COMMUNITIES MUST SOLVE LOCAL FOOD CHALLENGES AND EXPLOIT OPPORTUNITIES

BY TOM MCCONNELL, PROGRAM LEADER, WVU EXTENSION SERVICE SMALL FARM CENTER

It’s rewarding to note that many diverse WV groups are addressing food. It is puzzling that there is no single voice for food in general. Some groups lament there is not enough food for our underprivileged and our children. Then others pronounce that we West Virginians are eating too much of the wrong kinds of food. In other scenarios, farmers are scratching their heads trying to find markets while many restaurants and schools are desperately looking for sources of locally grown food. The people who have been in the farming business or the business of working with farmers can’t believe the opportunity that lies before our farming community.

Most of us are puzzled by the fact that, although there does seem to be an insatiable appetite or demand for our local products, both the industry and WV economy are suffering from a lack of producers. There has been a significant increase in the number of growers who reported selling their production locally as evidenced by the last two Census reports revealing a twofold increase from 365 to 720 (most recent estimates are much higher than that). Surely, no one has missed the explosion of the number of farmers markets in the state to an estimated 75. Despite that in 2011 West Virginians spent $7.2 billion for food, we are not capturing our share. Why should a community care and/or even get involved? Producing food, as opposed to commodities, will grow an economy. A job created growing and/ or processing food is important for any community and can be as important as a job from any other source. When you think about it, local food jobs have the potential to be even more important than many others, because local food jobs can be developed in small communities that would never be competitive in an industry recruitment race.

Even in “hard” economic times everyone has to eat. From the community perspective being able to capture the jobs required to perform the “marketing” aspect of the food dollar would be a boom for any community. Referring to the graphic (page 2) depicting how the American food dollar is divided: we learn that for every dollar spent on food in WV, 68 cents are spent on packaging, transportation, energy, advertising, rent, repairs, taxes and labor-- services that West Virginians can perform. That is not to say that we don’t already have many food related jobs in WV (grocers, truckers, etc.); but as an economic opportunity we are leaving so much on the table.

There is much work to do. It sometimes appears that our

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‘CAST IRON’ RESERVE GRAND CHAMPIONS

BY BONNIE THOMAS, PROGRAM ASSISTANT, WVU EXTENSION SERVICE SMALL FARM CENTER

Promoting the dynamic image of the WV small farmer and trend of local sourcing, the WVU Small Farm Center teamed up with Madeleine’s Restaurant of Morgantown to enter the 6th Annual Cast Iron Cook-Off on January 21 at the Greenbrier Resort. Competing against 10 other teams from across the state, the group, comprised of 8 farmers from different enterprises and areas of WV, organized under Chef Brian Wallace and sous chef Desiree Macina. Sponsored by the Collaborative for the 21st Century Appalachia, the fast-paced food competition focused on defining and refining Appalachian cuisine. The team received one hour to complete a four course meal, which incorporated 14 products grown or produced by WV farmers—some of which were on the team.

“We couldn’t be more proud of the participation and enthusiasm of our farmers. These individuals showed up with a sincere sense of pride and commitment to the greater message of what ‘buying local’ really means to Appalachia”, stated Tom McConnell.

Team members donned blue and red ribbons signifying their agriculturalist status—a gift given by the Small Farm Center to all farmers and producers during Friday evening’s reception and kick-off event. Anxious, the team took the stage at 10:15 and began to prepare it’s uniquely West Virginia dishes: sweet potato soup, lamb’s fries, striped bass, and apple nougatine. Cooks were assigned certain tasks to complete within the hour. Following the competition, three chef judges tasted and judged the dishes. Also sampling the day’s meals was WV Commissioner of Agriculture Gus Douglas.

The event ended that evening with a finale of Appalachian fare and an awards ceremony. Celebrated that evening were titles such as ‘Best Use of Protein’, ‘Best Use of Produce’, ‘Best Representation of Appalachian Cuisine’, and ‘Most Dynamic Presentation’. However, the biggest winners of the evening, taking home three awards, were the members of the WV Extension Service Small Farm Center team. The farmers claimed Best Single Dish for “The WV Striped Bass”, ‘Best use of West Virginia Value Added Product’, and 2nd place overall. Congratulations!
COMMUNITIES continued from p1

development authorities have completely missed the point that agriculture is real and staple piece of economic development.

If local food is good for the community, it is logical that the community should be an integral part of the process to make it an economic driver. The community must develop a community mentality that supports farmers, especially young farmers.

The list of tasks starts with farmer support. Asking a farmer to change his or her enterprise from commodities to a food product is easier said than done. The farmer has to consider the extra equipment required to grow and harvest a food crop and then add value to it. In most cases, the beginning enterprise will be too small to justify this initial cash outlay. If a farmer considers making a change, he or she might be reluctant to make that initial investment and may never try an enterprise that could be very profitable both for themselves and the community. If the community funded and managed an equipment pool, the farmer might be more willing to change from commodity farming. This community involvement might be a simple as local service groups and businesses contributing to a success fund that they would ask the local high school agriculture department and local WVU Extension office to operate.

Next, would be the task of the educational aspect of growing local food. Of course both the high school vocational agriculture departments and the WVU Extension Service would lead that effort. However, many other community groups could help by serving as mentors, and in many cases, instructors. It is logical to assume that the community could offer some funding to pay for support personnel to extend the local professionals by making farm visits and keeping up communications to speed technology and other pertinent information.

As these communities further their capabilities and define their mission, their support to the local agriculture industry will increase and include more extensive projects.

Each food support group will have a different set of members and missions based on the immediate needs of that area. The list of potential and appropriate food community members should include the local farm bureau, FFA Chapters, 4-H Clubs, service clubs, businesses, community colleges and universities, high school agriculture education departments, high school Pro-Start culinary programs, faith-based groups, churches, economic development authorities, chambers of commerce, schools, the entire local WVU Extension service staff, the Community Extension Outreach members, master gardeners, every producer group, and healthcare entities in the community. As one ponders this list, it quickly becomes evident that each of them has a role to play in their community’s food system and an anticipated benefit.

The local communities across West Virginia must commit to support locally in order to enjoy a local food economy again.

PREVENT TRACTOR DEATHS WITH A ROLL OVER PROTECTION STRUCTURE

BY J.J. BARRETT, WOOD COUNTY AGENT, WVU EXTENSION SERVICE

Life is always busy on the farm, especially year round if you have livestock. However, don’t be too busy to emphasize farm safety, an important issue often neglected. Now is a good time to evaluate farm safety plans and make improvements before spring arrives. Remember, farm safety cannot be an afterthought, it must be a priority.

Farming is a very rewarding occupation, but it also can be a very dangerous one. A vital part of most small farms today are tractors because they save time and labor to increase productivity. However, operating agriculture machinery can be very hazardous and is the leading cause of injury and death on the farm. Spring is just around the corner, which means a busy time with planting crops and other activities. If your tractor does not have a Roll Over Protection Structure (ROPS), installing one will protect yourself and your family.

History: Although tractors are the most labor saving piece of equipment on the farm, they are also the most dangerous. In farm related accidents in the United States, the most deadly is a tractor rollover. Over 1,538 agriculture workers were killed due to tractor rollover between 1992 and 2007, a rate of 96 deaths per year.

Agriculture related deaths involving tractors is not a new problem. Tractor rollovers have been a major cause of farm fatalities since the 1920s. According to the National Safety Council, tractor rollover has been the leading cause of farm operator deaths since 1970.

Fatalities from tractor rollovers among U.S. agricultural workers have dropped 28 percent over the past two decades, but there is still much need for improvement. A 2006 survey of farmers showed that about 40 percent of the nation’s 4.2 million tractors still lacked rollover protections. Every year, over 350 lives would be saved if all tractors were fitted with a ROPS.

Tractor rollover fatalities can be prevented by retrofitting older tractors with an ROPS and seat belt. Small farms rely heavily on family labor, so make it a priority to take the necessary steps to make your tractors and family as safe as possible.

What is a ROPS? The primary goal of a ROPS is to protect the operator in the event of a machine upset. A ROPS or “roll bar” as it is called on the farm, is a steel frame that is bolted to the axle that protects the operator in the event of a roll over. A seat belt is also mandatory with a ROPS. Many are also fitted with a canopy to provide some protection from the weather.

ROPS first became available as optional equipment on farm tractors in 1971; tractors manufactured before 1971 generally were not designed to accommodate the addition of ROPS. In 1976, the Occupational Safety and Health Administration (OSHA) required employers to provide ROPS and safety belts for all employee-operated tractors manufactured after October 25, 1976. Since 1985, as a result of voluntary agreements by tractor manufacturers, virtually all new tractors sold in the United States have been equipped with ROPS and safety belts.

