

Down To Earth: Reports from the Field

Innovative Small Farmers' Outreach Program (ISFOP)



Evolution of the Small Farm Program in Missouri

Dr. Kamalendu B. Paul, State Extension Specialist-Small Farms; Director, Innovative Small Farmers' Outreach Program

Missouri's small farm program is one of the oldest and most recognized Extension programs of its kind in the nation. It was started in 1970, by University of Missouri Extension (UME). It began as a pilot program in only two counties: Wayne and Polk. Because of its popularity, it was adopted as a regular Extension program the next year. In that same year, Lincoln University Cooperative Extension (LUCE) was launched. Later, UME proposed that LUCE was the place where the small farm program should belong. LUCE agreed, and before long, the two institutions signed a Memorandum of Agreement (MOA); making the proposed transfer official. However, UME continued to run the program the same way it always did. There was little change in the management structure or the personnel. One change that occurred was that LUCE was allowed to name a State Specialist as the Program Leader. Another change was that LUCE had to reimburse most of the program expenses to UME on a quarterly basis.

When I returned to Lincoln in 1998 from a long-term assignment to Africa, I was named to the leadership position of the Missouri Small Farm Family Program (SFFP). As one of the longest-serving members, I have lived through all the transitions from the SFFP to the Innovative Small Farmers' Outreach Program (ISFOP). Once I am gone, it is likely that this history will be lost



Dr. KB Paul, right, works with an USDA employee.

forever. So, here is a brief history of the small farm program in Missouri.

In 1998, SFFP operated in 22 counties in the three Southern Extension Regions of Missouri. There were 18 Educational Assistants (EAs) serving the small farmers and ranchers in some selected counties. The EAs organized a few workshops, but mainly offered assistance on a one-on-one basis. UME had designated a Farm Management Specialist from each of the three regions to serve as the Area Coordinator (AC). The ACs reported to their respective Area Directors and to the LU-based SFFP Director. The program and the program activities were going well. However, LUCE stakeholders questioned having to reimburse all of those monies to UME. Around 2004, LUCE informed UME that it was willing to pay only one-half of the program costs and that UME should cover the rest. However, citing financial exigency (emergency), UME decided to shut down the SFFP as of September 2005. UME sent out termination notices to all the EAs, as they were its employees. Only two of the EAs were LUCE employees; we had to let them go as well.

During the 35 years of its existence, the SFFP made a huge difference in the lives of the small farm families in the

(continued on page 2)

Inside This Issue:

Evolution of the Small Farm Program	1 - 2
Prepare for Lambing Today	3 - 4
Fall Decor From the Field and Garden	3 - 4
In the Spotlight: Sherry Tucker	5
IPM Corner: Update on the SWD	6 - 7
Meet Our New State Extension Specialist	7
Contact Information	8

Evolution (continued from page 1)

counties that the program served. I became concerned that without a program like the SFFP, we would not be able to deliver any of the Extension services to the state's small farmers and ranchers. How were they going to learn about the many United States Department of Agriculture (USDA) programs designed to benefit small, socially disadvantaged farmers and ranchers? Therefore, shutting down the program completely was not an option for LUCE. So, with a detailed program plan in hand, I met with the administration on both of the campuses. They all were very sympathetic, but nothing was forthcoming at the time. Finally, after a great deal of convincing and with the full moral support of UME, the Dean and the Extension Director at LU finally gave approval to restart the program, as I had proposed. We basically agreed that it would be a new program with a new name and be somewhat smaller in scale. It would be designed, implemented and funded totally by LUCE. The program would cover counties in the East Central and the West Central parts of the state. The counties chosen would be in clusters for logistical reasons; they would also have a large number (relatively speaking) of small, minority farmers and ranchers. I was granted much latitude to get the program off the ground as of October 1, 2008. That was the beginning of the Innovative Small Farmers' Outreach Program. Dr. Sanjun Gu, State Horticulture Specialist, had come on board at the time. He offered a great deal of help to get the program started. For more information about the ISFOP, please visit <http://www.lincolnu.edu/web/programs-and-projects/>

innovative-small-farmers-outreach-program.

