Arkansas

1 • Food Security and Food Safety Create New Opportunities for Small Producers
Calvin King, Arkansas Land and Farm Development Corporation

Food security and food safety opens new market opportunities for Limited Resource and Socially Disadvantaged produce growers. Capitalizing on these market opportunities can provide economic sustainability for small growers while simultaneously stimulating local economies through farmers markets and regional food supply market development. Fresh produce is more challenging to grow and much more challenging to market than row crops. However, Limited Resource and Socially Disadvantaged producers who can successfully grow and market fresh produce with reasonably safe and secure practices can generate considerably more revenue per acre than they can generate from row crops. More and more, fresh produce buyers are demanding a safe product that consistently meets their specifications for quality, quantity, and timeliness.

The increase in the number of foodborne illnesses associated with produce has focused attention on the importance of minimizing microbial contamination during crop production, harvest, and postharvest handling of fresh fruits and vegetables. The use of appropriate Good Agricultural Practices (GAP) and Good Handling Practices (GHP) can help reduce risks of microbial contamination. Ensuring the safety of fresh fruits and vegetables requires a pro-active, systematic approach by everyone involved in growing, harvesting, packing, distributing, and preparing fresh produce.

With GAP/GHP certifications, USDA grading certifications, PACA protections and other USDA tools, producers will be able to assure production quality and participate in markets that have previously only been available to larger, more established, producers.

Limited Resource and Socially Disadvantaged producers will need:

- Access to Credit;
- Technical Assistance;
- Production Credit; and
- Risk Management.

Conclusion—Limited Resource and Socially Disadvantaged producers have an excellent opportunity created by the strong drive for safe and secure foods. Capitalizing on this opportunity requires USDA certifications, revised production practices by growers, and new and expanded markets, among other things.

2 • Use of Brewers-grade Rice as Alternative Energy Feed to Corn or Milo for Finishing Pigs
Ondieki Gekara, University of Arkansas-Pine Bluff

An experiment was conducted at the University of Arkansas at Pine Bluff (UAPB) Farm in 2007 to study the performance of pigs finished on a brewers-grade rice based diet. Brewers-grade rice, which is cheaper than corn or milo and is abundant in Southeast Arkansas, replaced 100 percent corn or milo in the diet. In a replicated study, 40 growing pigs of Yorkshire x Duroc breeding (average body weight = 50 kg) were finished on either brewers-grade rice based feed (experimental diet) or corn/milo based conventional feed (control diet). Two 42-day trials were completed for this study. The brewers-grade rice based diet was mixed at UAPB Farm whereas conventional feed was purchased from the local animal feeds store. Pigs fed on the experimental diet gained faster (0.99 vs. 0.79 kg/d; P < 0.001) and had greater feed efficiency (i.e., kg gain/kg feed (0.33 vs. 0.26; P < 0.001)) compared with pigs fed on the control diet. Based on current feed and feed ingredient prices, feed cost per kg gain was greater for pigs fed on the control diet compared with pigs fed on the experimental diet ($1.55 vs. 1.20; P < 0.001). These results show that brewers-grade rice can replace 100 percent of corn or milo in diets for finishing pigs without compromising animal performance. It is concluded that brewers-grade rice is a good alternative energy feed to corn or milo for finishing pigs. However, more studies are needed to determine the effect of replacing all corn or milo in finishing pig diets on pork quality (carcass yield and grade).

3 • Helping Growers Capture “Local” Retail Market Opportunities
Ronald Raney, University of Arkansas, Jennie Popp, University of Arkansas, and Nathan Kemper, University of Arkansas

Locally and regionally produced food products are demanded by consumers across the United States at unprecedented levels. This demand is driven by consumers’ desire to support local economies, reduce food miles, encourage sustainable agricultural practices, and have greater access to healthier and fresher produce. This demand has created new opportunities for growers to engage consumers and newly interested retail buyers.

A collection of resources to assist both growers and consumers in identifying “local foods” has emerged to meet this rising demand. One group of resources gaining popularity are electronic marketing networks that gather information from producers and potential customers and give farmers greater access to local and regional markets. Large retail chains are now exploring how electronic markets can be used to increase...
consumer market share by meeting customer demands for fresher, local grown foods. These new and emerging direct markets potentially offer benefits to producers by providing known and stable markets. However, before producers can realize the full potential of these new marketing avenues, several barriers must be overcome. Farmers must deal with the myriad of regulatory and contractual issues that should be addressed to successfully market directly to retail and wholesale outlets.

The regional project focuses on Southern region specialty crop growers interested in direct marketing of their products. The project includes curriculum development and grower assessments. Preliminary analysis of surveys collected at the two regional grower workshops reveal: 1) producers responding to the survey were primarily engaged in vegetable, berry, and pumpkin production; 2) the most commonly reported marketing channels used were farmer’s markets and direct to grocery retailers; 3) 55% indicated they were interested in using an online, electronic direct marketing system; 4) producers identified limited product availability as the primary barrier to selling to large retailers.

CALIFORNIA

4 • Extension Outreach Methodologies to make your program more effective—What Works, What Doesn’t
Richard H. Molinar, University of California Cooperative Extension

California is a very ethnically diverse farm state. There are a number of different outreach techniques utilized in California to make our extension efforts more productive including hiring ethnic staff; one-on-one farm visits; office consultations; group meetings; written materials; on-farm research; ethnic radio; audio and video; and offering gadgets/gizmos/attention-getters. Some of these techniques work better with one ethnic group than another, and knowing the best technique(s) is vital to a high-impact, productive program. Other practices that can influence success or failure include consistency of programs over a period of time; gaining the trust of the elders or leaders of each ethnic group; respecting and participating in cultural events and customs; and developing partnerships with other agencies and community based organizations (CBOs). A classic example is the collection of “Pesticide Safety” booklets we have for Hmong, Lao, and Cambodian residents. The books are useful for those who read those languages; however, many first generation farmers have only a 4th grade education and many cannot read Hmong. Broadcasts on Hmong radio stations are much more useful.

FLORIDA

5 • Providing Socially Disadvantaged Farmers With Technical Training To Produce, Add Value & Market Alternative/Specialty Crops
Cassel Gardner, Florida A&M University; Gilbert Queeley, Florida A & M University Cooperative Extension

The Cooperative Extension Program at Florida A&M University is currently conducting outreach activities geared towards providing small-scale farmers with improved methods of production, value-addition, and marketing of selected alternative and traditional crops. Training activities include on-farm demonstrations and post-harvest product transformation, which includes methods of value-addition. The objective is to enable participating farmers to improve their quality of life by adopting new and improved farming techniques that can increase the potential of making their farming operations profitable. The target population includes beginning small-scale farmers, established small-scale farmers, and youth agricultural entrepreneurs. Informational resources to be used during outreach activities include Web-based information; printed materials (fact sheets, production manuals, etc.); PowerPoint presentations; on-farm demonstrations; and field trips. Anticipated short- and long-term program impacts include changes in management and marketing practices that will result in increased returns; the establishment of niche markets by incorporating alternative enterprises into farm operations; increased engagement in distribution activities; development of agricultural businesses by youth entrepreneurs; and increased crop yields resulting in higher profits. The program has a 3-year duration and is expected to benefit beginning and established small-scale farmers in more than 11 Florida counties.

