Defining Our Obstacles

BY TOM MCCONNELL, DIRECTOR, WV SMALL FARM CENTER, WVU EXTENSION SERVICE

Many farmers share my frustration with obstacles that prevent them from entering this phenomenal new market. However, it is important to keep perceived obstacles separate from real obstacles and really important to know the difference.

So many of us are just learning how we might plug into this new opportunity to sell food to our neighbors. So many more seem to lurk and watch, but never quite take the plunge. Many suggest they are in some way intimidated or disallowed from this market. It might be useful to discuss some obstacles and define if they are real or perceived.

Food in Schools: Many farmers want to get their food into the school system. Many feel that they can't get in. The reality is that West Virginia schools want our locally grown food. In fact, they are having a conference in September to discuss ways they can make their purchasing practices more conducive for local participation. What many don't know is that the managers of the kitchens have guidelines that must be met for each item of food they want to serve. They product minimums in order to ensure that the same item can be served to each student. The schools also receive commodities from the USDA and are faced with very narrow food purchasing margins. These guidelines don't exclude us from their markets, but it requires us to alter our production, management, and marketing to correspond to the special opportunity that they offer. Food in schools is a perceived obstacle.

Egg sales to institutions or restaurants: Recently many farmers have reported that a manager of some institutional kitchen or restaurant has refused their locally grown eggs because they lacked the proper certification. The Code of State Regulations or 61CSR19 Egg Marketing Rule, 64CSR30 says that a small producer may market up to 150 dozen eggs per week of their own production. But first, the producer must register with the WV Department of Agriculture. In fact, the small producers may pack their eggs in recycled egg cartons. If that producer is selling at a farmers market, he or she must have a Food Establishment Permit. There are some other small points that include labeling, washing the

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WVU Jackson’s Mill Market Garden

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

There’s a little patch of soil on WVU Extension property near Weston, WV that has Small Farm Center written all over it. On the airstrip at WVU Jackson’s Mill, the SFC manages 1.25 acres of fenced-in plot and a 24x48 high tunnel where we raise vegetables and fruits. The purpose of the market garden, or “Airstrip Acres” as it is affectionately called, is to study the sustainability of growing and marketing produce in West Virginia. Detailed records are kept of all the inputs, including the cost of seeds, plants, supplies, fuel, water, irrigation, and hours of labor. The outputs are measured and recorded as well, in terms of production and yield. Marketable fruits are sold at farmers markets, and those that aren’t of marketable quality are recorded as loss, or turned into a value-added product (example- strawberries that aren’t farmers market-worthy can be made into jam.) Thus far, the yields from the garden have been sold at a number of restaurants in the Weston/Buckhannon area, numerous farmers markets, and at a roadside stand.

Several of the surrounding county agents and state specialists are involved in the project and offer advice as needed-- from plant variety selection to mulch material and marketing suggestions. Some of the product raised will be served at the winter conferences that the Small Farm Center hosts.

We intend to use this project’s data to create a solid case for the viability of produce-farming in West Virginia or to prove whether or not you can make money growing fruits and vegetables for local sale. A presentation detailing the triumphs and trials of the project is set for debut during the Small Farm Conference next February. You can follow the market garden blog at http://garden-sass.blogspot.com
Obstacles continued from page 1

eggs, and storing them, but the point is that these eggs can be sold any place other eggs can. Common sense also suggests that these eggs will be fresher, anyway. When in doubt, call Herma Johnson at the West Virginia Department of Agriculture at 304-558-2227. There are some marketing requirements that one must overcome, but eggs can be sold to anybody who can use them.

Slaughter rules: The rules are clear. Poultry can be processed at home as described by the 1,000 bird exemption. Nothing else can. All other animals must be processed in either a state-inspected or a USDA-inspected facility. And meat that is to be sold to someone else must be labeled commercial. The regulations are very clear. The confusing part, which is sometimes considered an obstacle, is the fact that animals slaughtered under state-inspection cannot be carried across state lines to be marketed. Only those slaughtered under USDA-inspection can be carried across state lines. So the obstacle with meat production is that we don’t have enough capacity to handle the sudden increase in slaughter demand. Many farmers are reporting the earliest appointment they can get is in February for their “fall” cattle and lambs. This fact was made very clear in a recent report that claimed only half the number of the processing establishments are signed up to participate this year than there were four years ago. It appears that serious changes will have to occur for our capacity to increase and each of them involves more money and more management. Animal slaughter is a real obstacle and must be addressed.