The ISFOP was modeled after the SFFP but was different in a few ways. First, the Educational Assistant (EA) in the old program covered only one county; an ISFOP Farm Outreach Worker (FOW) covers two counties. Second, the EAs were high school graduates; the FOWs are college graduates. The FOWs are technologically savvy, using laptops and cell phones. Thus, communication between the field staff and the campus-based staff has improved greatly. By teaming up with the Missouri Sustainable Agriculture Research and Education (SARE) program, we have been able to provide more training for the FOWs. The ISFOP FOWs are very resourceful, dedicated and efficient. All of the ISFOP staff are happy to be able to carry on the mission of the old program and to make it even better.

The ISFOP publishes this quarterly newsletter, "Down to Earth: Reports from the Field." The primary audience is our clients. This idea began with the FOWs. They come up with the topics, based on what they hear from their clients. And they write the first draft of the majority of the articles and decide on formatting.

I provide input and do the initial editing. Then we give the material to the Lincoln University Cooperative Extension and Research (LUCER) Media Center. They take care of

the rest. We are already in the fifth year of this publication. We had been publishing two versions for each issue: one for the East Central Region (ECR) and the other for the West Central Region (WCR). Some, but not all of the articles, were common to both the versions. This gave the publications a local flavor.

Through special grant funding from the USDA, LUCE was also helping several socially disadvantaged farmers and ranchers in the Southwest region of Missouri. Unfortunately, this funding ended on August 31, 2014. Beginning in September 2014, the ISFOP absorbed the three LUCE field staff who were working in the Southwest region. This created a problem for the ISFOP's quarterly newsletter. We would either have to publish three versions of the same issue, or we could publish only one version covering all three regions. The consensus among the ISFOP team members and all the stakeholders was to publish one comprehensive issue. Therefore, beginning with this issue (Volume 5, Issue 3), the ISFOP's "Down to Earth: Reports from the Field" will be an eight-page, single-version publication.

Please refer to the ISFOP's regional map on the last page of this

newsletter. This map shows the three regions and the 20 counties that the ISFOP is presently serving. It also provides the names and the contact information of our Farm Outreach Workers. Our services are available to you free of charge. We look forward to working with you. ■



The former look of "Down to Earth" newsletters design.

Prepare for Lambing Today

By Stephen "Randy" Garrett, Farm Outreach Worker,
Southwest Region

Typically, a sheep farmer loses about 20 percent of their lambs before weaning. That number is too high. With a little bit of care and attention, losses can be reduced quite a bit. This pre- and post-lambing information will help you to lower the mortality rate and will keep the ewe and lamb healthy.

Raising sheep can be a very enjoyable, yet challenging, adventure. This is especially true when preparing for the lambing process. A successful lambing season begins far before lambing occurs. It is important to learn and use good management skills and practices with the ewe and ram during the breeding season, and throughout the gestation period (the time when an animal develops in the womb).

Lambing preparation should start months before the ewe's due date. Be ready to meet the possible challenges of lambing by making a lambing kit before the lambing season. This kit should include, but not be limited to, the following items: (1) a gentle iodine solution for disinfecting lamb navels, (2) a surgical knife, (3) docking and castration instruments, (4) mineral oil to use for constipation, (5) 20-gauge needles for lambs and larger gauge needles and syringes if you chose to use them for various treatments on the ewe, (6) plastic sleeves and lubricant for pulling lambs, (7) a shearing instrument to remove hair from around the udder to make it easier for the lamb for finding the teats, (8) a rectal thermometer, (9) paper towels, and (10) a rope halter. Dr. Charlotte Clifford-Rathert,

DVM (doctor of veterinary medicine) and State Extension Specialist-Small Ruminants with Lincoln University Cooperative Extension (LUCE), suggests keeping the following handy and available as well: (1) a feeding tube (14 Fr/Ch) with 60 cc Luer tip syringe for lambs unable to nurse, and (2) Ketostix® to test for ketones (byproducts from breaking down fat) in the urine of ewes acting ill when carrying multiples; this will detect the onset of pregnancy toxemia or ketosis. (Ketosis is the rapid breakdown of energy that produces ketones.) Providing a balanced diet (concentrates plus good forage or hay) in the last month of pregnancy can also reduce the chances of pregnancy toxemia. It is always a good idea to consult with a veterinarian for advice as needed.