6 • Local Food Network Initiative
Nola Wilson, University of Florida, Marion County Extension Service

There is a strong demand from consumers to buy local foods from the local farmer; however, the demand is greater than the supply. In Florida, our farmers and our systems are set up for producing and marketing in the traditional ways. For example, vegetable producers are growing for the wholesale market and producers of livestock, including small ruminants, are selling off-the-hoof or at a livestock market. We need to introduce and encourage our existing limited-resource farmers to diversify their production; transition from farming for the wholesale market to farming for the direct market; and develop new marketing skills and value-added opportunities. The challenge is there is a lack of organized networks for the farmer to sell to. Furthermore, producers lack (or have limited knowledge about) the benefits of direct marketing, various marketing strategies, and how to farm for the direct market. The Extension Service objective is to educate limited-resource producers on how to produce and sell for the direct market, and to help build a foundation of marketing connections. Sometimes the cart is put before the horse so there needs to be an organized
increase in supply to meet the demand before a successful “buy local” campaign can be implemented. Through this initiative we should see a decrease in the supply gap with farmers increasing profits.

Currently, this initiative is in development; the poster shows current direct marketing systems that have been developed, pilot programs being implemented, and upcoming educational opportunities and collaborations that will yield benefits to both the farmer and consumer.

The Evaluation of Three Feeding Regimens and Three Anthelmintics in a Meat Goat Production System: A Florida A&M University Research/Extension Project, Ray Mobley, Florida A&M University; Thomas Peterson, Florida A&M University

Food safety starts at the farm gate. Proper management and feeding are important to the productivity and survivability of the farm as well as to the health and safety of the food supply. Nutrition and internal parasites are two factors that affect the growth of the meat goat industry in Florida. The project evaluated three common feeding strategies (a cracked corn feed, a 12 percent crude protein commercial feed, and a 16 percent crude protein commercial feed) and three anthelmintics for their effects on weight gain and economic efficiency, and any resistance among the herd, respectively. The results indicated that the 12 percent crude protein commercial feed-feeding regimen was the most economical/sustainable, and had the lowest weight gain. In addition, results indicated that the Florida A&M University, Research Extension Center herd might be resistant to the Levamisole-type anthelmintic. In addition, one of the objectives was to apply the most efficient resources to maintain food safety. The aim is to attain healthier animals through proper nutrition, weight gain, and carcass quality, thereby maximizing safe food supply.

I L L I N O I S

7 • Locally Grown: Building a Local Sustainable Food System

Brenda Elaine Derrick, University of Illinois Extension; Mike Roegge, University of Illinois Extension; Carrie Edgar, University of Illinois Extension

The Locally Grown Program is a comprehensive community effort to assist producers in west-central Illinois and northeast Missouri to market their products by providing information to consumers, restaurants, and retail outlets on the availability, nutritional aspects, economic, and environmental impacts of buying local. The program targets all levels of the local food system by creating learning opportunities for consumers and producers and increases availability of products, with results in a more sustainable food system. A Locally Grown advisory committee of area producers, extension staff, and other partners plan and coordinate the following activities:

• An annual Locally Grown/Locally Good Expo is held in early spring to introduce consumers to the locally grown food concept. Producers have booths to meet consumers and share information about their products and farming practices.

• The first annual Locally Grown FoodFest was held in August 2005 in Quincy, IL, to celebrate local food. Celebrating its 5th year in 2009, the festival includes a farmers market, cooking demos, kids’ activities, educational booths, a chefs’ contest, and a tomato and salsa contest.

• Locally Grown Kids is a six-session curriculum to educate elementary students on the origin of food, the importance of a local food economy, sustainable agriculture practices, and good nutrition.

• A local food policy council gathers information and provides recommendations on sustainable food planning and policy formulation. Two members of the council were instrumental in the development of a locally grown farmers market last year in Quincy, IL.

• The Tri-State Locally Grown Conference was held in November 2007. Iowa will continue the biennial event rotation in September 2009.

• Several series of Locally Grown dinners have been and are currently being held to showcase local farmers, the products they grow, and the culinary talents of area chefs.

• Additional efforts include producer workshops, bi-annual newsletters, Web sites, and much more.

8 • Observations on Production and Constraints of Sweet Potato (Ipomoea batatas) in Northern Illinois

James Theuri, University of Illinois Extension

Three sweet potato varieties (Georgia Jet, Beauregard, and White Yam) were planted in northern Illinois (Pembroke Township, Kankakee counties) in the summer of 2007. Sweet potato splits were planted 12” apart in rows set 36” apart on May 5 and harvested on October 5. The plot was previously a lawn, and soil is mostly sandy with some organic matter. It was severely deficient in potassium. Initially, most plants were damaged by deer (50 percent incidence), but an application of a repellent deterred them. Leaf-chewing beetles did some insignificant damage. Soil insects—corn wireworms, or ‘click’ beetles (Melanotus communis), damaged the varieties: 2 percent on White Yams, 4 percent on Beauregard, and 15 percent on Georgia Jet. Scurf fungus (Monilochaetes infuscans) caused a superficial infection on tubers: 15 percent on Beauregard, 20 percent on White Yam, and 60 percent on Georgia Jet. Due to inclement weather (drought and heat), extensive cracking occurred on Georgia Jet and White Yam, but was negligible on Beauregard. Vine growth was least in White Yam, and extensive in Georgia Jet. White yam yielded 3.0 pounds per plant, Georgia Jet 12.1 pounds per plant, and Beauregard 13.7 pounds per plant. Overall, Beauregard showed the greatest tolerance for the inclement weather and poor soil conditions and produced the most aesthetically appealing tubers compared to the other two varieties.
9 • Producing and Marketing 2 Acres of Fresh Asparagus—What Was I Thinking?

Dean R Oswald, University of Illinois Extension

The author will relay thoughts and personal experiences related to planning, planting, harvesting and marketing 2 acres of fresh asparagus. The alternative enterprise was established to help provide for his two sons’ college tuition.

Objectives: Examine the asparagus enterprise from the planning process through planting, harvesting, and marketing. The following questions will be the focus:

What do I need to know before I start? The author will give guidance on field preparation, layout, and cost estimates.
2) How do I plant acres of asparagus? Culture and planting methods will be addressed. 3) What do I need to know about harvesting and storing a quality product? How temperature affects spear growth and quality, and a discussion of time, labor, and equipment needed. 4) How do I market asparagus? Experiences with on-farm marketing, farmers markets, and value-added will be briefly spoken to.

Conclusions: Producing and marketing fresh asparagus can add income to the small farm operation. Asparagus production is compatible with other vegetable and small fruit enterprises. Labor availability and weather seem to be the largest constraints and may limit the size of the operation.

ID A H O

10 • Cultivating Success Small Farms Education: Engaging Idaho and Washington Farmers in the On-farm Teaching-learning Process

Cinda Williams, University of Idaho; Ariel Lynne Agenbroad, University of Idaho Extension, Canyon County

The Cultivating Success program is a collaboration of University of Idaho Extension, Washington State University Small Farms, and non-profit Rural Roots, that provides sustainable small farms education in Washington and Idaho. Since 2000, the program has increased knowledge, skills, and opportunities for producers and has strengthened consumer understanding and support of sustainable local and regional farming systems.

Cultivating Success offers a series of courses and on-farm education. Over 35 county extension offices, college campuses, and/or farms in Washington and Idaho have served as course sites. Over 2,645 students have participated, including 646 Latino and/or Hmong immigrant farmers. Experienced farmers participate in the program as collaborators, advisers, mentors, and instructors. Thirty-four experienced farmers have completed farmer-mentor training and 10 are certified to host an apprentice/provide mentorship on their farms.

In 2007, program partners implemented a study to reassess the experiential education needs of Idaho and Washington farmers and to specifically determine topics most useful to small farmers; identify preferred scheduling and class/workshop formats; assess the level of interest of experienced farmers in leading on-farm workshops or trainings; and identify barriers and incentives for participation.