Use the Seat Belt: When investing in a ROPS, make sure it is fitted with a seat belt. Use of a ROPS on a tractor combined with a safety belt is 99% effective in preventing serious injury or death, according to information from the National Agriculture Safety Data Base. In the event of an overturn, a driver could be thrown from the tractor and crushed or severely injured if not wearing a seat belt.

Homemade Devices Are Not Effective: No matter how heavy duty you think you are constructing a homemade rollbar, let the experts take care of it. The Society of Automotive Engineers and American Society of Agriculture Engineers have standards on the design of rollover protection systems.
ROLL cont.

protection structures and have tested manufactured ROPS. Simple sun shades or homemade devices do not protect the operator from an overturn and can give a false sense of security. Reducing Tractor Rollover Risk: Use the following as a guideline or checklist to make your farming operation a safe environment for everyone to work and enjoy, including employees and children.

1) All tractors must be equipped with ROPS (Roll Over Protection Structure) and a seat belt. No excuses. 2) Hitch only to the draw bar. DO NOT HOOK TO A BAR CONNECTING THE THREE-POINT HITCH. The most common cause of rear roll over is hitching above the centerline of the tractor. In a rear roll over accident, the tractor reaches a point of no return in 3/4 of a second and is on top of you in 1 1/2 seconds. There is no time to react, and without an ROPS, you will be crushed. 3) Do not take sharp turns at high speed. Most tractors have a high center of gravity and could tip. 4) Many newer tractor models have fold down roll bar. Do not fold the ROPS down unless absolutely necessary. Do not operate on hill sides with the ROPS down. 5) Be very cautious on steep slopes and hillsides with any tractor. Operate slowly on steep ground and set back wheels of the tractor as wide as possible. 6) Tractors used with front-end loaders should be equipped with ROPS. Front-end loaders raise the center of gravity and make all tractors less stable. Rollovers to the side are, therefore, more likely. 7) Be very careful operating narrow or tricycle front ended tractors, especially on steep slopes and hills. Consider replacing narrow front ended tractors with a wide front end. Tricycle type narrow front tractors should never be equipped with front-end loaders.

Retrofitting Older Tractors: Many of our older tractors were sold without a ROPS. If your tractor does not have an ROPS, retrofit your older model tractor as a winter shop project. The following is a list of companies that sell ROPS for older tractors. Always be sure to specify the year, make and model of tractor you have. For some tractor models, the particular ROPS required may depend on variations in axles, fenders, seats, platforms, loader mountings, tread width, overall configuration, or other factors. Ask about seat belt parts, mounting location and always discuss shipping costs. The cost of purchasing a ROPS for a tractor may be expensive, but a life saved is priceless.

Just Tractor Parts: They are a North American distributor of ROPS and built by Hercules, an Australian company. ROPS are available for hundreds of models of tractors. They are OSHA approved and can be shipped by UPS. Just Tractor Parts is located in Apple Valley, California. Contact Ron Depue at (760)-240-3336 or e-mail at sales@justtractorparts.com. Detailed information is also available on their website at http://justtractorparts.com.

Saf-T-Cab: They are located in Fresno, California, and sell through equipment dealers or directly to customers. Saf-T-Cab can be contacted by phone at 800-344-7491 or (559)-268-5541, or via e-mail at csesales@Saf-T-Cab.com. Its website is http://www.saftcab.com/index.htm.

Laurin: They manufacture ROPS at a plant located in Laval, Quebec, Canada. ROPS are OSHA approved and can be ordered through equipment dealers. Contact sales representative Jonathan Arkison or Christian Dubois at 450-689-1962 or via e-mail at jonathan.arkison@laurin-inc.com or christian.dubois@laurin-inc.com. The Laurin website is http://www.laurin-inc.com/en/.

BARE-Co: An Australian company, their primary dealer in the U.S. is Sierra Tractor, Shingle Springs, California. You can contact Sierra Tractor at 530-676-9920 or e-mail at brian@sierratractor.com. Detailed information is also available on their website at http://www.sierratractor.com/. Contact BARE-Co, Sacramento, California, directly toll-free 888-348-2273, or 916-373-9787, or att their website http://www.bare-co.com/index.htm.

AGCO, John Deere, Kubota, New Holland: Contact your local dealer for assistance.

For more information on this or other agriculture related topics topic contact J.J. Barrett, WVU Extension Agent for Agriculture and Natural Resources in Wood County at (304)-424-1960 or jj.barrett@mail.wvu.edu.

WV SHEEP INDUSTRY – POISED FOR GROWTH

BY DOOLARIE SINGH-KNIGHTS, NE SARE AND WVU EXTENSION SERVICE & MARLON KNIGHTS, WVU ANIMAL & NUTRITIONAL SERVICES

Indeed, 2011 has been a bumper year for U.S. sheep producers: lamb prices are at an all-time high, the price of wool is the highest it’s been since 1989 and the cull ewe and pelt markets are very lucrative. Nationally, 2011 slaughter and feeder prices were up approximately 44 and 53 percent respectively, from 2010. Prices at livestock auctions in WV and surrounding regions saw a 59 percent increase from 2010 and a 114 percent increase compared to five years ago. Historically, seasonal lamb prices usually peak during the February to April period. While this pattern will continue, you can expect higher than average seasonal prices in 2012, with prices predicted to be moderately higher than 2011 prices. The strength in prices is due to dwindling supplies of lamb, both domestically and internationally; a stronger traditional, emerging and alternative consumer base; and stronger ethnic and holiday demand for lambs.

Given increasing demand and tight supplies, the future of domestic sheep production seems bright and now has never been a better time for getting into or expanding sheep production. Processors and consumers, from the commercial market channel to the rapidly growing nontraditional markets, are clamoring for a greater supply of lamb. The American Sheep Industry (ASI) reports that in 2011, two of our nation’s grocery store chains made major announcements related to the sale of American lamb: Kroger, one of the nation’s largest grocery store chains, launched an American lamb branded campaign and Super Walmart made a commitment to exclusively carry American lamb in its stores. Additionally, the nontraditional market channels, which include on-farm sales, farmers markets and small processors serving ethnic communities, have shown exponential growth in recent years. In fact, one-third of the U.S. lamb crop has moved outside the traditional industry infrastructure to supply this nontraditional lamb market.

This robust demand for product is also being experienced in the wool market. The U.S. military, the largest domestic consumer of U.S. wool, has shown a renewed interest in obtaining locally produced high-performance washable wool products for our troops. However, from the farm gate through to the lamb and wool processing level, there is the concern that domestic supply is too low to meet the demand for lamb and wool in the United States. So far, about 20 states are capitalizing on this window of opportunity and increasing their sheep numbers. Still, it will be a long time before the US is able to match supply with local demand.

As an industry, we must supply the traditional market channel to keep American lamb in the nation’s largest grocery store chains and restaurants all the while meeting the emerging demand for American lamb in the nontraditional markets. A strategy to

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As you harvest your summer bounty and your freezer and cellar are getting full, you may want to consider dehydrating some fruits and vegetables. Dehydrating is one of the oldest methods of preserving fruits and vegetables, and can be done easily at home with a minimal amount of tools.

Drying preserves food by removing the moisture content which prevents food from decaying and spoiling. A properly dehydrated product will be dried at a consistent temperature that is low enough to remove moisture without cooking the product but still prevent microorganisms from growing. You will also want to perform the dehydration where there is enough air circulation to move the moist air as it is removed from the food.

As with any home preserved product you will want to start out with good quality fresh fruits or vegetables. You will also want to know the capabilities of your product, because not all fruits and vegetables will dry the same. Some require blanching to stop enzyme action while others require the addition of an acid bath, like lemon juice to retain color. Certain products require blanching to stop enzyme action while others require the addition of an acid bath, like lemon juice to retain color. Certain products can be dried whole while some fair best used for dried meats, bananas, and fruit leathers. When considering oven drying your food you will need to first check to see if your oven will go as low as 140 F. You may want to leave a thermometer in the oven to check the temperature. To help with moisture control you can leave the doors open a crack, but this is not recommended in homes with small children. The use of drying trays inside the oven need to be narrow enough to clear all sides of the oven by a few inches, cake cooling racks on top of cookie sheets work well. Remember to always leave enough room for good air circulation.

**Sun dehydration** is the oldest method of dehydration, with many gardeners still drying beans on the vine. Foods with a high acid and sugar content like fruits and some tomatoes are safest for sun drying. Days that are hot, dry, and breezy are best for outdoor dehydrating. Temperatures need to be a minimum of 86°F with humidity less than 60%, or food will run the risk of spoilage and microorganism growth. There are many construction plans online for drying trays and boxes to increase the sun’s solar power to dehydrate. When building your own trays do not use hardware cloth or any metal that is galvanized or harmful chemicals could be released into your food.

