing some extra vegetables from the garden at an established farmers market or marketing a few animals to friends is much easier and less risky than starting to process and direct market all of your production at the same time. The experience may tell you if you like that role added to your production role.

More information, contact Tom Kriegl
Center for Dairy Profitability
University of Wisconsin, Madison

National Animal Identification System

The National Animal Identification System (NAIS) was initiated in 2004 by USDA's Animal and Plant Health Inspection Service (APHIS) to protect the health of our nation's food and other animals, enhance animal health, and ensure farmer's access to markets. Species and Issues Based Working Groups within the NAIS make recommendations to a subcommittee, made up of state and industry stakeholders, with resources and administrative support by federal staff. The state component is the animal health board.

NAIS has 3 parts: 1. premises registration, through a PIN number, to identify where livestock and/or poultry are raised or housed. It is free, fast, and easy, and does not require participation in the other NAIS components. 2. Animal Identification. Individual animals may be identified by number (AIN) and may be used by industry for their programs such as performance testing or breed registration. The group or lot number (GID) is preferred for animals raised and moved through the system as a group such as chickens. 3. Tracking of animal movement from one location to another, excluding movement within a farm or company. This is still under development, but reporting animal movement is encouraged.

Participation in NAIS will protect livestock producers' premises and livelihood through rapid notification when a disease outbreak or other event occurs; will reduce the numbers affected by disease outbreaks, and will protect access to markets and the price of local markets.

NAIS is a voluntary partnership program and USDA has no plans to mandate participation. USDA will protect private information, and Homeland Security will monitor any Freedom of Information Act requests for location information.

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Not everyone is in favor of the NAIS. The federal program is voluntary but money received by some states, tribes or others via cooperative agreements with USDA has been used to make parts or all of the program mandatory. There are also claims that farmers will be required to pay for registration and tracking devices, up to $20/animal. A USDA report conducted by several land grant universities estimated the benefit-cost analysis of the NAIS report provided tags and tagging costs in the $3.30 to $5.22 range for producers having 50 head of cattle.

Pat Malone provided concerns characteristic of small scale poultry and other animal producers ("Animal ID Programs: Fancier Perspective," 2006 Proceedings, National Poultry Extension Workshop, edited by Richard Reynnells.) The most widely heard concern was "Why is big brother getting involved in another area of my life?" This includes private property issues such as banning outdoor poultry, or other animals. A second major area of concern relates to costs and whether there is an intent to "cost" small producers out of business. Other concerns relate to costs that could eliminate exhibitions or shows but the fancier poultry organizations have taken a positive and mutually beneficial approach to the NAIS and participated in developing guidelines that will allow the process to work which he discusses in his paper.

The number of species covered by NAIS continues to grow but participation is slow. In an April 13 Feedstuffs article, Rod Smith reported that "not even 40% of premises are participating in the system". APHIS recently held listening sessions to hear stakeholder and producer concerns about NAIS as well as potential or feasible solutions to those concerns. The information and ideas gathered will assist Secretary Vilsack in making decisions about the future direction of animal traceability in the United States .

More information, contact Richard Reynnelles
National Program Leader, NIFA

Effect of Processing Facility Factors on the Prevalence of *Salmonella* in Small and Very Small Meat Processing Plants

Salmonella spp. is one of the leading microbial causes of food-borne illness in the United States with over 43,000 reported cases in 2007. Whereas, most of the other pathogens linked to animal products have decreased over the past 10 to 15 years, incidence of Salmonellosis in people and positive tests for Salmonella on broiler carcasses, has not. Salmonella is also a concern for pork processors. To address this trend, in 2006, the Food Safety and Inspection Service (FSIS) implemented a categorical system to encourage processors to make improvements to their processing conditions.

Production facilities with less than 500 employees (labeled "small" and "very small" establishments

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by USDA) face unique challenges, such as lack of technical support, financial and physical flexibility, and they typically do a much more diverse combination of processes than their larger counterparts. At the same time, these smaller processors are very important for harvesting livestock and processing meat for U.S. livestock producers own consumption, and for direct marketing of meat products in the U.S.

There were three objectives for this study. The first was to evaluate the characteristics of small and very small meat processors. Second, to ascertain currently used practices for controlling *Salmonella* in those small and very small plants, and finally to determine the efficacy or risk of the above characteristics and practices in reference to failing FSIS *Salmonella* test sets. Using the results from the FSIS 2005 *Salmonella* test sets, the small and very small meat processing plants that failed the first test set were selected as cases (n=32) and controls were matched to the case plants by inspection district and size, 4:1. Control plants had completed and passed the A set tests. Survey response rates were 40% and 38% for case and control plants, respectively. Other than variables representing plant size, such as numbers of employees and volume of production, there were few significant differences between small and very small respondents. Differences between cases and controls were found in animal washing before slaughter, type of poultry evisceration and percentage of raw product from in-house slaughter. Most of the plants (71%) operate under 2 or 3 processing categories; with the majority of the plants processing 10 or more products (60%). Seventy-six percent process raw products daily. About 36% of the plants had Sanitation Standard Operating Procedures or Good Manufacturing Practices in place to specifically address *Salmonella*. Only 28% have determined *Salmonella* contamination as a hazard likely to occur in their processes. Consistent use and knowledge of sanitation protocols were lacking in many cases. Additional details from these plants could provide more useful information for *Salmonella* control in smaller processing facilities. Results from this research will help focus and expand specific Extension programs for small and very small meat processors.

The results of this survey showed that these small and very small meat processors are very much the same in many aspects. Most of the physical structures are composed of the same materials; there are only a few chemicals that are used for sanitation; few have implemented specific interventions to challenge *Salmonella* and many do not consider it a food safety hazard likely to occur. The latter indicate an opportunity for education and improvement for food safety.

In addition, most of the *Salmonella* issues are assumed to originate with the animals brought to harvest, not from the processing facility itself. Additional education and better communication between the producer and the processor should assist in resolving this *Salmonella* problem.

More information, contact Dr. Lynn Knipe
The Ohio State University

Research and Outreach on Small-scale Animal Production

CSREES – now NIFA – has several competitive grant programs that support research and outreach projects related to small-scale animal production issues. Some of the projects are briefly descried below, as examples for potential grants applicants and as information for others interested in the project results.

Goat Milk Soap. The Small Business Innovation Research Program funded Scotch Hill Farm in Wisconsin in a project to develop a farmstead production and marketing model that achieves a profitable scale of income from goat milk soap to help sustain a family farm and promote the well-being of traditional farms. The project tests feasibility, production and market potential of a producer and marketing cooperative, as well as the feasibility of a training guild of dairy goat milk soap -makers.

Organic Poultry Production: The Organic Transitions Program funded the Department of Animal Science, University of Minnesota, to develop a feeding strategy for organic poultry production using non-traditional crops grown in the area, to assist both organic crop and organic poultry producers.

Production Systems to improve the efficiency and profitability of small and economically disadvantaged livestock family farms The Initiative for Future Agriculture and Food Systems funded an investigation by Florida A&M into alternative forage and grazing systems to increase efficiency of animal growth and profitability on family farms.

Please visit the NIFA website for complete information on these and other competitive funding opportunities, and discuss specific requirements with the Program Directors