Meeting the exact demand of the customer can be an obstacle. The truth is many growers have not adjusted to the sheer volume required to satisfy a market. I once grew sweet corn for a local grocery store. I would begin picking at 4:00 a.m. and rush to the store for a 9:00 o’clock opening. I was totally amazed when I watched my pick-up load of corn sell out in two hours. I was amazed and intimidated. There was no way for me to grow past that point. This is true for farmers who choose to sell directly to a restaurant or institution. At a farmers market, the grower has the opportunity to sell until he or she runs out of product. If there is more demand, they just don’t get served. However, if a restaurant is depending on a certain quantity of a certain quality, and the farmer fails that farmer is normally not called again.

Obstacles, perceived or real, deserve careful study and management before we are sure we have done all we can do to help ourselves.

“Unintended Consequences?”
Investigating the ban on horse processing

BY HOLLY SPOONER, PHD, PAS, WEST VIRGINIA UNIVERSITY EXTENSION SPECIALIST-EQUINE

The Government Accountability Office (GAO) was recently directed by Congress to study the effects of the cessation of domestic horse slaughter in the U.S. since 2007. The majority of the study’s findings came as no surprise to those of us working in animal agriculture. The study, entitled “Action Needed to Address Unintended Consequences from Cessation of Domestic Slaughter,” reports that nearly the same number of U.S. horses were transported to Canada and Mexico for slaughter in 2010—approximately 138,000—as was slaughtered before domestic slaughter ceased. Yet, horses were shipping longer distances to meet the same end in foreign slaughtering facilities where U.S. humane slaughtering protections do not apply. At the same time, the report found the cessation of domestic horse processing resulted in lower prices for horses, specifically “closing domestic horse slaughtering facilities significantly and negatively affected lower-to-medium priced horses by 8 to 21 percent.” Animal welfare plummeted, not only as a result of increased distanced hauled to slaughter (and legislatively mandated decreases in APHIS’s ability to oversee such transport), but as abandonment and neglect increased nationwide. The report found state and local government and animal welfare organizations saw a rise in investigations for horse neglect and more abandoned horses since 2007. In one particular state, investigations for horse neglect and abuse increased more than 60 percent from 975 in 2005 to 1,588 in 2009.

In concluding its report, the GAO suggests recommendations to Congress, including to “consider allowing USDA to again use appropriated funds to inspect U.S. horses being transported to slaughter…and at domestic slaughtering facilities.” An alternate suggestion, “consider a ban on the domestic slaughter of horses and export of U.S. horses intended for slaughter in foreign countries” seems illogical given the additional negative consequence on horse welfare domestically.

Given the recent issue of this report (June 2011), we have yet to see changes from Congress as a result. It is unknown what, if any, policy changes we might expect as a result. However, for those of us in animal agriculture, the report’s title “unintended consequences” may be a bit misleading or at best ironic. Perhaps Congress did not intend on these consequences, but it seems likely the animal rights organizations that have largely driven this legislation knew these consequences and continued to support such action in their overall aim to eliminate animal agriculture. At the same time, these consequences were predicted by so many agriculture and equine organizations in an attempt to defeat such legislation for true animal well-being.

So, as we await Congress’s next move in this ongoing debate, what message can we take from this? First, Congress needed an official report to declare the same findings we, animal agriculturists predicted—suggesting our warnings were perhaps unheard, but certainly unheeded. We need to continue to be vocal that the best stewards of animal welfare are typically those that care for the animals on a daily basis, not lawmakers without any connection to the industry. Further, this debate does not end with horse slaughter; all of animal agriculture is at risk and all of us involved in agriculture must take note. We must be willing to be proactive in educating both the public and our legislators, in order to avoid the “unintended consequences” of future legislation, either nationally or on the state level. Both our welfare and that of our animals is truly at stake.
Cow pregnancy exams pay for themselves

BY DARIN MATLICK, ASSOCIATE PROFESSOR AND EXTENSION VETERINARIAN, WVU EXTENSION SERVICE

Economics is the reason why we do what we do every day. Whether we love it or hate it, we have to make business decisions. On the farm, one of those decisions is whether to have a veterinarian check the cows for pregnancy. The reason we should is relatively simple – it PAYS. Pregnancy-checking cows is a vital step for a producer to gain the information he or she needs to make management decisions.