Survey data collected from 412 producers provided fresh, valuable information and identified new directions for programming. In 2008, program partners used results to develop and present eight different on-farm experiential learning opportunities which were documented and assessed through post workshop interviews of producers and on-line surveys of participants. Case studies that profile the benefits and challenges of each format have been completed.

This poster will communicate significant, formative findings from the 2007 study and the resulting “lessons learned” from each of the on-farm experiential learning formats offered in 2008. Recommendations and advice will also be included for producers, extension, and non-profit educators who are engaged in teaching and facilitating new farmer and on-farm education.

I N D I A N A

11 • Getting Started in Dairy Goats

Steve Engleking, Purdue University Extension

Issue/Need: Small farmers are seeking diversification of enterprises that can fit the limited available resources. Extension offices often receive client inquiries into alternative enterprises. One such enterprise concerned dairy goats and goat milk products. On the surface, this enterprise appears ideally suited to small acreage farms.

What was done: Due to the number of requests for information, Steve Engleking, extension educator in LaGrange County, set up a “Getting Started in Dairy Goats Workshop,” held on February 29, 2008, in LaGrange. The workshop, attended by 72 people, covered the following topics: Milking Equipment and Regulations; Nutrition of Dairy Goats; Dairy Goat Enterprise—Costs of Production; Farmstead Processing of Goat Milk Products; and a Farmer Panel. Attendees completed a survey/evaluation form at the conclusion of the workshop to gather data and assess impact.

Impact of program: Attendees who returned surveys at the workshop reported the following:

• 78 percent were more interested in a dairy goat enterprise for the following reasons:
  • To improve farm profitability—68 percent
  • To bring other family into the farming operation—27 percent
  • To diversify the farm—50 percent
  • To be able to quit an off-farm job—55 percent
  • Specialty enterprises are appealing—55 percent
• 6 percent were less interested for the following reasons:
  • The start-up investment is too high—100 percent
  • There are too many regulations—50 percent
  • Raising and milking dairy goats will be too costly—50 percent
  • A dairy goat enterprise will be too time consuming—17 percent
• 5 participants planned to start milking goats, add to an existing dairy goat enterprise, and/or producing value-added goat milk products.

12 • Starting a Small Apple Orchard and Pruning Fruit Trees
Jim True, Purdue University

In September 2007, as a member of Purdue’s Small Farms Team, I attended the Ohio Farm Science Review and gave a 50-minute presentation titled “Starting a Small Apple Orchard.” This presentation was given in the Ohio Farm Science Review’s small farms tent at the farm show; about 90 people attended. This presentation covered all aspects of important information to consider before starting an apple orchard.

I was invited to speak again, in 2009, and this time my presentation was titled “Pruning Fruit Trees.” This presentation focused on helping small producers learn the basic techniques and principles of pruning fruit trees, and offered brief tips on producing blackberries and blueberries.

I designed both of these presentations to complement each other and made them practical for small producers and homeowners with backyard orchards. When giving these programs, I take limbs from apple trees and prune them in front of the audience so they can see for themselves the principles I am discussing. This demonstration has been critical for those attending to understand how to make pruning cuts and shape trees by pruning. My dad had an apple orchard of 150 trees, so that background has been helpful.

The number of attendee questions I receive when giving these presentations has led me to believe that there is a tremendous amount of interest in this topic and that it would be beneficial for educators to help producers. The comments I received from those attendees have been positive, with commenting, “This is something I can take home and use.”

13 • Making Career Decisions Through Enterprising Ideas
Stephen J. Swain, Breaking New Ground/Indiana AgrAbility/National AgrAbility Project

Extension and AgrAbility professionals interact daily with clients who have had disabling injuries or are affected by age-related conditions. The majority of these clients desire to remain in production agriculture but are faced with the potential of changing enterprises or methods of farming. How does the professional assist a client in this process? This session will present a framework for the professional to assist the client in a systematic approach to these decisions. Case studies will show how the process was used or not used—along with outcomes. There will also be presentations of assistive technology and alternative enterprises—and potential sources of funding for the assistive technology—that may help farmers and ranchers with disabilities continue farming, start an alternative enterprise, or live independently.

14 • The Kentucky CASHN Project
Marion Simon, Kentucky State University; Kenneth Andries, Kentucky State University; Louie Rivers, Jr., Kentucky State University; Shannon Degenhart, Texas A&M University

Kentucky State University (an 1890 land-grant institution) collaborated with the National Center for Foreign Animal and Zoonotic Disease Defense (FAZD), the University of Kentucky Cooperative Extension Service, and the Kentucky State Veterinarian to develop a County Animal Security and Health Network (CASHN) in Kentucky. The concept was to protect the U.S. agriculture and food infrastructure by connecting non-commercial, hobby, and small-scale livestock and fowl owners with veterinary information for early detection and rapid response.

The CASHN Concept

Non-commercial livestock and fowl owners have been identified by FAZD as a vital but difficult audience to reach for the protection of our agricultural infrastructure. Previous work with the FAZD Center indicated that feed retail managers are the most common conduit for communicating with this clientele about animal health and nutrition topics. During 2007 and 2008, the FAZD Center and collaborating 1890 and 1994 land-grant Cooperative Extension programs in six states created, and tested, the CASHN emergency education and communications network.

The CASHN Project linked the FAZD Center, state veterinarians, and county extension personnel with local feed retailers. In the pilot study, the FAZD Center alerted the State Veterinarian of a test animal disease outbreak, who then alerted the 1890 or 1994 state extension personnel. The state staff then alerted 1890, 1994, and 1862 county extension educators in their state’s pilot counties. County extension educators then informed their local feed retailers of the alert. Should it have been a real alert, county educators would inform the feed retailers of educational programs that were needed.

This poster will give the results of the CASHN Project in Kentucky.
than reactive. I feel more confident in my knowledge, as I am included, "all of those clinics have been very educational. For cial information through timely recordkeeping. Comments improved the quality and marketability of their horses or horse percent) rotate their horse pasture; 11 people (25 percent) people (33 percent) vaccinate their animals; 22 people or (27 percent) of respondents, indicated that they have started or expanded their horse business in the past 5 years. Additionally, 8 or 21 percent have had an increase in income.

As a result of participating in extension equine programs, 28 people (33 percent) vaccinate their animals; 22 people or (27 percent) rotate their horse pasture; 11 people (25 percent) improved the quality and marketability of their horses or horse business; and 11 people (25 percent) tracked farm financial information through timely recordkeeping. Comments included, "All of those clinics have been very educational. For instance, the business clinic opened up new information that helped with my business," and, "My work is proactive rather than reactive. I feel more confident in my knowledge, as I am new to the equine world."

M A I N E

15 • UMaine Extension Equine Program

Donna Coffin, University of Maine Cooperative Extension

The most recent Impact of Equine Industry in Maine estimated that Maine has a horse population of approximately 35,000. A 2000 survey of horse owners found that over 75 percent consider themselves hobby horse owners; the remaining 25 percent are involved in a business related to horses, including training, boarding, breeding, farrier, or veterinarian.

Both segments have unique educational needs that were addressed by a variety of methods, including development of equine publications; establishment of an equine Web site; conducting basic horse owner clinics; conducting clinics on breeding and business management; pasture walks; and responses to individual requests.

A survey was mailed or e-mailed to 298 people who attended one or more of the programs or received individual assistance for their horse-related issue. Eight-six surveys were returned (29 percent), of which 23 percent of respondents had read at least one Equine Facts publication and 19 percent had visited the Web site.