**Foods to be dried**

Many fruits will become brown during the drying process. To avoid this you can dip your fruit in an acid which prevents the oxidation process, keeping the foods original bright color. Lemon juice or ascorbic acid are good choices which are available at most supermarkets. Foods with a thick waxy skin like grapes, cherries, and plums will need to be cracked to help let moisture escape during the drying process. Cracking can easily be done by dipping the fruit in rapidly boiling water for 60 seconds.

**Drying**

The amount of time the food takes to dry depends on the size and thickness of the pieces. You can check doneness by removing a few pieces and letting them get to room temperature then squeeze them to see if any moisture is left. When finished drying, foods should be leathery and pliable. Some pieces may be drier than others so after the drying period you will need to condition your foods. This can be done by putting them into plastic bags or glass containers and lightly covering them. Let them sit out in a cool dark place for around 10 days and shake them daily to keep them from sticking. Once all moisture is removed and foods are conditioned they can be stored in any air tight containers and enjoyed!

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**Apple and Peach Insurance**

**Deadline November 20**

**What is insured?**

Any variety of apples adapted to the area located on insurable acreage that has produced at least 150 bushels per acre in one of the past 4 years. Policy offers basic coverage against damage from natural perils resulting in fresh or processing fruit that fails to grade U.S. No. 1 Processing or better.

**What does it protect against?**

- Adverse weather conditions
- Failure of irrigation
- Fire
- Insects
- Plant disease
- Wildlife

**Next step?**

Apple and peach insurance is currently available in the following counties of West Virginia: Berkeley, Calhoun, Hampshire, Hardy, Harrison, Jefferson, McDowell, Mercer, Mineral, Monroe, Morgan, Nicholas, Putnam, and Webster. Locate an agent using the online agent locator or call Tom McConnell for assistance.

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**Agent Locator:**

http://www3.rma.usda.gov/apps/agents/

Contact:

Tom McConnell
(304) 293-2642
TRMConnell@mail.wvu.edu
http://smallfarmcenter.ext.wvu.edu/
Everyone’s capacity to manage risk is different. It often seems, with today’s volatile prices and high inputs no one can feel comfortable without buying some risk protection, especially because the federal government subsidizes the premiums. There is general political and financial uncertainty in many parts of the world, and I see opportunity for significant risk in production agriculture. In 2011, WV crop insurance policy holders were paid $1.5 million in indemnity payments of a U.S. total of $10 billion.

As we make plans for 2012, we have an excellent opportunity to seriously evaluate the adequacy of the 2011 risk management plan we had in place. Does last year’s plan seem adequate for the current year? Many things have changed since this time last year for all of us. This is the ideal time, before the spring rush, to make changes to our risk management strategies. A tool used my workshops is the USDA “risk management checklist” available at: http://www.rma.usda.gov/pubs/2011/risk_management_checklist.pdf.

The Center also utilizes an “individual risk assessment,” (available online) which looks at your overall business and financial decision making.

There are many sources of farm and family risk that need our attention. However, as an Extension Educator I am primarily concerned with price and financial risk for small farm families.

Many experienced farmers may have gotten used to government programs that almost automatically provided a safety-net and only required producers to enroll, and perhaps, idle a few acres. This is no longer the case for farmers. Today, the major farm safety-net is determined by individual producer decisions.

Marketing is the part of business that takes production activities into financial success. Effective marketers understand that unanticipated forces can lead to dramatic changes in crop and livestock prices. Understanding these forces is an important consideration for skilled marketers. We can rarely predict the future with much certainty, but if we study the past and consider what adjustments might be needed in a given scenario – we are better prepared to respond when changes occur in the future.

To be successful, you should take an informed and balanced approach to making marketing decisions. As we combine our marketing and risk management strategies, remember three personal factors:

1. Know what level of risk you are comfortable with;
2. Be willing to increase the number of skills in your marketing toolbox;
3. Develop an integrated management approach to your business.

Ask yourself:

• Am I financially able to “shoot for the top price” and withstand the potential downside consequences of missing?
• Should I receive professional marketing services?
• Can I afford to store a crop, hoping the price will increase, or are my cash flow needs such that I must sell directly at harvest?
• Will my lender understand my plan and help me achieve my goals?
• What are the potential costs and returns associated with alternative strategies?
• Does my marketing plan cover the entire calendar or crop year?
• Have I checked my marketing plan against my financial plan to make sure that income from marketing covers cash flow needs?
• Are all crop and livestock enterprises covered in my plan?
• Have I calculated production costs and estimated my yield to determine my breakeven price?

This year’s expectations are that risk exposures will increase in the form of high crop values, increased price volatility, higher input costs, tighter credit requirements, the need to recover from 2011 losses, higher family living costs, and aging farm operators. Does it make sense to manage risk by self-insuring? How much protection is needed for 2012?

What are your risk management needs for 2012? For some of us it’s protecting crop values, covering input costs, putting a floor under marketing contracts, recovering losses, and securing operating loans? With these concepts in mind, is your current risk management plan adequate for 2012 to fulfill your strategy?

Crop insurance agents now have 2012 rates and rules. They are also prepared to help you complete a free Risk Management Checklist and to discuss coverage, and cost control options that can strengthen your farm business plan to minimize the risk of an income interruption. The deadline to enroll/ change policies for most crops in 2012 is March 15. Managing risks may result in improved peace of mind for you, your business and your family in the year ahead. To find a crop insurance agent located near you, please visit the agent locator at http://www3.rma.usda.gov/apps/agents/. You can also start by calling your current agent.

SHEEP cont.

strengthen the lamb and wool industry’s infrastructure by increasing the number of sheep in production is vital for the long-term sustainability of the industry.

A national plan to increase the national sheep inventory was initiated in 2010 to address the shortage of sheep production in America. The American Sheep Industry (ASI) has come up with a formula to address these shortages within just a few years; it’s called Let’s Grow with twoPLUS. With three goals in mind, the primary objective of this campaign is to encourage current producers to expand their sheep numbers by 2014.

This initiative will result in more than 28 million more pounds of lamb and 2 million more pounds of wool for the industry to market. The three goals are: encourage producers to increase the size of their operation by two ewes per operation or by two ewes per 100 by 2014; encourage sheep producers to increase the average birthrate per ewe to two lambs per year; and encourage producers to increase the harvested lamb crop by 2 percent - from 108 percent to 110 percent.

ASI has developed a website (www.growourflock.org) and materials to help spread the word of the initiative. The site includes a video explaining the twoPLUS program; resources for producers; and an open forum for producers to communicate with one another and to share best practice.

For WV producers, this is an encouraging time to get into sheep production, expand your existing flock or incorporate sheep into your cattle or goat operation. For the producer and the state, this will mean an increase in employment, increased productivity of existing agricultural lands, maintenance of more environmentally sustainable production systems and a reduction in the rate of decline in the population and economic base of the rural community.

West Virginia University is at the forefront in attempts to increase production of lamb and productivity of sheep producers in WV and surrounding states. Through the WV legislature funded WV Small Ruminant Project, the university is able to offer a range of services, training, and on-farm demonstrations. The project is willing to offer advice to get you started or to expand your sheep (or goat) operation. For assistance or information please contact the WV Small Ruminant Project at (304)-257-4688 or http://sheepandgoats.wvu.edu/, or contact the authors directly at (304)-293-7606 or dosingh-knights@mail.wvu.edu; and (304)-293-1946 or Marlon.Knights@mail.wvu.edu.
COWS EAT WEEDS PILOT STUDY

BY CHUCK TALBOTT, PUTNAM COUNTY AGENT, WVU EXTENSION SERVICE

Herbicides are becoming more resistant to pests with each year. Currently, there are 131 herbicide resistant weeds in the U.S., of which 11 weeds are glyphosate (Roundup®) resistant. It only seems like a matter of time before herbicides could be rendered ineffective, cost prohibitive or counterproductive, especially if our soils are left sterile due to the consequences of excess soil salinity.

Last January I attended the VA Forage and Grassland Conference and had the opportunity to hear Fred Provenza discuss his work “The Wisdom Body: Nutrition, Health, and Nature’s Pharmacopeia”. His thesis refers to an animal’s ability to grow, reproduce, and survive on foods they evolved to eat. Flavor-feedback, mediated by nerves, neurotransmitters and hormones form the basis of the Wisdom Body, which helps the animals meet their energy, protein, and mineral needs and self medicate to rectify a number of maladies. Kathy Voth is a student of Provenza and developed her “Cows Eat Weeds” program based on Provenza’s work.