Immediately after birthing, it is important to place the ewe and her lamb(s) in a pen with a minimum area of 4 ft. x 5 ft. A bigger pen is needed for larger breeds or multiple lambs. This makes the mother accept and nurse the newborn lamb adequately; it almost forces her to do so. Use a warm washcloth to wipe the mother's teats. Then strip these to remove the wax plug. This should allow milk to flow and nourish the lamb. The lamb needs to nurse as soon as possible to get the colostrum (the first milk). Colostrum is rich in nutrients. It also contains a high level of antibodies (a protein used by the immune system to counteract an antigen, such as bacteria). This helps to strengthen



John Dillard, a long time sheep farmer, prepares a lambing kit prior to lambing season

the lamb's immune system. It also prevents many infectious diseases.

Once the ewe and lamb are secure and the lamb starts nursing, cut the umbilical cord about one inch from the lamb's body. Then apply a disinfectant. A gentle iodine solution applied to the navel is a good disinfectant; it should help prevent infections to the lamb. To reduce the chance of infection, keep your facility and equipment sanitized. If you have to reuse your lambing pens, make sure to remove the old bedding. Also disinfect the lambing pen floor before putting in fresh, dry bedding materials. Now you are ready to use this for the next ewe and lamb.

Keep the lambs in a dry, well-ventilated facility. It should be free from the harsh outdoor environment to decrease the chance the young animals will feel the cold. Cold can lead to sickness. The normal body temperature of a healthy lamb is 102°-103°F. If the body temperature drops below this level, it could mean the lamb is chilled. You should restore the lamb's body temperature by drying it with towels, a heat lamp or some other gentle method. Use extreme caution when operating heat lamps in a closed

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facility. John Dillard, a sheep farmer in Southwest Missouri, made a great heat source to quickly warm chilled lambs. He cut a hole in a large plastic tub (big enough to fit a lamb) the same diameter as the nozzle of a hair dryer. He then cut another small hole in the tub for ventilation. Next, he placed the chilled lamb under the tub and warmed it with the dryer. You can also use a hair blow dryer directly on the lamb; however, keep the dryer at a safe distance so as not to cause burns.

There is plenty of information on the Internet about lambing. Especially, look at the Extension publications that can be found at www.eXtension.org. You are also encouraged to visit your local Extension office to learn what resources are available. Then decide for yourself what will fit your program or your specific needs. Informing and educating yourself prior to the critical lambing time will help reduce the labor burden for you and your sheep. So, prepare for lambing today! ■



By Janet Hurst, Farm Outreach Worker

Did you know that enthusiasm for the fall decorating season is second only to Christmas? Many autumn favorites come from the garden: pumpkins, squash, gourds and corn stalks are used to bring in the season. Dried sunflower heads are often part of floral arrangements. Planning ahead and planting these for fall gathering can provide you with a valuable harvest. It is hard to resist a big pumpkin or a bundle of corn stalks. So, start your own roadside stand selling your hand-raised produce.

Think outside the garden, too. Look to see what is already growing in your backyard or woodlot. Fencerows are often treasure troves of woody materials (“woodies”) that can be used in the floral industry. Some of these grow wild; others must be cultivated. According to the National Sustainable Agriculture Information Service (<https://attra.ncat.org/>), “Flowering branches, foliage, fruits, pods, and stems are gaining wide use in creative floral design. If you are a cut-flower grower, woody ornamentals can be some of the best plants for extending your season and filling out your bouquets.” Botanicals, such as water lily pods and lichens, add another dimension to gathering wild-crafted materials.

Here are some wild materials that you can harvest in the following seasons:

Fall: colorful oak foliage; American beautyberry; bittersweet; wild clematis.

Winter: wild ilex (hollies); pine boughs and cones; juniper; red twig and yellow twig dogwoods.

Spring: fruit tree branches from pruned orchards; pussy willow; witch hazel; forsythia.