In the past 5 years, breeders reported a 96 percent success rate with foaling and weaning live foals. Twelve surveys, or 32 percent of respondents, indicated that they have started or expanded their horse business in the past 5 years. Additionally, 8 or 21 percent have had an increase in income.

M I C H I G A N

17 • Northern Michigan Small Farm Conference— Building A Strong Community Supported Agriculture System—Youth Sessions

Benjamin J Bartlett, Michigan State University Extension; Dee Miller, Michigan State University Extension; Waneta Cook, Cook Family Farm

The 10th year of the Northern Michigan Small Farm Conference featured its largest crowd ever in 2009. Approximately 117 of the 712 attendees were youth, ages 18 and under who were attending the first-ever youth sessions. These sessions focused on supporting the entrepreneurial spirit and passion of the next generation small farmers as well as providing hands-on tools for participants to take home and use. The youth session featured a keynote speaker, Daniel Salatin from Swoope, VA, who began his first farming enterprise at age 8. The youth also participated in three sessions featuring Daniel and local youth who have begun agricultural enterprises. The sessions, titled “Be Your own Boss,” featuring successful young farmers; “Let’s Start Our Own Business,” a hands-on price-determining experience; and “Everything You’ve Ever Wanted to Ask About…,” a general Q&A with Daniel and other youth. Participant evaluations showed that all but one of respondents felt the keynote speaker was great. The evaluations were also very favorable with responses of great or good, from 100 percent on two of the individual sessions and a 78 percent good or great on the third session. Evaluation comments were very favorable to foray into meat and egg production. Some venture beyond personal consumption and market their excess produce. A cohort of these backyard farmers from across the country is sharing experiences through a blog titled “Backyard Farming: The Urban Homesteader.” The blog brings dreamers and doers together to share the ideas, experiences, successes, and failures of backyard farming. A myriad of practical articles address such diverse subjects as garbage can potatoes and upside down tomatoes, homemade teas and edible flowers, nontoxic bug blasters and companion planting, Rhode Island layers and Cornish cross broilers, and community supported agriculture and farmer’s markets. Dialog between blog authors and readers answers questions and initiates new inquiries. Book reviews motivate readers to pick up books from Michael Pollan, Barbara Kingsolver, and other compelling authors. Recipes abound. For example, how do you turn those fresh eggs into pasta, or squash into frittata. Or how do you get a nutritious 20-minute breakfast out of the backyard farm instead of going to McDonald’s. This blog resurrects the lost domestic skills of canning, freezing, pickling, and drying. Parents who want to involve their children in their backyard farms will find this blog a treasure trove of ideas. If a picture speaks a thousand words, then this blog is an encyclopedia. Captivating photographs accompany almost every article and are supplemented by links to interesting internet videos. Dig deep into this blog and you may even learn about the sex life of asparagus. All of this is free for the picking by going to www.backyardfarming.blogspot.com.

M A R Y L A N D

16 • Backyard Farming: The Urban Homesteader— www.backyardfarming.blogspot.com

Marisa Johnson, www.backyardfarming.blogspot.com; Dale M. Johnson, University of Maryland; Megan Knorpp, backyardfarming.blogspot.com; Jennifer Hatch, backyardfarming.blogspot.com; Michael Johnson, www.backyardfarming.blogspot.com

More and more urban and suburban dwellers are parking their lawnmowers and converting their checkerboard lawns into veritable backyard farms. Not content to be called mere gardeners, these self-proclaimed farmers are serious about producing a cornucopia of fruits and vegetables and sometimes...
continuing this track of youth-focused farming education and providing additional support for these beginning farmers. One comment summarized the youth’s feelings best by stating, “I really liked the youth speakers and Daniel Salatin; they inspired me to follow my dreams.”

18 • Integrated Weed Management: Fine Tuning the System

Erin Taylor, Michigan State University

Based on grower demand for information on integrated weed management, Michigan State University published a new 132-page, all color extension bulletin titled “Integrated Weed Management: Fine Tuning the System” (E-3065). This new publication compliments “Integrated Weed Management: One Year’s Seeding…” (E-2931), released in February 2005. Similar to “One Year’s Seeding…”, this new guide does not provide detailed management plans. Each chapter looks at how different cultural and management practices affect weeds. Our goal was to go one step beyond compiling written information from researchers and extension personnel to also include input from experienced growers through featured crop rotations, profiles, and the on-farm trials. The chapters in “Fine Tuning” include complex crop rotations, cover crop systems, manure and compost, flaming, grazing, and other biological controls, weed thresholds, on-farm weed management trials, and 14 new weed profiles.

19 • Weed Management Using Cover Crops in Integrated Systems

Erin Taylor, Michigan State University

In December of 2008, Michigan State University released a new extension bulletin E-3065, titled “Integrated Weed Management: Fine Tuning the System.” One of the chapters revolves around cover crops and their usefulness at combating weeds in addition to their many other benefits. This session will discuss the ways in which cover crops can reduce weed populations, as well as new cover crop innovations that growers and researchers from around the Midwest have been using. These new ideas include the use of cover crop mixtures, unique seeding methods, and the use of a roller-crimper for cover crop control.

20 • Assisting Small Farmers of Different Cultural Heritage in Missouri

Nadia Navarrete-Tindall, Lincoln University of Missouri; Casi Lock, University of Missouri

Lincoln University of Missouri, through its Native Plants Program and in partnership with the University of Missouri Extension, organized two workshops and a field day in 2008. These events increased awareness about opportunities for farmers of different cultures in Marshall, located in central Missouri. The Native Plants Program promotes the integration of conservation and agriculture into farms and urban gardens. The trainings were offered in Spanish and English. During the field day, participants were introduced to fall gardening, composting, and native plants to attract pollinators. Ethnic food was served during these events and some residents discussed the challenges that Hispanics face in rural Missouri. Hispanics are estimated to be 7.3 percent of Marshall’s population. Grocery stores offer ethnic produce and other goods that could be grown in the urban gardens by the residents. Many Hispanics are originally from rural areas in their native countries and are familiar with farming practices. They could improve their way of life by growing different ethnic and specialty crops such as chilipin, jicama, cilantro, and alcapate. One of the goals of Lincoln University of Missouri Cooperative Extension (LUCE) is to encourage more Hispanics and other under-represented groups to farm in small towns and surrounding communities, and to improve communications with extension educators. In the workshops, representatives from several USDA agencies including the Farm Service Agency, National Resources Conservation Service, National Agriculture Statistics Service, and state agencies, including Missouri Department of Agriculture and Missouri Department of Conservation, discussed their programs with the attendees. LUCE will continue to assist underserved populations by continuing to offer educational events and by creating demonstration gardens in Marshall. A Horticulture/Native Plant specialist position will be filled in 2009 to further assist educators and their clientele in Marshall and other surrounding communities.

21 • Farm Size and Adoption of BMP’s by AFO’s

Laura McCann, University of Missouri; Haluk Gedikoglu, University of Wisconsin-LaCrosse

Voluntary adoption of appropriate manure management practices by animal feeding operations is necessary in order to reduce water quality problems associated with excess nutrients and pathogens. A randomized mail survey of 3,000 livestock farmers in Missouri and Iowa was conducted in the spring of 2006 to determine adoption rates of various practices and the factors affecting adoption. The effective response rate was 34 percent.