Six area WVU Extension Service ANR agents worked with a farmer to pool our information and experiences into a pilot project. The WVU Small Farm Center funded the project’s feed, infrastructure, and training DVD for each agent and his participating farmer. The goal of the project was to determine if six agents and a participating farmer could teach cows to eat weeds using the steps outlined in Voth’s book Cows Eat Weeds: how to turn your cows into weed managers.

I worked with my producer and observed each trial feeding (about 1 hr/feeding). We had 13 replacement heifers, each 700-900 lbs, and fed 2lbs supplement per animal (twice daily for four days) with feeds similar to those prescribed in the workbook: alfalfa pellets, cracked corn, steamed barley, (horse) sweet feed, beet pulp pellets, corn and cob meal and wheat bran. The heifers were in a 1.5 acre holding lot with a mixture of about every weed observed in the pastures on the farm. I would arrive early and stay late each day to observe their grazing behavior and preferences. The temperature in the morning was 60 F and during the day was between 80-90 F.

During the trial, I observed that after feeding the supplement, the heifers would routinely return to graze (often aggressively) smart weed (pre bloom), lambs-quarters (pre bloom), curly and smooth dock (pre bloom) and our target weed, spiny pigweed (less aggressively and seeded).

Six agents, five farmers and four administrators attended the “Cows Eat Weeds” workshop on August 2, 2011. I gave a presentation on my observations and was convinced that the cows would relish the pigweed they’d eaten all week! When it came time to feed the heifers the cut pigweed on the day of the workshop, they ate the supplement and picked around the pigweed, which surprised me... initially. I thought the “moisture” in the pigweed would be welcomed with the dried wheat bran. They left the cut pigweed and went back to graze... weeds.

When I returned from the workshop, I was disappointed that the cows did not perform as expected. I had observed them eat pigweed all week and thought that it would readily consume it at the workshop. I called Kathy Voth and explained the outcome to her. She suggested removing the feeding pans (from 2 heifers per pan to 3 heifers/ per pan) to instill competition.

“I like to have them fight around the tubs. It’s kind of like when you’re trying to pick a restaurant and you see one with a full parking lot and one with only a couple of cars. If you’re like me, you’ll probably think that the full parking lot means better food– the cows do the same thing. They seem to think that if every cow is trying for something, then they ought to hurry to get their fair share too. When they’re struggling like that they also don’t really know what their herd mate is eating, so they just grab whatever they can and swallow it. That’s good for us. I know that if I can get just one weed into one stomach, that animal will experience the good feedback and keep on eating that weed.”

Armed with a new approach, I introduced ironweed at the next two feedings. I fed early bloom ironweed that night (with corn and cob meal) in four pans (instead of six) and 80 percent of the weeds were consumed. I think the competition and “late for lunch” attitude, which Kathy described, played into the feeding frenzy and improved consumption. There was a much more encouraging response with less feeding pans; heifers ate the ironweed.

I obviously learned more than the heifers; I now know they will consume these specific weeds without training. The next step is to improve our grazing management, i.e. stocking density and time of grazing, etc.
WOULD YOUR FARMERS LIKE TO HAVE A WINTER MARKET?

BY LARRY LOWER, PRESIDENT OF THE WEST VIRGINIA FARMERS MARKET ASSOCIATION

Farfetched? A market in the dead of winter may seem so to many producers and farmers markets across the state. At this time of year, most producers and market managers are thinking about the summer ahead. And yet for long term success, market managers and producers should be focused on the next five years. That five year plan may include producing and selling year round. The movement is already well underway in many states and has already begun in West Virginia. Seventeen percent of the 7,222 farmers markets nationwide operate in the winter.

How about the Winter Blues Farmers Market organized and held each year by the WVFMA? The WVFMA was an early pioneer in holding a winter market in our state for the first time four years ago. By looking ahead, the WVFMA tries to prepare its constituents for the future. This one day Winter Blues Farmers Market is held in Morgantown and timed in conjunction with the WVU Small Farm Conference. Open to any West Virginia producer and eligible nearby producers who meet the requirements, it has grown every year. Last year gross income for 35 vendors approached $12,500.

This year looks to be even larger. For more information on the Winter Blues Market and the WVU Small Farm Conference go to www.wvfarmers.org.

Will a winter market work in your area? Bridgeport, Morgantown and several other markets in West Virginia have already extended the length of their seasons, operating through winter, or through November and December and opening again as early as March. Sometimes the markets are held on a limited scale and with reduced hours. So the movement is already underway. It may not work in every community, nor immediately, but customers are still eager to support their farmers in winter. This could be a way for them to do that.

How can this happen? There are several factors at work. First and foremost, a winter market is a function of production of foods that can be marketed year round. The old image of farmers having fresh product only from May to October is quickly changing. And so is the perception that farmers markets only operate as places to buy your tomatoes, peppers and sweet corn. Production in greenhouses, high tunnels and low tunnels is increasing. Secondly, produce from in-season growing is increasingly being processed into “value added” products that are available year round. Meats are packaged and frozen, eggs and dairy products are available year round, often formed into other products. And of course, locally produced baked goods and other local products can contribute significantly to sales throughout the year. As production changes to include late fall, winter and early spring crops, farmers who wish to extend their income through those formerly “no-income” months, are finding other marketing techniques to supplement their winter sales. These techniques may include wholesale, sales to institutions and operation of winter CSAs (community supported agriculture). A corollary is that producers must diversify their product line, adding cool weather crops, such as greens, cole crops, root vegetables and early spring products like asparagus and rhubarb. This planning sets the stage for the joy of the consumer who can obtain local foods through the winter as well as celebrate that first harvest of fresh produce in the spring.

Is it all just more growing and more selling? Basically yes, but practically no! Planning is of the utmost importance. In parallel, the WVFMA looks ahead and strategizes and organizes to get there. Projects do not happen overnight or even over a year, but maybe over a few years. For example, in addition to our continued educational efforts on substantive issues such as food safety rules, insurance coverage, organizational structure, etc., we increasingly realize we need to take the longer view by adding business planning to our training and support activities. We are taking steps to enhance our Board’s capabilities, are always dependent on volunteers, and are seeking funding to offer both more technical support and increased business planning for our members.

Next steps? Start by attending training offered within the Farmers Market Track at the Small Farm Conference in early March. Later in the year we hope to offer training regionally. One of the sessions is about winter marketing called “Keeping It Going: Winter Farmers Markets” and another is a forum for us to talk about what we need to be doing in the future. You can take advantage of training and development support provided by WVU, WVSU, and other nearby institutions and organizations working to move the food revolution forward. You can support the WVFMA by volunteering for committees, serve on the Board of Directors and sustaining or initiating your membership in the West Virginia Farmers Market Association. We are all in this together.

Want to know more about WVFMA? Visit the WVFMA website at www.wvfarmers.org or reach directors through wvfma@wvfarmers.org.
FOOD COMES FROM A FARM, NOT A STORE

BY APRIL ROACH, LINCOLN COUNTY AGENT, WVU EXTENSION SERVICE

Where are we headed in 2012? It seems that is the big question on a lot of minds since ringing in the New Year. We have been hearing about the Mayan Calendar, the end of the galactic year, the Hopi Indian stories of the coming of the 5th World, increased environmental changes and disasters and a host of other “end of world” scenarios. It seems the general population is buzzing louder than 1999 when we were all sure that computers would end the world because they couldn’t compute the year 2000. With all of this, it’s no wonder that people have the future on their minds.

Me, I have been looking to the past, 1949 to be exact. It was this year that Jesse Stuart, award winning novelist, published one of his now famous writings, “The Thread That Runs So True.” I was forced (of course I’m joking Mrs. Priestley) by my 10th grade classics teacher to read this in 1986. Little did I know that it would impact my career over 25 years later.

If you are an educator, administrator, student, farmer, rancher, gardener, parent, or you resemble any of these people, then you need to read this book. Mind you I said NEED, not should. This book describes the difficulties that Mr. Stuart faced as a teacher in Greenup County Kentucky during the early part of the 20th Century. At this point you may be asking yourself, “Why should I care? That was nearly 100 years ago.” This was the time when the educational system began to change the face of agriculture and the family farm forever.

In this book, Stuart describes how he convinced families that there was a value to education for their children. He faced the daunting task of demonstrating that an education could help them with production on their farms and in some ways could be considered more valuable than the labor that the children provided. Keep in mind that at this time the only thing standing between families and the threat of starvation was the food grown on these farms. But in time, Eastern Kentucky families, much like the rest of the United States, began sacrificing the labor time on their farms so that their children could attend school and get an education. This was truly a wonderful thing.