The advantage of growing this type of material is that it extends the season, filling in the gaps when fresh flowers are not available. Woody material is often used as an addition to a floral arrangement, raising the value of cut-flower bouquets. In late winter, forcing blossoms is another way to have an early supply of flowers that would normally bloom later in the season. It also allows you to have flowers available on specific dates for special events.

For offseason blooms, bring cuttings indoors to a warm space. Place them in a bucket of warm water. Allow the stems to soak up the water for several hours. Then, change the water, adding a floral preservative. Give the stems adequate light, and in about 10 days, you will have blooming branches, a promise of spring.

To market your woody materials, work with a variety of retail outlets. Farm stands or farmers’ markets are a good place to begin. Check with local florists to see what they want. Meet with them, and take samples of your supply. Perhaps you will plant specialty crops intentionally for woody ornamental harvest. Soon you will be viewing your fencerows in a whole new light. ■

In the Spotlight: Sherry Tucker and the Leverich Family Farm

By Nahshon Bishop, South West Regional Coordinator,
Barry & McDonald Counties

The Leverich Family Farm is a beautiful 40-acre tract of land just north of the small town of Exeter (population 700) in Southwest Missouri. Sherry Tucker is the owner and operator of this farm. Currently, Tucker writes on agricultural issues, serves as a magazine editor, is a mother of three and a farmer.

Tucker thinks back to the start of her farming career: “It seems like I have been a farmer all my life. In 2000, my family moved to Butterfield, Missouri. We had a large family garden.” They began to take excess produce to a nearby farmers’ market.

Family is very important to Tucker. This is the main reason she chose to stay in production agriculture. “In 2002, when my dad passed away, my mother divided the farm and gave 40 acres each to my two brothers and to me; she kept the rest of the land. My mother and I produce vegetables for sale at our local farmers’ market.” Tucker moved to her current location in 2005, and has been hard at work ever since. She grows and sells tomatoes, peppers, cucumbers, green beans, onions, potatoes, squash, lettuce and spinach. Her farming lifestyle has allowed her to homeschool her three children through middle school.

The Leverich Family Farm also raises beef, feeder pigs and chickens for the family’s needs. As Tucker explains, “It is important to me as a mother to be sure of the integrity of the food that my children eat. This is something that cannot be measured economically—that sense



Sherry Tucker harvesting pepper plants in her high tunnel, and above, right, Tucker with her husband Rob Lotufo.

of pride you have when you sit down at the dinner table and realize that almost every item you are eating came from your own farm.”

Tucker had attended a high tunnel-building workshop held by Lincoln University Cooperative Extension’s (LUCE) 2501 program and University of Missouri Extension (UME). She was immediately sold on the idea. In the winter of 2010, Tucker applied for a Natural Resources Conservation Service (NRCS)-Environmental Quality Incentives Program (EQIP) High Tunnel Initiative grant. Her project was funded. Tucker did a lot of research on high tunnels, looking at various designs and sizes. Later in the summer of 2010, LUCE, UME and Morgan County Seeds hosted a workshop on Tucker’s farm. At the workshop, the high tunnel that she had bought with her grant money from NRCS was built. For four years, she has been very happy with the high tunnel she purchased from Zimmerman’s (<http://www.zimmermanshightunnels.com>). Inside her high tunnel, Tucker chiefly grows tomatoes, cucumbers and peppers during the spring and



summer. “Tomatoes are the largest moneymaker for our small operation. With my high tunnel, I am one of the earliest vendors at the farmers’ market with ripe tomatoes in the spring.”

Tucker shared this advice for beginning farmers: “Farmers need to farm with a sharp pencil. That means they need to keep accurate records and be able to see where they are making their money. This is something that I am working on—recordkeeping. The integrity of the food I grow is very important, but I have to be able to make a profit in this business.” Tucker also stressed the need to educate oneself. She feels that Extension is one of the best resources available to farmers. Tucker stated, “I have learned so much by attending educational workshops held by both Lincoln University Cooperative Extension and University of Missouri Extension. In my opinion, this is a priceless resource that people today often underutilize.”