Overall adoption rates were: Injection of manure (19 percent); Grass filters near water sources (63 percent); Soil testing (every 3 years, 73 percent); Record keeping on manure applications (29 percent); Manure testing (every year, 22 percent); Calibrating manure spreaders (19 percent); and Maintaining 100 foot setbacks (61 percent). Results of probit analysis indicated that perceived profitability was the only factor that significantly (and positively) affected adoption of all practices. If the practice was not perceived to be complicated, farmers were more likely to adopt manure testing, calibration, injecting manure, grass filters, and soil testing. Farmers who disagreed that recordkeeping was time consuming were more likely to do it. Perceived improvement in water quality was positively related to only injecting manure and was somewhat negatively related to soil testing.
Size issues were also important. Those with more animal units were more likely to adopt manure testing, soil testing, and recordkeeping. Compared to the base farm sales (crop and livestock) category of $100,000–$250,000, those with lower sales were less likely to adopt calibration, setbacks, injecting manure, grass filters, and soil testing. Those with more than $500,000 in sales were more likely to adopt all practices except soil testing and recordkeeping. Other factors that impacted adoption of some practices were age, education, type of manure, species, and off-farm income.

The results indicate that additional educational efforts, or simplified practices, may be needed for smaller and part-time farmers.

22 • Factors Affecting Manure Transfers in the Midwest
Jessica Amidei-Allspach, University of Missouri Alumna; Laura McCann, University of Missouri

With livestock operations becoming larger and more specialized, and a requirement for phosphorus-based application, there is a need for farmers to transfer manure off their farms in order for manure to be applied at agronomic rates.

A survey of livestock farmers in Iowa and Missouri was conducted in the spring of 2006. It was a random sample stratified by livestock type and farm sales. The major types of livestock were dairy cows, beef cattle on feed, beef cows, swine weighing 55 lbs or less, swine more than 55 lbs, broilers, and turkeys. This survey examined manure management practices in general and included questions regarding the sale and transfer of manure.

For this analysis, farmers with pasture-only operations were excluded, which left 921 observations.

Over 81 percent of turkey farmers and over 57 percent of broiler operations provide manure to other farmers. Farmers providing turkey manure are also the most likely to receive money for the manure, with 83 percent being paid for the manure versus 82 percent of the broiler operations. Turkey and broiler litter is also transported the furthest (13.7 and 14.8 miles on average, respectively). Turkey manure also sold for the highest price.

A probit regression analysis was conducted to determine the factors that affect whether or not a farmer provides animal manure to others. Younger farmers were significantly more likely to provide manure, but education level had no significant effect. The more wheat or pasture a farm had, the less likely they were to provide manure. The percent of land rented had no effect. Increases in livestock numbers for all types except beef and swine less than 55 pounds increased the likelihood of providing manure, as expected. Whether they used a commercial fertilizer on their manured fields had no relationship to whether they provided manure to others.

23 • What Factors Affect Whether Off-Farm Work Interferes with Farming Operations?
Ryan Koory, University of Missouri; Laura McCann, University of Missouri

It is hypothesized that off-farm work constrains when and to what extent farming operations are completed. A number of factors may affect to what extent this conflict between off-farm and on-farm exists, such as type of off-farm work, type of livestock, size of farm, etc. Furthermore, it may be that practices that affect the bottom line will have priority when there is a conflict, but that other operations, such as manure management, may be affected to a greater extent if there is a binding time constraint.

These questions will be addressed using a dataset based on a 2006 survey of Missouri and Iowa livestock farmers. Two of the questions that were asked are, “Does your off-farm work interfere with the timing of your farming operations?” and “What periods and activities cause severe time crunch problems?” Farmers were able to pick from five options or add their own response under “other.” The survey also included typical questions, such as age, education, gross farm sales, and off-farm income. In addition, specific questions about the type of off-farm income (full-time, part-time, seasonal), as well as type of livestock operation were asked.

The poster would include summary information, such as which activities are more likely to be affected by time conflicts, a labor market theoretical model, as well as regression results indicating what factors affect whether off-farm work interferes with farm operations. The theoretical model has been developed but we have not yet begun the data analysis.

24 • Reaching out to Minority Small Farmers: Coping with Changing Times
Trisha Grim, Lincoln University of Missouri; Katie Nixon, Lincoln University of Missouri; Sanjun Gu, Lincoln University of Missouri; KB Paul, Lincoln University of Missouri

There have been some major shifts in demography, social, and economic domains in Missouri in recent years. The number of African-American farmers in the state has declined, while the numbers of both Hispanic and Asian farmers have increased considerably. Both St. Louis and Kansas City have had sizable African-American populations for decades, and because of the past inequity in opportunity, this segment of the population generally endured poverty and social injustice. At this juncture, however, while the younger generation of African-Americans has made a significant stride towards improving their quality of life, many of the elderly still live in the inner-city areas, where healthy food and services are often not available. The urban gardening component of our Small Farm Program targets these people whereby we guide them step-by-step through A to Z of vegetable production. This assures them of a daily supply of fresh vegetables during most of the summer months. The new waves of Hispanics and the Asian farmers purchase and/or lease lands closer to the larger cities, where there is a growing ethnic population. These farmers, in addition to growing the specialty vegetables that cater to the needs of some recent
immigrants, also produce vegetables popular with the general population. We bring these minority farmers closer to the consumers, make them aware of the prevailing laws and regulations, and provide information on the opportunities available to them. Because of these obvious reasons our new program is targeting the counties in close proximity to the state’s two mega-cities. These changing trends and our program interventions will be discussed.

NEBRASKA

25 • Improved Calving on Pasture for Ranchers, Jason Gross, University of Nebraska-Lincoln Extension

Chris Henry, University of Nebraska Lincoln Extension

The new U.S. Environmental Protection Agency rules draw the line between pasture-based operations and animal feeding operations based on vegetative cover and whether the confined is used more than 45 days in a 1-year period. Increased pressure from recent commodity prices have forced many livestock producers to “do more” with less pasture in respect to winter grazing and calving. Potential environmental consequences, erosion, vegetative health, and animal health issues may surface as a result of these changing conditions.

The Livestock Producers Environmental Assistance Project with the University of Nebraska Lincoln Extension has developed a novel approach to these concerns. This new approach is demonstrated on two projects on working ranches in Nebraska. The systems consist of multiple paddocks that are serviced by a designed sacrificed feeding area. The runoff from this sacrifice feeding area is managed using a very small vegetative treatment system. The systems are designed to be flexible for the cattleman in times of blizzards, drought, or muddy conditions. Also this type of calving approach can incorporate the Sandhill Calving Program.

The intent of the system is to provide a calving area or pasture that provides environmental stewardship, improves herd health, and increases the productivity and convenience for the rancher. This can be accomplished with a design that promotes good grazing practices, supplemental feeding practices, and manure management.

26 • Southeast Nebraska Diversified Agriculture Tour Explores Alternative Enterprises

Gary Lesoing, University of Nebraska-Lincoln Extension; Jessica Jones, University of Nebraska-Lincoln Extension; Sarah Heidzig-Kraeger, University of Nebraska-Lincoln Extension; Vaughn Hammond, University of Nebraska-Lincoln Extension

For the past 3 years, University of Nebraska-Lincoln Extension has sponsored a Diversified Agriculture Tour in southeast Nebraska. These tours provide opportunities for participants to explore alternative enterprises first-hand in their own backyard. Each year, 10-20 agricultural educators, farmers, and entrepreneurs tour diversified agriculture operations in southeast Nebraska. The tours showcase what people are doing to develop new agricultural enterprises in southeast Nebraska.