Now come back to the present time. Here in 2012 we find that when most children are asked where their food comes from, the reply you will most likely hear is the store. Yes, that is true, but what would the children in Mr. Stuart’s book have said? I would say the answer would have been much different. In the hard and fast pursuit of education and the development of technology, it seems we have forgotten that the family farm can and should be a focal point in our lives, even if it means reading books, watching movies and programs, and taking the occasional trip out of the city to visit working farms to buy food.

Recently, during a pilot class called The Lincoln Learning Garden, a group of 2nd graders at West Hamlin Elementary got the opportunity to learn about agriculture. They also grew their own food in a school garden. During this time they were asked how they felt about the class and gardening in general. Eighty-eight percent of them thought that gardening and growing plants was fun, but 57% of them indicated that they had never done it before or had very limited experience. When asked if they thought fruits and vegetables were important for good health, 84% didn’t respond at all, possibly indicating that they didn’t associate fruits and vegetables with good health. An overwhelming 99% of them thought that gardening would help them learn the content of 4 formal lessons that were heavily focused on math and science skills. While the number of students involved in this activity was low (75 students), this information still speaks volumes on what can and should be done to bringing children back to being involved in producing their own foods locally.

My challenge to you is to first read Mr. Stuart’s book. Consider the idea that if he was successful in bringing children from the farm to the school, then it only goes to reason that it could be reversed, making it possible to take education to the farm. This book has long been reviewed and discussed in direct relation to the development of education in rural America. Perhaps now, we need to read it again to understand the indirect story that it may tell. How would Mr. Stuart take education to the farm? Second, ask that local FFA student you know what they think. These are the people that will bring about this change if it is to happen at all.

So in this year of uncertainty, there are many things in which to be concerned. But one thing is for sure, people will still need to eat today regardless of what happens tomorrow. The knowledge and skills on how to produce food and the sooner in life it is learned, the better. I want the students in Lincoln County to know that food comes from a farm long before it comes from the store. My 2nd grade students are ready to take on the task. This too is truly a wonderful thing.

SECURING YOUR PRICE IS AS EASY AS L-R-P

The LRP is an insurance program that insures against a decline in the national market for Fed and Feeder cattle. It provides producers an indemnity if a regional or national cash price index falls below an insured coverage price. Similar to a put option, the LRP policy is price insurance only, providing single-peril price risk protection for the future sale of insured livestock.

What is insurable? Swine: Market Hogs, Weight 150-225 lbs (Carcass), 203-304 lbs (Live)
Feeder Cattle: Feeder Steers, Bulls, & Heifer < 600 lbs, Feeder Steers & Heifers from 600-900 lbs, includes Dairy and Brahman Breeds
Fed Cattle: Steers and Heifers, Select or Higher, yield grade 1-3, Weight: 1,000-1,400 lbs

Next step? Locate an agent using the online agent locator or call Tom McConnell for assistance.

Contact:
Tom McConnell
(304) 293-2642
TRMcConnell@mail.wvu.edu
http://smallfarmcenter.ext.wvu.edu/

AGENT LOCATOR: http://www3.rma.usda.gov/apps/agents/
WV SARE & WVU EXTENSION PROVIDING LEADERSHIP & RESOURCES ON FOOD SYSTEMS

BY NOLA WILSON, SARE PDP OUTREACH LEADER, WEST VIRGINIA UNIVERSITY

Funding from NE SARE through a Professional Development grant will provide capacity development training and support for Extension Agents in the areas of: collaboration/network building, market analysis/capacity assessment, farm management and sustainable production practices. These interdisciplinary trainings will provide agents the needed tools and support to enhance their educational programs in their area. Following the trainings agents will develop and implement a community project that will build new capacity for farmers to access local higher-value markets. Ultimately, strengthening the local food system and farming communities in West Virginia.

Twenty-one Extension Agents participated in a WV SARE strategic planning session to identify, discuss and prioritize the critical issues, gaps and barriers that limit farmers’ accessibility to develop, enter and/or compete in local food markets. Agents then prioritized educational and training needs that will help them to educate, empower and support farmers, community groups and youth on how to successfully compete in a local food market to sustain local farming communities.

Based upon the needs and priorities identified WV SARE in partnership with WVU Extension, WVSU Extension, and Western Maryland Extension along with other experts in the field will develop a comprehensive practical train-the-trainer program over the next year.

Following the trainings the agents will work on community food project that will enable farmers and a community groups to develop their local food system. Project examples may include, but are not limited to: establishing farmer to farmer networks, local food system assessments and/or strategic plans, working with establishing cooperatives, building community awareness of local food systems, revitalize a farmers market, offer comprehensive short courses, develop a young farmer program. Northeast Sustainable Agriculture Research & Education (SARE) is a regional program of the National SARE program, which is part of the National Institute of Food and Agriculture (NIFA). NE SARE offers many different categories of competitive grants including: Farmer, Partnership, Sustainable Community, Professional Development, and Research and Education grants. If you have a new idea for farming or agri-business, want to explore new or expanded marketing opportunities, improve profits, enhance environmental stewardship, or undertake similar projects along these lines, then you may want to consider applying for a SARE grant. To learn more about NE SARE grant opportunities visit the website at https://nesare.org or contact me, your new Northeast SARE PDP Outreach Leader Nola Wilson, directly.

To learn more about NE SARE visit their website at www.Nesare.org. Please feel free to contact me at 304-293-7312 or at Nola.Wilson@mail.wvu.edu.

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**Crop Insurance**

**Corn, Oats, Tobacco, and Soybean**

**Sales closing/policy change date March 15**

**CORN:** The crop insured will be all corn grown in the county on insurable acreage, for which premium rates are provided, in which you have a share. Corn for grain or silage may be covered with yield protection or revenue protection.

**OATS:** Coverage for small grains is available in most counties of West Virginia. This consists of winter wheat, oats, and barley. In 2010, 35 percent of WV’s 7,000 acres of winter wheat were insured. More than 400 acres of oats and barley were also insured.

**TOBACCO:** The tobacco policy covers Burley tobacco grown in specific counties of West Virginia: Cabell, Jackson, Lincoln, Mason, Monroe, Putnam, Wayne.

**SOYBEANS:** The crop insured will be all soybeans grown in the county on insurable acreage, for which premium rates are provided, in which you have a share, and is planted for harvest as grain that is a combine-type hybrid. Soybeans may be covered with yield protection or revenue protection.

**Yield Protection**

Yield protection loss: when the amount produced for the unit fall below the production guarantee as a result of damage from a covered cause of loss.

Revenue protection loss: when the value of production to count is less than the revenue protection guarantee due to a production loss and/or a loss of revenue.

**Causes of Loss**

- Adverse weather conditions, including hail, frost, freeze, drought, and excess precipitation
- Failure of irrigation water supply
- Fire
- Unavoidable insects
- Unavoidable plant disease
- Wildlife

**Next Step?**

Thinking about investing in a crop insurance policy? You can find crop insurance agents near you by visiting the agent locator (http://www3.rma.usda.gov/apps/agents/).


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Visit us at http://www.rma.usda.gov. Please feel free to contact me at 304-293-2715 or at tmconnell@mail.wvu.edu.
2010 was a busy year for the Multi-species Grazing Project members and the fifteen cooperating farmers that agreed to participate. (At this time we are not adding any additional farmers to the project.) WVU Extension Service faculty members are providing leadership for this effort with additional assistance from the Wes-Mon-Ty RC&D. The project is funded by USDA NRCS to determine if the addition of sheep to cattle operations can be used as a conservation practice. A conservation practice is a specified treatment, such as a structural or land management practice, that is planned and applied according to NRCS standards and specifications. We are all familiar with typical conservation practices such as watering troughs, nutrient management plans and fencing system. The question posed is: how can the addition of sheep to a cattle operation be considered an innovative conservation practice and what are the effects of this multi-species grazing system?

Research has clearly demonstrated that adding sheep to a cattle operation increases on farm income through the greater output of the combined livestock on a per acre basis. This occurs because of better utilization of grassland resources. This conservation effect improves the ecology of the affected soils in the following ways--macro-nutrient cycling includes nitrogen, phosphorus, potassium, calcium, magnesium and sulfur. These nutrients are needed in large amounts for plant growth and they show an increase in availability during the growing season with multi-species grazing. Pasture soils have been shown to have increased buffering of pH, reducing the frequency that farmers need to add lime. Soil microbial respiration values and populations of soil invertebrates such as earthworms and rotifers are increased with the addition of sheep to a cattle grazing system. All these stimulative effects of the biological system have a positive consequence on soil nutrient cycling. One obvious result of this energized biological system is increased forage dry matter production per acre. This is one reason that a cattleman can add one ewe to each cow in a pasture and see no productive loss or reduction in gain to the grazing cattle. There is synergy grazing sheep in a cattle system. The literature has also shown better season long balance among forage growth, quality and the nutritional need of co-grazing livestock. Sheep ready utilize forage rejected by cattle. An additional ecological service provided by this multi species grazing system is the increase in carbon sequestration throughout the soil profile. The addition of sheep to a cattle operation represents a very inexpensive and potentially profitable method of increasing carbon storage in the soil.