Tucker is excited about the future. She plans to add perennial (a plant with a life cycle of two or more years) fruit as well as rabbits and small ruminants (e.g., goats, sheep) to her operation in the future. “I like farming. I think that we as human beings need to get our hands dirty every once in a while. I like the feeling you get when you realize that you are being sustainable by producing healthy food with integrity.” ■

Update on the Spotted Wing Drosophila

Dr. Jaime Piñero, State Extension Specialist-Integrated Pest Management

Since late May 2014, the Lincoln University Cooperative Extension (LUCE) Integrated Pest Management (IPM) program has worked with University of Missouri Extension (UME) to monitor the Spotted Wing Drosophila (SWD). The presence and abundance of this insect have been observed in 25 locations throughout Missouri. The SWD is a serious, new, invasive insect pest that attacks small fruit crops and some stone fruits (cherry, nectarine, peach). It also infests high tunnel tomatoes, strawberries, and wild hosts, including pokeweed, autumn olive, crabapple, nightshade, mulberry and wild grape. Raspberries, blackberries, blueberries and elderberries are at the greatest risk.

The seasonal activity of the SWD is shown below. The data is estimated based on trap captures. It is displayed as the mean (average) number of males and females per trap per day. There is data for three selected sites: Osceola (Southwest Missouri), St. Peters (St. Louis area) and Columbia (Central Missouri).

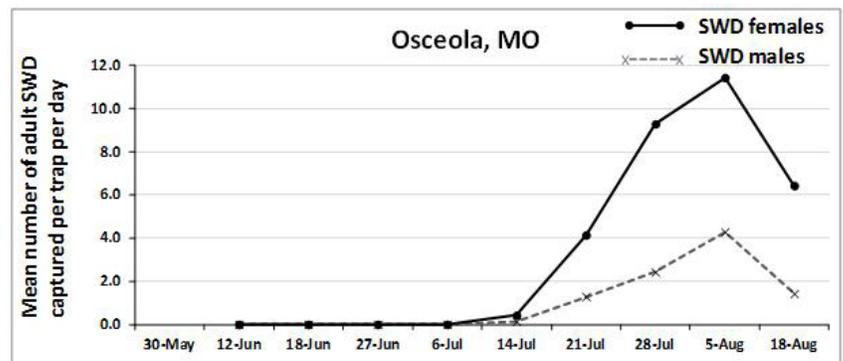
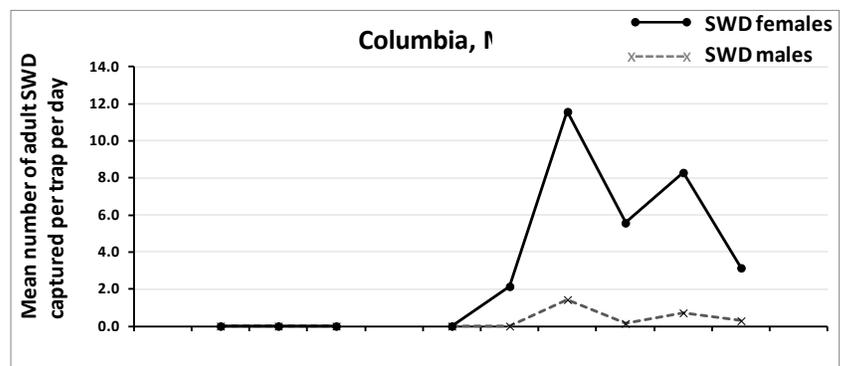
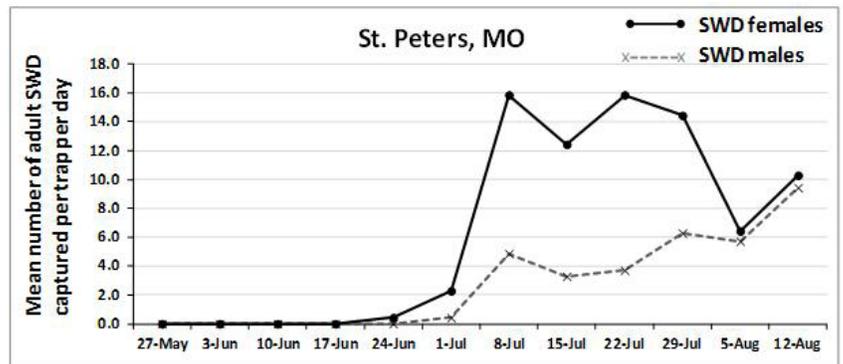
Osceola: One SWD trap was placed at a cherry tree in mid-June. The first SWD captures took place on July 14. This coincided with the ripening period of the cherry fruit. As soon as the tree was no longer fruiting, the trap was relocated to a nearby blackberry patch. The SWD captures then rose steadily. They reached a seasonal peak of about 12 females per trap per day. Insecticides should have been