On average, a pregnancy exam costs between $3 and $5 per head. Veterinarians charge either by time or by the head and procedure. Either way, this cost will probably be comparable to $3 to $5 per head. For example, it would cost an average of $300 to $500 to have an entire herd of 100 cows checked. The average cost to feed and maintain one open cow through the winter would be $300. If one or two open cows are found, the feed savings would cover the cost of the pregnancy exams. A producer also gains the money from selling an open cow. Not performing these tests actually costs the producer money.

The information gained from having cattle pregnancy-checked is valuable. First, you know whether each cow is pregnant or open. You will find out the percentage of open cows. This information helps you to evaluate your breeding program and to sell open cows.

It is normal for herds to have 5 percent of cows open. Once a herd has more than 10 percent open cows, there may be a problem that needs to be identified. Dealing with a diagnosed disease or nutritional deficiency can help you prevent further losses.

Another advantage of pregnancy exams is that you will be able to group the cows into late and early calvers based on how far along they are in their pregnancies. This will let you time vaccination for scour appropriately and will let you pay closer attention to the cows when they are due to calve.

These pregnancy exams should be performed a minimum of 40 days after the bull has been pulled or 40 days after the breeding period ends. The sooner, the better, especially for heifers. Marketing open heifers differs from marketing older cows.

The sooner you check these heifers, the more market possibilities that may be available. These heifers may be young enough to market in a feeder market or a retained ownership program in the feedlot. That opportunity is lost if you wait for a heifer to have a calf next season before realizing she went through the winter eating only for herself.

Pregnancy-checking is a management tool that producers cannot afford to give up even when times are tight. Producers who do not have their herds examined are costing their operations money and are not being thorough managers of their resources.

How Much Room to Grow?: The Potential of Growing WV food for West Virginians

BY CHERYL BROWN, ASSOCIATE PROFESSOR, AGRICULTURAL AND RESOURCE ECONOMICS, WVU

Thanks to the blue moon fund and the Claude Worthington Benedum Foundation, a collaborative effort is underway to look at the state’s land base and how it might be used to grow more crops to be consumed in West Virginia. The research partners include the WV Small Farm Center, WV Food and Farm Coalition, Downstream Strategies, WVU Agricultural and Resource Economics Department, and WVU Extension: Community, Economic and Workforce Development Division. The study will look at current per capita consumption of a variety of fruits, vegetables, grains, and beans and compare that to current West Virginia production to determine the “utilization gap.” In other words, what is the shortfall between what West Virginia farmers are producing and what West Virginians are eating? The study will examine the potential for shrinking this gap by looking at the types of cropland that exist in the state and how much of which crops could be produced. For example, average consumption of broccoli in the U.S. is currently about 6 pounds per person. If the 1.46 million people over 18 in West Virginia each eat 6 pounds per year, we would need 8.7 million pounds of broccoli. According to the U.S. Department of Agriculture’s Census of Agriculture only 6 acres of broccoli were harvested in West Virginia in 2007. An acre of land can produce around 10,000 pounds of broccoli, meaning West Virginia farmers produced only 60,000 pounds of broccoli, leaving a utilization gap of 8.64 million pounds. The study will use maps of soil types and growing conditions to determine how much broccoli could be produced and in which parts of the state. Although we don’t expect West Virginia to become self-sufficient in broccoli production, this study should help us understand the potential for production of crops that might boost farm income while providing a greater variety of fresh local products to West Virginians. The study will also examine West Virginia’s beef industry. In addition to estimating land resource availability, the study will calculate the direct and indirect economic impacts of increasing production of a number of fruits, vegetables, grains, beans, and beef, including the number of jobs that could be created. The study will help the development of a West Virginia Food Charter that will present a vision for the future of West Virginia’s food and agriculture system.
Straw Bale Gardening

BY ALEXANDRIA STRAIGHT, EXTENSION AGENT, DODDRIDGE & RITCHIE COUNTIES, WVU EXTENSION SERVICE

Straw bale gardening is a great option for people who have limited mobility, for those whose garden soil is poor, and for those who have little space to garden. The straw is placed on the ground, and plants are placed inside the bale. Weeding and harvesting can be done easily from a chair, and the straw keeps plants cool and holds water well. Straw bale gardening also has fewer pest problems because the plants are off the ground.

Getting Started

You need only a few items to get started. The bare necessities are straw bales (hay can be used but will sprout grass weeds); a hand trowel to place plants into the straw bales; fertilizer, nitrogen, blood meal, or bone meal to condition the straw bales; water to “water-in” the fertilizer; and soil or compost if you are using them. Bales can be placed in many shapes to fit just about any space. Just keep in mind that taller plants will need to be on the north end of the straw bale garden.