When carbon markets develop in the future, the farmland soils can be measured for existing carbon content and a payment determined from the accumulation of this carbon derived from the co-grazing system. These are all well researched effects but the project wanted to test the interest, ability and management skills of a group of West Virginia Cattlemen to add sheep for a period of three years with an individual incentive up to $5,100. This payment was provided to cooperating farmers to improve the fencing on the cattle operations so a flock of sheep could quickly be added. The conservation effects and the ability of the cooperating farmers to manage the new enterprise are now being assessed on fourteen farms in north-central WV.

Our project objectives include; 1. Demonstrate the multi-species grazing effect by implementing prescribed grazing systems on cooperating farms; 2. Conduct a grazing and sheep husbandry educational workshop for the cooperating farms so they were prepared to handle the sheep enterprise; 3. The demonstration of a cost share program is now complete but we recruited 14 farms, just six short of our target 20 farms; 4. Development of a marketing pool with our cooperators will be initiated this summer as they are rearing their initial lamb crop; 5. An economic evaluation of each cooperator will be conducted at the end of the third grazing season to determine the costs and income potential of this additional sheep enterprise to the cattle farms.

Our initial recruitment was 15 farms, but one farm was unable to continue the program. At this time we have 14 multi-species grazing operations with a total of 332 sheep added to the 350 cattle on the 14 farms. We held a successful two day workshop, “Integrating Sheep with Cattle Grazing Systems for Pasture Improvement and Sustainability” during February 2010 for the cooperating farmers, to improve their sheep husbandry and grazing management skills. In April, 2010 we purchased over $70,000 worth of fencing materials and the farmers began to add sheep to the farming operations. During August and September of last year WVU Extension faculty visited each farm to provide assistance and evaluate the success of the integration of sheep into the cattle operations. Our objectives for 2011 are to enable the project farm group to develop a marketing system that fits best for each individual farmer. Our ultimate goal will be for these new shepherds to develop a marketing pool for their lamb crops in the coming years.

The initial conclusions of this project are that adding sheep back into the West Virginia pastoral landscape will continue to be a challenge. The additional workload of raising sheep, the needed improvement of existing fence, increasing threats from predators and internal parasite management all contributed to our inability to recruit the target 20 farmers for this project. Our cooperators could best be described as beginning farmers and early adopters. By agreeing to participate they demonstrated a lack of prejudice against sheep. The group primarily purchased hair sheep breeds to eliminate the need to shear.

ABOVE: Sheep co-grazing with Cattle along with predator protection Llamas in the Sinks of Gandy
MANAGING PESTS ON SMALL FARMS

BY M. MAHFUZ (MM) RAHMAN, PLANT PATHOLOGY SPECIALIST, WVU EXTENSION SERVICE

Some pests can destroy a farm’s productivity and profitability in a very short period of time regardless of the farm size if proper management strategies are not developed and implemented. A wide range of insects, weeds, fungi, bacteria and viruses find their way into local fields, greenhouses, orchards and multiply rapidly under favorable weather conditions to cause significant losses in yield, quality and aesthetic values of crops and ornamentals. Most farm operations can tolerate minor losses to some of their crops; however, no farm has a profit margin that can tolerate heavy losses. This is especially the case on small farms where limited production makes the total operation more sensitive to even moderate losses. It is therefore critical to the small farm’s financial survival that a sound pest management plan be developed and followed each season. In general, the strategies growers employ to mitigate losses include application of chemical pesticides and fumigants, as well as naturally occurring salts, oils and other relatively benign materials that suppress pests and diseases. Large farms are more capable of responding to an obvious pest outbreak quickly by mobilizing available resources compared to small farms. Thus, small farms need to be extremely vigilant and put more attention on preventative strategies rather than waiting until the pest threshold reaches the level of economic injury that warrants application of chemical pesticides. The success of these strategies, however, largely depends on accurate diagnosis of pest problems and availability of materials that were proven effective under a certain agro-ecological condition. Absence of reliable early detection and diagnosis leads to uncontrolled multiplication of pest populations at a level where the only control option is the use of toxic pesticides. Reliance on pesticide without proper diagnosis may cause manifold problems such as financial, environmental and control failure due to resistance development in pest populations. In fact, many contemporary pest control products and strategies are quite specific, being effective against one pest, ineffective against others, and potentially making other pest situations much worse as causal pests get plenty of time to infest newer areas. Additional applied research may be necessary to find the best strategy with highest efficacy based on the costs, benefits, and liabilities of each tested strategy.

Pest Diagnostics: West Virginia University Extension Service provides free diagnostic service of farm pest problems to West Virginia farmers and growers, and recommends the best management options available. The Plant Diagnostic Clinic in Morgantown takes the lead on diagnostics in collaboration with all 55 county extension offices in the state. County Extension Service has been playing an integral role in obtaining samples from the clientele and submitting it to the diagnostic clinic with required information and paper work. With the advent of the Plant Diagnostic Information System (PDIS), online software was made available through National Plant Diagnostic Network and enhanced the role of county offices as now a digital sample with many important photos of the sample in its original ecosystem. These photos can be submitted for an immediate early diagnosis followed by a physical sample if needed. Digitally assisted diagnostics (DAD) in many cases significantly reduced the time required for this process facilitating management tools to be in place on time. Contact address and sample submission forms for the WVU Plant Diagnostic Clinic can be accessed online at http://www.anr.ext.wvu.edu/r/download/108612. In order to ensure that the laboratory diagnostician has all the information required to make an accurate diagnosis, it is important that a proper sample be collected and that it be sent along with the relevant field observations.

Many environmental and nutritional imbalance related damages can only be discriminated from biotic pest caused damages by providing weather and soil nutritional data together with affected sample. Early and accurate diagnosis is also consistent with basic principle of Integrated Pest Management (IPM) that discourages use of chemical pesticide unless absolutely necessary. Many sustainable farms started to rely upon IPM as an alternative to the heavy use of pesticides. IPM is now recognized as a growing movement amongst farms of all sizes that incorporates a variety of techniques to eliminate pests while minimizing damage to the environment.

Essential Points to Ponder for Small Farm Pest Management

The planning stage for pest management in small farms should include the following considerations:

1) Reviewing previous years’ pest outbreak trend and recurring pest problems if any;
2) Selection of available resistant varieties against pests that were found to cause damage previous years;
3) Pest-free and healthy transplants that minimize introduction of plant pathogens, nematodes, and insects;
4) Optimum fertilizer programs that result in healthy growth as opposed to maximum growth. Excess nitrogen use in most cases makes plants more susceptible to diseases;
5) Scouting for diseases, nematodes and insects during the growing season;
6) Sending a digital sample or suspected specimen to WVU plant diagnostic clinic through county extension office with the earliest possibility for obtaining right diagnosis and recommendations;
7) Adding current year’s diagnosis in the planning for following year’s preventative options. For example, if soil of a specific field is heavily infested with root knot nematode, pre-planting soil incorporation of products with nematocidal property or not to plant cultivars susceptible to root knot;
8) Sanitation practices that minimize microorganism movement from diseased plants to healthy ones, including removal of all plant materials after final harvest.

Application of such integrated practices will ensure economically and environmentally acceptable crops in small farms.

Crop Insurance Small Grains

September 30 Sales Closing Date for Barley and Winter Wheat

Wheat and barley may be covered with yield protection or revenue protection. Wheat previously covered under the Crop Revenue Coverage plan will be converted to Revenue Protection. Yield Protection Plan and APH provides protection against production losses. Revenue Protection Plan provides protection against loss of revenue due to a production loss, price decline or increase, or a combination of both.

Causes of Loss

- Adverse weather conditions
- Failure of irrigation water supply
- Fire
- Insects
- Plant disease
- Wildlife

Information brought to you by:

For more information contact your crop insurance agent or:

Tom McConnell
PO Box 6108
Morgantown, WV 26506-6031
Phone: 304-293-2642
Fax: 304-293-6954
E-mail: TMcConnell@mail.wvu.edu

This crop insurance tool is a product of:
LOCAVORE DINNER

BY AIMEE NEELEY FIGGATT, FARMER, PUTNAM COUNTY

I had an idea. I wanted to be able to open the farm to the public, something you just can’t do every day when you are working and trying to take care of crops and animals. I had read online about the Locavore Picnic hosted at Green City Market. It sounded fun and a lot of work. Every market day at least a few consumers will say “I’d love to see your farm!” or, “I’d love to bring my kids to your farm so they can see where food is grown.” I wanted them to come, but when, how can I do it without disrupting my work days?