We have visited a pasture poultry and natural grass-fed beef operation that processes its own poultry on an on-farm facility and markets its products directly to the consumer, restaurants, and at farmers’ markets in the larger metropolitan cities of Lincoln and Omaha. Two vineyards and wineries have been developed and include events and activities to increase tourism from these larger cities and other parts of Nebraska. One farmer is producing walnuts and woody florals and selling these products through cooperatives. A young family operation is raising sheep sustainably, as well as pasture poultry, and recently added swine as an enterprise. They opened up a country store on their farm. An agricultural business in a small community is purchasing soybeans from farmers, processing them for feed, and is adding soybean oil to diesel and selling it to his customers as biodiesel. Other entrepreneurs have turned their land into a trophy deer hunting area with a lodge, drawing customers from the east coast. Still other farmers are converting some of their farmland to organic and marketing corn, soybeans, and alfalfa for significant premiums. These tours allow participants the chance to see how several farmers and agricultural businesses have thought outside the box and developed successful alternative enterprises. This tour has become an annual event held the first Friday in September after Labor Day.

27 • Sprinkler VTS—New Technology in Runoff Water Treatment

Jason Gross, University of Nebraska-Lincoln Extension; Chris Henry, University of Nebraska Lincoln Extension

Over the past few years there has been much interest in alternative enterprises. This tour has become an annual event held the first Friday in September after Labor Day.

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than a conventional system, negate the need for relocation of the operation, and are more effective than buffer and setback approaches.

NEW JERSEY

28 • Marketing Meat Goats to Non-Traditional Consumers
Stephen Komar, Rutgers University Extension

New Jersey processes and consumes over 36 percent of all meat goats slaughtered domestically; however, very few goats are raised in the state. In 2006, Rutgers Cooperative Extension faculty initiated an educational program to determine the suitability of raising meat goats in New Jersey. The program consisted of two components, including an educational series and an on-farm demonstration project. The educational programs were well-attended, with 163 local producers attending the 2-day sessions. In response to the high level of interest an on-farm trial was conducted in 2007 to quantify the potential for raising meat goats in New Jersey. Goats kids were imported from Texas and separated into two production groups. Goats were slaughtered on two separate dates and fabricated into traditional lamb cuts. A partial budgeting analysis was utilized to compare the different production systems. Differences were observed in average daily gain, production costs, and gross-returns with animals produced in a feed lot system performing better than animals maintained in the pasture-based system. Genetic variation among test animals may have contributed to performance variability. Consumer survey results suggest that quality is a determining factor when making purchasing decisions, with 71 percent of the consumers indicating a preference for USDA certification. Initial results suggest that meat goat production may be a viable option for New Jersey producers. More research is needed to determine optimum feeding program, breed selection, and optimum marketing strategies for New Jersey production.

NEW YORK

29 • Bedded Pack Management System Case Study—Poster Session
John M. Thurgood, Cornell Cooperative Extension of Delaware County; Challey M. Comer, Watershed Agricultural Council; Daniel J Flaherty, Watershed Agricultural Council; Mariane Kiraly, Cornell Cooperative Extension in Delaware County

Animal manure management is a significant challenge for many small dairy farms. One manure management system in limited use is a bedded pack. A bedded pack management system (BPMS) is defined here as a covered barnyard and feeding area that holds a variety of dairy cattle, storing their manure through the accumulation of an unturned bedding of dry material for later use as a nutrient amendment. A BPMS was designed and implemented on a small dairy farm as part of the NYC Watershed Agricultural Program. The system was implemented as an alternative to the traditional suite of best management practices: manure storage, barnyard runoff management system, and heavy use area protection for feeding. The BPMS was intended to house the farmer’s dairy cattle only during the winter months; the herd was on pasture during summer and was outside in winter.

The system was studied for 2 years post-implementation to determine the environmental and economic effects:

- The system proved to effectively contain, with little odor, all of the cattle manure and urine.
- The amount of labor pre- and post-implementation was relatively unchanged. The BPMS proved to be a comfortable environment for the cattle.
- Milk sales per cow increased by 2,000 pounds post-implementation at least partially due to the BPMS.
- The amount of bedding needed proved to be a significant expense to the farmer.
- The bedded pack provided an excellent material for composting.

Characteristics of farms most likely to find the BPMS beneficial are: farms currently out-wintering cattle in harsh winter climates; spring freshening herds (less manure and bedding needed in winter); organic herds that place a high value on compost as a soil amendment; farms with outdated dairy facilities and that have a need for manure storage; and barnyard and feeding area conservation practices.

30 • Holistic Approach to Strengthening Organic Dairy Industry of New York
Fay Benson—Cornell Small Farm Program

When working to improve any portion of a value chain it is important to have all portions at the table when discussing barriers and solutions. The synergy that is created by looking at the value chain from diametrically opposed perspectives gives the solutions much more impact. This synergy can also be destructive if the tenets of Small Group Process aren’t observed. The poster will illustrate these tenets and how they were used in facilitating the New York Organic Dairy Task Force.

The New York Organic Dairy Task Force is made up of Organic Dairy Farmers, and Grain Farmers, Certifiers, Organic Milk Processors, State Market Officials, and Cornell Extension representatives. This diverse group makes up the industry in New York and they mostly have conflicting needs in the industry. Through knowledge of Small Group Process the facilitator Fay Benson has worked with the group to overcome barriers to the industry over the past four years.

The poster will exemplify these components of Small Group Process:

- Use of a Leadership Team: Small Groups of greater than 10-12 a leadership team made up of a team that represents the
make up of the larger group helps with directing the larger group.

- **Group Maintenance Needs:** The term maintenance or maintenance synergy is the amount of energy and time that is required for the social needs (safety, comfort, familiarity), cohesion, and harmony that is required for a group to do its work and complete its tasks.

- **Proper Degree of Task Difficulty:** A more subjective task will require the group to have a higher degree of communication and problem solving structure that will produce the group’s desired outcomes.

- **Feedback:** The group needs to see its success this help with continued involvement of the members

### 31 • Schoharie Co-op Cannery

**Peter Pehrson, cannery@schohariecannery.org**

Schoharie Co-op Cannery is a new community endeavor in upstate New York, 40 miles west of Albany, which will serve large-scale local commercial fruit and vegetable farmers, as well as small-scale home gardeners. This effort supports area sustainable agriculture and helps ensure the future of small, family farms by providing infrastructure that results in shelf-stable food (in metal cans or glass jars) for consumption beyond the growing season.

- Increase access by under-served farmers to previously unreachable value-added markets
- Less reliance on anonymous, centralized industrial food sources, and the potential for toxic results such sources engender
- A distribution system for off-season goods that doesn’t rely on roadside farm stands
- Promotion of multi-crop systems instead of mono-cultures, resulting in harvests over several seasons, instead of one
- Use of a larger percentage of crops previously considered “undesirable” when commercial consistency standards for appearance, size, or condition aren’t met
- A self-exemplifying model of positive food policy at regional and area levels
- New jobs (50 full-time and part-time projected at the end of 3 years)

As Schoharie farmer Bob Comis asserts, “The Schoharie Co-op Cannery is not a capricious marketing gimmick, it is not a bit of foodie culture fluff, it is not a scramble to capitalize on a socio-economically exclusive fad, it is a foundation stone, set firm upon the ground, exactly the type of foundation stone on which durable local-regional farm and food systems are built.” (From www.stonybrookfarm.wordpresss.com/2009/01/19.)