applied from the moment the first SWD were captured; however, the farmer was not interested in protecting the fruit.

St. Peters: This SWD trap was set out on May 27, on a mulberry tree. The first SWD adults were captured on June 24. This coincided with the onset of the ripening period of the mulberries. A sudden rise in captures took place on July 8

(16 SWD females per trap per day). During the first two weeks in August, the trap caught an average of 6-10 SWD females per day. It is likely that the SWD first reproduced in mulberry trees. Once this tree no longer had fruit, it can be assumed that the flies dispersed onto nearby farms. At that point, they might have caused injury to any small fruits that were grown in the area.

(continued on page 7)



...Drosophila

(continued from page 6)

Columbia: The SWD monitoring trap was placed on June 3, in a commercial blackberry orchard. The first SWD captures were recorded about one month later, on July 8. The farmer was advised to spray an insecticide as soon as the first fruit was changing color. It seems that the first insecticide was applied a little later than expected; a fruit sampling done by the LUCE IPM program showed infestations by the SWD on the first-ripening blackberries. The numbers of the SWD have been declining since July 15, to about four female SWD per trap per day. Even so, the farmer needs to apply insecticides in a timely manner and with good coverage to get the best control possible.

The above examples show that the SWD populations are growing in Missouri. So farmers who raise fall-bearing raspberries need to monitor for this pest and apply insecticides. This is the only way to manage this pest. Timing and good coverage are key aspects of an IPM program against the SWD. Insecticide sprays need to be in place prior to oviposition (egg laying). Coverage needs to be thorough as the adults often hide in the denser portions of the canopy. High pressure and spray volume are needed to extend to these difficult-to-reach spots and provide full coverage. Even the best of the insecticides will not consistently last more than seven days. Thus, at a minimum, weekly applications are needed. Producers must rotate among insecticides with different modes of action; this will prevent and/or delay resistance. ■

Meet Our New State Extension Specialist in Horticulture: Dr. Touria Eaton

Dr. Touria Eaton is Lincoln University's new State Extension Specialist-Horticulture. She replaces Dr. Sanjun Gu. She will conduct research-based demonstrations and develop Extension and education programs to benefit Missouri farmers, especially small farmers.

Eaton received her Bachelor of Science in Plant Science in her home country of Morocco. Her master's and doctoral degrees are in plant and soil sciences from the University of Massachusetts (UMass), with a concentration in plant nutrition. Eaton was employed as a senior researcher and Extension educator at UMass. She worked with a

broad range of farmers and gardeners with different personal experiences, learning styles, and ethnic and religious backgrounds. She joined with farmers and agricultural groups and commissions to develop educational programs. These programs helped farmers increase profits through the sustainable practices of nutrient and pest management. She has experience with vegetable crops and floriculture (flower farming). Her research includes the production of Brussels sprouts to sell on stalks instead of as buds. She has also worked to increase fertilizer and water use efficiency; this was done by adding biochar (a type of charcoal that is used as a soil additive to increase soil fertility) to soil. Her other work was to raise the nutritional value of vegetables through cultivar (plant variety) selection and soil fertility regimes (systems).

Eaton is excited about her new job. She is eager to meet and work with the farmers and her fellow Extension educators throughout Missouri. She can be reached via email at EatonT@LincolnU.edu, or by phone at (573) 681-5174. ■



Dr. Touria Eaton, LUCE State Extension Specialist - Horticulture