It was decided. A Locavore Picnic it is! How will I do this? How can I cook everything? Should I set up a cap on attendees or will anyone even show up? I wanted more than just dinner. I wanted heritage artisans and workshops. Farm critters and old time mountain music. From there, I begged friends and other farmers for help and thankfully, they obliged.

The buffet style cookout that celebrated the harvest of local farmers was prepared by Chef Billy Desimone and baker Kim Henson of the Buffalo Diner. Desserts made with local ingredients were prepared by Sarah Plumley of Pie’s by Sarah and The Hillbilly Homeschoolers 4-H club. While attendee’s waited for the fresh prepared food workshops were set up around the farm for adults and children alike. Diane Lumadue hosted a goat milk soap workshop, Melissa Stewart and Shelley Whittington hosted the Jr. Master Gardeners tent where the kiddies could learn about plant growth and health, conservation and recycling.

Annie Higginbotham was in attendance with her beautiful, friendly llamas that impressed the crowd when they began giving cart rides all over the farm. Sonora Winds and The Itty Bitty Kitty Committee arrived with rescue cats and dogs in tow for folks to meet. Locavores enjoyed meeting Paul Carbanaou and tasting his local honey. Sharon and Roger Pierson showed little ones how to churn butter and Mil-Ton Farms arrived with fresh beef and sausage for sale. Black Oak Hollow Farms had an educational booth about free range pork.

Hilda Giffin, who grew up here at the Tyler Creek Farm brought copies of our Grandmother Cordelia Riffe Figgatt’s book West Virginia Farm Stories, Essays on Farm Life that were available for purchase.

Heart of Phoenix Equine Rescue educated curious folks on horse rescue and care while giving pony rides to children as the always vocal Mr. Donkey that came along with them looked on saying “HeeHaw, HeeHAW!” We’re pretty sure he was singing to the old time mountain music being played by my cousin and fellow farmer Chris Lovejoy and friends.

While the farm critters meandered and worked the crowd, resident dairy goat Gertrude was happy to oblige the masses with her milking abilities. Ever so patient, she allowed the children to milk her with the help of her farmer happily munching on her sweet grains while children giggled and adults marveled. She later told the farmer that she was very proud to “learn that crowd” where real tasty milk comes from!

Now it was time to eat! I’ve never seen such a line. I had to laugh when I went through the line to hand out some of the hundreds of ears of corn we had roasted and noticed WVU Extension Agent Chuck Talbott had one in hand, and two in his back pockets. We told attendees to just drop corn shucks and cobs on the ground, there was a plan for them later!

Everyone ate, and ate, and ate.... and ate. While happily full adults were listening and dancing to the music we called for the kiddo’s once again. One job, then a treat. Gather all the corn shucks and cobs.. then off to the pig pen for feeding. You’ve never seen happier kids or pigs for that matter. Upon returning from the barn, baggies of heavy cream were waiting on them, along with ice and rock salt. We know what that means...HOME MADE ICE CREAM!

Lastly, we did set that cap on attendees. It was set at 75. Last count on happily fed Locavores? 243. Better planning next time.

THE 2012 WEST VIRGINIA STATE FAIR

BY MARLENE PIERSON-JOLLIFFE, CHIEF EXECUTIVE OFFICER, THE STATE FAIR OF WEST VIRGINIA

The mission of the State Fair of West Virginia, a 501-c-3 nonprofit corporation, is to produce a quality Fair committed to the traditions of agriculture, family entertainment, and education, and to develop non-Fair events that utilize the existing facilities, that create opportunities for growth, and that benefit the community served by the facility.

The year 2012 marks our 88th anniversary and the August 10-18 event is themed “Memories That Grow...Year After Year.” This theme focuses on the family connections that provide an awesome foundation for our event. Time after time we hear from visitors that one of the most important reasons they visit is to pass the love of the Fair on to their children and grandchildren. Our priority is to continue telling the story of agriculture to a generation that is very far removed from the farm. Fairs nationwide continue to be the best avenue for large agricultural enterprises to tell the story of how food gets to the kitchen table.

Recent successes include the Moo University Agricultural Tours, the Dairy Birthing Center, Farmer For-A-Day display and the expansion of the WVU Master Gardeners heritage garden. Each of these activities is hands on and real! This spring we hope to launch a new project targeted at 3rd graders featuring “Grow Um” kits which are self contained themed seed kits with a web based tracking mechanism to track growth of the plants. The culmination for the project will be displays of the plants during the week of the Fair.

The most recent economic impact study by Enigma Research Corporation verified that the 9 day State Fair had a $13.8 million statewide Economic Impact.
MARKETING TABLE EGGS

BY CARRIE SEE, PROGRAM COORDINATOR, WVU EXTENSION SERVICE SMALL FARM CENTER

Many times we’ve heard marketing specialists suggest to farmers that they should diversify their operations. One easy way to branch out into new enterprises is with the addition of growing and selling farm fresh eggs. They are a logical and valuable addition to your vegetable or meat operation. Local eggs are appearing on restaurant menus and in grocery stores, much to the pleasure of the locavore. Simpler than selling breaker eggs (which are eggs sold to a breaking facility or factory to be included in value added products, such as cake mixes) table, or shell eggs require very little processing.

If you are interested in raising eggs to market, there are a few things you’ll need to know. The West Virginia Department of Agriculture requires that you fill out an Application for Egg Distributor Certificate of Authorization. The good news is that if you sell fewer than 150 dozen eggs a week, you are exempt from the permit and inspection fees, and must simply fill out the information. Having this certification will classify you as an “approved source” and you will be able and approved to sell eggs to grocery stores, restaurants, etc.

The paperwork accompanying the application includes the Marketing of Eggs Rule, which details the processing (washing and packaging) of eggs and labeling of cartons, as well as requirements on how to store and handle them while delivering or selling at farmers markets. Eggs must be kept between freezing and 45 degrees at all times in order to maintain freshness. A farmer may use recycled (store purchased) cartons if they mark out the original distributor’s information and replaced it with their own label.

Some county health departments require a bit more paperwork if you want to sell eggs at a farmers market. This is called a Food Establishment Permit and isn’t required everywhere. If you’re selling at a farmers market, be sure to give the local health department a call to make sure you’re within compliance.

Marketing opportunities abound for those who sell eggs. Many bakeries in the Morgantown area have begun using local eggs in their products, and it’s been a longtime practice in many restaurants. Moving beyond our grandmother’s habit of “keeping chickens,” small farmers can use poultry and egg production to make their farmers market table more appealing and profitable while providing a high protein, nutritious product to their clientele. As Tom McConnell says, “There’s nothing better than a farm fresh poached egg on a Sunday morning.”

You can access the paperwork for small scale egg producers on the Small Farm Center website at http://smallfarmcenter.ext.wvu.edu/farmers_markets/vendor_resources, or by contacting the WV Department of Agriculture. Packets will also be available at the Poultry Workshop of the Small Farm Conference on March 1.

NEW PLANTING ZONES

BY JOHN PORTER, KANAWHA COUNTY AGENT, WVU EXTENSION SERVICE

Garden zones became a “hot topic” this month when the U.S. Department of Agriculture unveiled the new Plant Hardiness Zone Map.

The Plant Hardiness Zone Map is a breakdown of annual minimum temperature averages that occur in a region over several decades. The maps are periodically updated by the USDA, but until last week the latest update happened in 1990. The new version of the map not only takes into consideration temperatures, but also elevation, proximity to water, slope and wind.

West Virginia University Kanawha County Extension Agent John Porter said that while the changes for the state on average were small, there is a noticeable shift for some regions.

“We’re seeing a slight shifting to the north as far as temperatures are concerned,” Porter, the county’s Agriculture and Natural Resources agent, said. “These shifts are nationwide and do affect areas of the state that were near the old zone map borders.”

In fact, West Virginia now has a few spots in the state that are classified as a “Zone 7a.” This means that gardeners can plant new types of flowers or vegetables in those areas. These spots are most prevalent across southern West Virginia counties.

This doesn’t come as a surprise to Porter, who has been growing a Canna and Camellia sinensis – the plant used to make black and green teas in China – in his Kanawha County backyard for the past two years. The plant is normally a Zone 7 plant, but his property falls within a narrow band of Zone 7a, along the Kanawha River.

“This doesn’t mean people should go out and spend a lot of money on Zone 7a plants,” he cautions. Instead, Porter recommends ordering one or two new plants and monitoring the success rate of those.