For this presentation at the 5th National Small Farms Conference, our goals include:

- Sharing our ideas with others to gain critical insight and balance
- Understanding a variety of agricultural needs relating to canning
- Demonstrating that self-reliance is not only desirable at a community level, it is possible by examining the experiences of the cannery

To accomplish these conference goals, we will:

- Present a graphic organizational representation of timelines, milestones, goals, and results
- Convey the nature of successful community collaboration through testimonials and personal stories
- Educate and involve our conference audience through the use of hand-outs and brochures
- Gauge conference audience interest through a simple questionnaire with an option to remain in touch post-conference
- Highlight the conference on the cannery Web site (www.schohariecannery.org)

### NORTH CAROLINA

### 32 • FRIENDS and CASHN Providing Emergency Preparedness Education Around Emerging Infectious Diseases: A Retrospective Analysis

**Michelle Eley, North Carolina A&T State University**

The readiness of producers for a major disease outbreak (foreign or domestic) has received growing national and state attention in recent years. With a global increase in emerging infectious diseases, it is imperative that relevant and responsive educational programming to address these issues be created for communities with persistent, real-world educational inequities. The FRIENDS (Forwarding Reliable Information on Emerging and Novel Diseases) and CASHN (County Animal Security and Health Network) projects at North Carolina A&T State University were created to provide educational opportunities for extension staff and small-scale livestock producers to proactively work together to plan for animal health emergencies.

“Both projects partnered with several federal, state, and county agencies to build awareness around animal and public health issues, generate information at a level the target audience can easily understand, and support activities which provide an environment to transfer information to the wider community.”

### 33 • Organic vs. Conventional Strawberry Production Research

**Keith Baldwin, North Carolina A&T State University**

This study was conducted to determine the effect on strawberry yield of the substitution of organic nutrient and soil management practices for conventional production (CP)
practices. The experiment was conducted in an Enon coarse loamy soil (mixed thermic Ultic Hapludalfs). In 2005, three treatments were established in a randomized complete block experiment. Treatment 1 (OP1) was an organic treatment utilizing green manure, compost, and feather meal as pre-plant nutrient sources. Treatment 2 (OP2) was an organic treatment utilizing green manure, compost, and poultry litter as a nutrient source. Treatment 3 (CP) was a conventional treatment utilizing green manure and conventional fertilizers as nutrient sources. ‘Chandler’ strawberry plugs were transplanted the first week of October. In 2006, main plots were split and two additional strawberry cultivars, ‘Sweet Charlie’ and ‘Camarosa,’ were transplanted along with Chandler as in 2005. In the spring of 2006, the CP treatment yield was 29.1 Mg ha-1, 5.1 Mg ha-1 higher than the average of both OP treatments. In 2007, the yield of the CP treatment of Chandler, Sweet Charlie, and Camarosa cultivars (18.4, 14.3, and 22.9 Mg ha-1, respectively) was not significantly different from the OP1 treatments for these same cultivars (21.9, 15.6, and 23.4 Mg ha-1, respectively). Nor was it different from the yield of these same cultivars under treatment OP2 (15.0, 11.3, and 18.7 Mg ha-1, respectively). The authors have concluded that significant yield differences did not occur because of residual N remaining in OP treatment plots after the 2006 season.

**Ohio**

**Ohio's Nutrient Management Workbook**

**Jon Rausch, Ohio State University; Amanda Meddles, Ohio State University; Robert Mullen, Ohio State University**

Nutrient management is a means of allocating scarce resources. As petroleum-based inputs, like fertilizer, become more costly, the allocation process becomes more critical and the direct benefit from fine-tuning nutrient allocations become greater.

The nutrient management workbook is a tool to help producers work through the nutrient budgeting process and, ultimately, more fully utilize manure nutrients generated on their farm. On a field basis, soil test information is summarized, if available. For fields without soil test data maintenance levels for each nutrient is assumed. The next step summarizes manure nutrients available from manure test analyses. If this information is not available, published values are provided for use in the workbook. Then, crop nutrient needs are identified based upon the yield goal of the producer. Macro nutrients supplied from mineral fertilizers and manure nutrients are subtracted from total nutrients needed by the growing crop. Ultimately, this mass balance approach will identify any surplus or deficit of nutrients for the growing crop.

The next section calculates spreadable acres available based upon specific field characteristics and recommended setbacks from environmentally sensitive areas within each field. Utilizing total area, the value of any excess nutrients can be calculated for each field based upon current market prices for commercial fertilizer. This should quantify an economic incentive to fine-tune manure nutrient applications and minimize carry-over nutrients, or at least quantify the incentive necessary to utilize carry over nutrients in subsequent cropping years.

Total nutrients generated from the animal operation are estimated and allocated on a field-by-field basis until manure nutrients are accounted for. An index of total phosphorous produced and average crop removal of P2O5 quantifies the number of acres required annually to recycle this nutrient resource. The workbook serves as a self-directed nutrient management planning tool developed by the producer directly and updated annually.

**Oregon**

**35 • How to Keep Horses from Making a Mess of Your Watershed**

**Melissa Fery, Oregon State University Extension; Garry Stephenson, Oregon State University Small Farms Program**

Poorly managed small acreage horse farms impact natural resources throughout the United States. They create a high risk of groundwater infiltration and runoff containing significant levels of bacteria and sediment from horse pastures, feeding and holding areas, manure storage areas, and paddocks. In Oregon, the Oregon State University Extension Service Small Farms Program has been a leader in raising the awareness of horse farm operators about potential water quality impacts from their farms, management practices that can be readily adopted to reduce water quality problems, and sources of technical and financial assistance. Handy, full-color publications for high and low rainfall regions and a full-day workshop curriculum titled “Horses and Mud” provide horse owners in-depth information about manure management, reducing and composting stall waste, mud management, and options for creating all-weather paddocks, pasture management, stream-side buffers, filter strips, and natural ways to control mud, dust, and bugs.

Use and impacts of these efforts are impressive. The two publications, “Managing Small-acreage Horse Farms for Green Pastures, Clean Water, and Healthy Horses” and “Managing Small-acreage Horse Farms in Central and Eastern Oregon,” consistently rank among the highest for sales and downloads. Longitudinal survey data collected from Horses and Mud participants nearly a year after the workshops show that participants readily adopted management practices as a result of the workshops. Over 90 percent of participants implemented at least one or more management practice on their property as a result of the workshop. Thirty-eight percent of the participants implemented four or more practices. Seventy-two percent of the participants still plan to implement practices. Of interest, 66 percent of the participants indicated that “protecting the environment” was one of their motivations to complete
management practices. The combination of well-targeted educational materials and motivated landowners is leading to better managed horse farms and improved water quality.

36 • Program for Small Acreage Stewardship Results in Implementation of Land Management Practices

Melissa Fery, Oregon State University Extension

Small-acreage landowners have a significant impact on water quality and other natural resources through their cumulative effect. Manure runoff and sedimentation from small livestock operations, infestations of invasive weed species, degradation of riparian areas, and unreliable maintenance of private wells and septic systems are identified needs that require landowner awareness. The “Living on the Land, Stewardship for Small Acreages” workshop series developed by professionals and faculty from eight Western states, was adapted, locally, for small-acreage landowners in the Willamette River basin. Four workshops and one field tour covering relevant topics were offered in three watersheds, inviting neighbors to learn about management practices that improve land and water quality. Results from a questionnaire given 8 to 11 months after the workshops, show that 85 percent of the participants implemented at least one new management practice on their land as a result of the workshop series. Ninety-four percent of the participants still plan to implement one or more additional practices. Eighty-six percent of the participants told friends and neighbors about the practices they learned during the workshop series. Small-acreage landowners are eager to learn and implement management practices on their land. As more Oregonian landowners act as land managers, there is need for science-based information and technical assistance to encourage making wise land management decisions.