“Many of the plants for the new zones likely won’t yet be carried by your local greenhouses,” he said. He suggests ordering the plants online or from mail-order catalogs until more become available locally.

One of the most unique features of the new map is the ability to visit the USDA website, type in a specific zip code and see the exact zone hardiness for that area. Porter recommends doing this before planning or making new purchases for your garden. It is also a good idea for everyone to take a look at the map to see if they are still in the same zone.

“Our gardeners can now be more targeted and specific when it comes to planting for their region,” Porter said.

He also notes that these changes aren’t exactly “news” to gardeners who have been using resources like the WVU Extension Service Garden Calendar when planning their growing seasons.

“We’ve been following the trends for years now and the average ‘last frost date’ for areas of the state has been earlier in the last few years,” Porter said. “The WVU Extension Garden Calendar has reflected that change in recent years. Earlier frost-free dates mean for longer growing periods. This new guide line just helps us be even more targeted for specific planting zones.”
A unique research and demonstration aquaculture facility has been developed at Reymann Memorial Farm (RMF). These facilities are well suited for production of trout, the most commonly grown aquaculture product in West Virginia. The spring water in the winter will extend the growing season for cool season crops.

**Trout:** Cold spring water at nearly optimal temperatures will support production of trout year round. That is why species like Brook Trout, Brown Trout, and Rainbow Trout dominate aquaculture production in WV. Production trials to produce fish with increased levels of omega 3 fatty acids, to devise feeding strategies for greatest feed efficiency, and to assess the promise of different genetic strains have been conducted at this facility. Presently there is collaboration with the National Center for Cool and Cold Water Aquaculture (NCCCWA) in Leetown, WV.

**Aquaponics:** Research has shown that plants will grow in water after it has passed through the fish culture tanks. At RMF we have shown this approach works in spring water from trout tanks and that the heat of the stream with minimal environmental impact.

**Water quality/environmental impact:** The Potomac basin is facing increasing pressure to improve water quality. Investigators at RMF seek to use biological processes to recover nutrients in a variety of ways. This allows water reuse so that more fish and plants can be grown with less environmental impact. Fish release nutrients into the water creating an opportunity for production of plants. Aquaponics may help remove nutrients from the water.

**Flowing water system:** The spring fed raceways on WVU’s Experiment Station at RMF are unique among eastern land grant universities. They represent the most successful type of system used by trout producers throughout the country. These facilities allow investigators to conduct experiments under conditions comparable to commercial producers growing trout for food or recreation.

Water quality management at RMF is done in several phases. First we remove solids using geotextile bags that capture all but the smallest particles. Second, plants in the aquaponics systems remove dissolved nutrients and enhances removal of small particles. Lastly, a floating wetland will apply aquaponic methods on a larger scale. The pond will be transformed into an aquatic labyrinth where even more nutrients will be recovered. Rafts covering the pond are also expected to conserve temperature and shade out algae and plants that grow under water. This process helps clean the water so we can use it again or discharge into the stream.

- 1. Geotextile bag captures fish manure.
- 2. Greenhouse with aquaponics system using water from the fish house.
- 3. Polishing pond will be outfitted with curtails and rafts to create a floating wetland with directed flow.

**BY DR. KEN SEMMENS, AQUACULTURE SPECIALIST, WVU EXTENSION SERVICE**

**AQUACULTURE DEMONSTRATION & RESEARCH AT REYMMANN MEMORIAL FARM**

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**Aquaponics:** Research has shown that plants will grow in water after it has passed through the fish culture tanks. At RMF we have shown this approach works in spring water from trout tanks and that the heat of the stream with minimal environmental impact.
Aquaponics is a synergistic growing technique in which fish and plants are grown together in the same system. The fish waste provides nutrition to the plants and bacteria. The plants and bacteria, in turn, clean and filter the water for the fish. If you think about it, an aquaponics system is multi trophic ecosystem complete with consumers, producers, and scavengers.

Some of the benefits to aquaponic gardening over soil gardening include faster plant growth, higher yields, gardening at waist height, little to no weeds, self-watering, and minimal use of chemicals. It’s also easy and fun.

In its simplest form there are two components – a tank for fish and a place to grow plants. Water is usually recirculated with a pump from the fish tank to the plant area. The media filled plant area collects large solids, allows for aeration, and provides a home for the nitrify bacteria. A system may also be modified to remove fish manure with a clarifier with a sump for the pump. In some cases aeration may also be required. In order to extend the growing season, aquaponic systems are often protected from cold weather.

There are four main types of plant systems: gravel beds, rafts, vertical media, and nutrient film technique (NFT). A system can range from 5 gallons to commercial sizes of 50,000 gallons or more. For beginners it is recommended they start with a “medium” size hobby system. A two hundred gallon system is a good starter size. A great platform is the IBC tote system, and is easily researched online (try http://www.backyardaquaponics.com/). This sized system mitigates potential disaster with water volume, because the bigger the system, the more time you have to identify and correct errors.

After construction, a system should be “cycled” so the nitrifying bacteria communities have time to establish themselves. The nitrogen cycle is fairly important to understand and is easy to learn. Nitrogen enters the water in the form of protein in fish feed. Fish excrete a majority of the nitrogen through their gills as ammonia rather than in urine. When one measures this “ammonia” they are really measuring what is called total ammonia nitrogen (TAN). TAN is made up of two forms of ammonia. NH4+ is the nontoxic form called ammonium. Unionized ammonia which is NH3 is the bad stuff; as in it will kill your fish. What ratio the two are in is a function of temperature and pH. The higher the temperature or pH, the more of TAN is in the toxic form. Next the TAN is oxidized by nitrifying bacteria from the genus Nitrosomas and becomes nitrite (NO2). This form of nitrogen is also bad, its does the same thing to fish that carbon monoxide does to us. Lastly, the bacteria of the genus Nitrobactor oxidize nitrites and produce nitrates (NO3) as their waste. Nitrates are good and are the safest form of nitrogen in this cycle because they are only toxic at really high levels, and plants like them, too. Plants will remove substantial quantities of nitrates from the water, and if your system is properly balanced water changes will not be needed. Cycling is as easy as turning on the system and pouring in some ammonia. Nature will take care of the rest. There is no need to buy bacteria ever, so save your money.

If you monitor water quality with a test kit you will find the system has cycled after several days. When this occurs it is finally time to add fish and plants. It is wise to start slow – don’t load up with too many fish. These systems are most reliable if the fish biomass is modest. It does not take many fish to make enough nutrients to feed the plants. And if there is a nutrient deficiency at first, kelp extract will solve most of any problems. Remember fish will grow and eat more, and will produce more nutrients.

Consider building a system, cycle it, put in a few fish, and watch the plants grow. Visit Reymann Memorial Farm to see a dressed up IBC Tote System and as well as a unique single pass cold water aquaponics system.
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**DIRECTORY**

**IMPORTANT WEBSITES**

West Virginia University Extension Service  
[www.ext.wvu.edu](http://www.ext.wvu.edu/)

**Agriculture & Natural Resources - WVU Extension Service**  
[www.wvu.edu/~agexten/](http://www.wvu.edu/~agexten/)

**USDA Risk Management Agency**  
[www.rma.usda.gov](http://www.rma.usda.gov)

**West Virginia Soil Conservation Agency**  
[www.wvca.us](http://www.wvca.us)

**WV Dept. of Agriculture**  
[www.wvagriculture.org](http://www.wvagriculture.org)

**Farm Service Agency (FSA)**  
[www.fsa.usda.gov](http://www.fsa.usda.gov)

**USDA Natural Resources Conservation Agency (NRCS)**  
[www.nrcs.usda.gov](http://www.nrcs.usda.gov)

This publication was developed by the WVU Extension Service - Small Farm Center Team in cooperation with the *Times West Virginian*.

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Program Leader  
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For more information:  
[smallfarmcenter.ext.wvu.edu](http://smallfarmcenter.ext.wvu.edu)  
304-293-2715

**USDA SERVICE CENTERS**

**WV AGENCY OFFICES**:  
304-558-3200  
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304-558-3708  
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1-866-USDAWWS

**USDA Agencies**:  
NRCS State Office  
NRCS RC&D  
Great Kanawha RC&D  
Little Kanawha RC&D Office  
Mountain RC&D Office  
Northern Panhandle RC&D Office  
Potomac Headwaters RC&D Office  
Wes-Mon-Ty RC&D Office  
FSA State Office  
Rural Development State Office

**Multi-agency USDA Service Centers**:  
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Upper Ohio  
West Fork  
Western

**WEBSITES**

USDA Risk Management Agency  
[www.rma.usda.gov](http://www.rma.usda.gov)

USDA Natural Resources Conservation Agency (NRCS)  
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