SOUTH DAKOTA

37 • Healthy Lands, Healthy Horses: Program Development for Small Acreage Owners in South Dakota


There has been a steady increase of small-acreage land owners within the Black Hills region of South Dakota. The number of small-acres in South Dakota (1-49 acres) increased 27 percent from 2002 to 2007 (NASS, 2007). For many land owners in western South Dakota, horse ownership is the principal motivator for living on a small-acreage. In light of this, extension personnel in western South Dakota have begun to develop program opportunities in the Black Hills region geared towards horse producers, entitled “Healthy Lands, Healthy Horses: Skills for Small-Acreage Success.” The initial goals of this program are to begin establishing a new small-acreage audience while providing support to land owners to help improve grazing and weed management, water quality, feed purchasing decisions, and equine health. Initially two locations, Sturgis and Custer, were selected to hold identical programs. Topics discussed during each program included maximizing grazing capacity while minimizing weed invasion; getting the best hay for your buck; and protecting water quality. Several advertising strategies were attempted to reach this new audience and the 40 resulting participants were surveyed to determine how they learned about the programs. The four forms of advertising that had the most impact for participation were direct mailings (38.5 percent), local horse event participation (23.1 percent), radio public service announcements (23.1 percent) and magazine ads (15.4 percent). Workshop participants were also surveyed for future topics of interest. Pasture management for horses ranked first (20.6 percent) and weed control and alternative energy were second (17.7 percent). Other popular topics included fencing strategies, waste disposal, and native-plant landscaping. Participants suggested that workshops be held at local small-acres for a more hands-on approach to education. Having information easily accessible online was also important to many participants. With these initial outcomes we hope to continue to expand the Healthy Lands, Healthy Horses program by addressing these topics of interest among horse owners in the Black Hills and eventually reaching small-acreage owners throughout South Dakota.

TENNESSEE

38 • Monitoring Water Wells in Karst Terrain of Middle Tennessee with Down-Well Camera

Sam Dennis, Tennessee State University; Alvin Wade, Tennessee State University; Debbie Eskandarnia, Tennessee State University

Groundwater can be vulnerable to contamination, especially in karst terrain. This geological characteristic is prevalent in Middle Tennessee. The geology of Middle Tennessee is limestone rocks that tend to weather into terrains referred to as karst. Karst is characterized by sinkholes and disappearing streams and caves that could serve as conduits to contaminants because of their rapid groundwater flow, especially in recharge conditions such as storm events. Recent advances in down-well cameras using fiber optics to provide digital video images are now being used to gain a better understanding of water wells. One of the goals of this study was to use this technology to capture film footage of water wells in Middle Tennessee counties. The study is timely as farmers are opting to wells for their water demand, especially for irrigating their crops or pasture. In our study with the down-well camera, the data shows no evidence of leaks through the casing or casing joints in the monitored wells. However, visual evidence of extensive fractures and dissolution channels within the sedimentary rock aquifer were noted during the video inspections of the open bore-hole. Due to the extensive fracturing observed in the wells, it would be rational to assume that the potential for seeping contaminants...
exists. The video showed an abundance of particulate matter, which could be an indication of a biologically active ground water, or of other chemotropic matter dissolved from soil minerals, or both. Live fish were observed swimming in one of the wells monitored and a live spider in another well. Both wells contained live animals that demonstrate a hydrologic connection between surface and groundwater. Thus, it can be deduced that both wells could test positive for a variety of bacteria and chemicals, and as such, may not be safe for drinking water purposes without treatment.

**Utah**

**39 • Farmers’ Market at the Utah Botanical Center**

Shawn Olsen, Utah State University

The farmers’ market at the Utah Botanical Center (UBC) is developing into an excellent resource to share the results of agricultural research and promote buying local fresh produce. The market, located at UBC, focuses on research and demonstration projects related to sustainable urban landscapes. Adjacent to UBC is the Kaysville Agricultural Experiment Station where research is conducted on fruits, organic vegetables, and waterwise native plant production. The initial idea for the market developed as a way to share produce from the research plots with the public. In order to offer a wider variety of produce, local farmers were invited to the market. Today, the market is held once a week in the evening during the summer months and includes organic broccoli, peaches, apples, and berries from the research plots and sweet corn, tomatoes, melons, and other produce from local growers. Educational demonstrations and classes are a major focus at the market. At most markets, there is a demonstration on how to use produce that is in season. Master Gardener volunteers have a booth at the market to answer gardening questions. There is a children’s activity booth sponsored by the Utah House, a sustainable building, and landscape demonstration building located at UBC. Each week, UBC features a different water-wise plant with a detailed information sheet and plants for sale. The market is certified to accept food stamps to help make fresh local produce more available to low income residents. The market has been a popular attraction and has proven to be a successful and fun forum for exchanging ideas with the public. In 2008, there were 45 different vendors at the market and a total attendance of 5,601 people.

**Virginia**

**40 • Alternative Enterprises and Marketing Opportunities for Small Farms in Virginia**

Fidelis E. Okpebholo, Virginia State University; Jewel Hairston, Virginia State University; Theresa J. Nartea, Virginia State University; Alvin Adkins, Virginia State University; Cliff Slade, Virginia State University; Cliff Somerville, Virginia State University; Derrick Cladd, Virginia State University

Tobacco is a major traditional crop produced by small farms in Virginia, and with the deteriorating market situation for tobacco products there is need for small farmers in Virginia to diversify or transition into the production of more stable and economically viable alternative enterprises. To address this need, the Cooperative Extension Program at Virginia State University has identified and provided research-based information and technical assistance on production of several viable alternative crops/livestock to these farmers. The alternative crops, introduced and currently produced in many small farms in Virginia, include berries, asparagus, seedless watermelon, ginseng, mushrooms, cut flowers, ornamental plants, egg plants, tomatoes, and lime beans. Alternative livestock identified and produced are meat goat and hair sheep. Virginia State University has also developed aquaculture, agritourism and certified organic production programs as alternative enterprises for small farms in the state. As a part of effective resource management in farm production system, many of these operations turn greenhouses that were previously used for tobacco transplants into transplant houses for alternative crops and old tobacco barns into housing for the small ruminant component of the production system. Additionally, Virginia State University provided information and technical assistance on adding value to farm products in order to enhance the income of small and limited resource farmers. The efforts from Virginia State University Cooperative Extension Program to identify, provide information and technical assistance on production and marketing of alternative enterprises have and continue to revive and strengthen the rural Virginia communities that relied on tobacco as their main source of income.

Commercial activities have increased in these communities as a result of these alternative enterprises.

**Washington**

**41 • Mobile Meat Slaughter Units: Rebuilding the Small-Scale Meat Industry**

Chris Benedict, Washington State University Extension; Sarah Garitone, Pierce Conservation District; Mary Embleton, Cascade Harvest Coalition; Doug Collins, Washington State University Small Farms Team

Consolidation in the U.S. livestock industry over the past 20 years has dramatically reduced the number of available processing facilities. With the increasing interest in locally-produced fruits and vegetables, consumer interest in local meat products has followed suit and demand has outstripped supply.

Washington State regulations allow the slaughter and processing by WSDA-licensed facilities, but products are only allowed to be consumed by the owner. To access the increasing demand of consumers, Washington producers must have their meat slaughtered and processed at a USDA-licensed facility.
Currently, many producers find themselves driving hours to reach the nearest facility, which increases costs and adds stress on both the producer and the animals.

Washington State was the sight of the first USDA inspected mobile meat slaughter unit in the United States when, in 1998, producers from the Island Grown Farmers Cooperative sought an answer to their problems. Over the past year, the Puget Sound Meat Producers Cooperative formed to provide and strengthen the infrastructure necessary to support small-scale production. Recently, with additional help, the cooperative ordered a mobile slaughter unit.

Currently Washington State houses almost half of the mobile units available nationwide. Because of regulations, small-scale meat producers need to rely on additional infrastructure to access consumers. Redevelopment of this infrastructure will vary by region, but the extent to which it is a success will depend on many factors.