Before you place the bales on the ground, lay newspaper down to serve as a weed barrier under the bales. This will prevent some grass from growing around the bales and keep weeding to a minimum. It will also help slow down the deterioration of the twine around the bale.

Conditioning the Bales

The next step is to condition the bales. Because this process takes a few weeks, you will want to plan ahead and do this before you plant. Bales held over from the previous year will not need to go through this step. What is conditioning? When you get the bales wet, they will begin a natural composting process in which they start to decompose. During this process, they will get hot. Plants planted during this time may be damaged.

To start the process, keep the straw bales wet for three to four weeks before planting. If you would like to speed up the process, here is a “recipe” that works well.

* Days 1 to 3: Water the bales thoroughly and keep them damp.
* Days 4 to 6: Sprinkle each bale with ½ cup urea (46-0-0) and water well into bales. You can substitute bone meal, fish meal, or compost for a more organic approach.
* Days 7 to 9: Cut back to ¼ cup urea or substitute per bale per day and continue to water well.
* Day 10: No more fertilizer is needed, but continue to keep bales damp.

* Day 11: Stick your hand into the bales to see if they are still warm. If they have cooled to less than your body heat, you may safely begin planting after all danger of frost has passed.

Planting

After your bales have been placed and conditioned, it is time to plant. You can grow almost anything in a straw bale that you can grow in the ground. You may find some plants are easier than others. Root vegetables like carrots, potatoes, and onions can be grown but have some difficulty. Plants like corn tend to be too top heavy.

You can plant seedlings or seeds in bales. Plant seedlings just like you would if you were planting them in the ground. If the label says to plant 18 inches apart, then that is the same distance for planting in the bale. Separate the straw with a sharp trowel. Place the plant down to its first leaf and let the straw fill in around it. Be careful not to cut the twine while planting.

If you want to plant seeds like beans, place a small layer of compost mixed with soil on the top of the bale, like icing on a cake, and plant the seeds directly into the soil. Cover the seeds with a light dusting of soil or peat moss and water-in well.

Stake tomato plants with a 6-foot stake because cages do not support the plants well enough.

Water the straw bales as needed or put a soaker hose around the plants on the bales.

Feeding

Since the straw bale contains no soil, your plants will require more fertilizer than if planted in a garden. To provide the plants with nutrition, feed them a compost tea or liquid fish emulsion once every other week when they are seedlings and once a week when the plants grow larger.

### SOME POPULAR PLANTS FOR STRAW BALE GARDENING

<table>
<thead>
<tr>
<th>Plants</th>
<th>Number Per Bale</th>
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<tbody>
<tr>
<td>Tomatoes</td>
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</tr>
<tr>
<td>Peppers</td>
<td>4</td>
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<tr>
<td>Cucumbers</td>
<td>4-6</td>
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<tr>
<td>Squash</td>
<td>2-4</td>
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<tr>
<td>Pumpkin</td>
<td>2</td>
</tr>
<tr>
<td>Zucchini</td>
<td>2-3</td>
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<tr>
<td>Lettuce</td>
<td>Per package directions</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Per package directions</td>
</tr>
<tr>
<td>Beans</td>
<td>3-4</td>
</tr>
</tbody>
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GROWING APPLES? WANT PROTECTION?

What’s 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.

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

Contact:
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(304) 293-2642
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West Virginia cheese industry growing

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

Milking cows is challenging. Sustaining a profitable fluid milk business today is very difficult do to debilitating price fluctuations. There are some periods of high prices but they have, for the last several years, been followed by corresponding very low milk prices and very high feed prices. Most small WV dairies have been weakened by their inability to expand to the degree required to “keep up” with the narrowing price margins. Some farmers have chosen to convert their milk into cheese. It keeps for long periods of time, and the price conversion for the price of milk after it has been made into cheese can top 6 times the fluid milk equivalent price.

It is important not to oversimplify the cheese making process. It requires a very large capital investment, much planning, and after that a whole new, very difficult, additional job on the farm. Many think it is worth it.

West Virginians each consume 30 pounds of cheese annually, making the state’s total 55,000,000 pounds. Cheese differs from most of our farm production as every bit of cheese eaten in West Virginia can be produced here. Compare this to most crops where only the portion of the crop produced and sold fresh can be counted as potential sales. For example broccoli, even though the state’s consumption is 16 million pounds, 31% of that is frozen. This requires significant capital investment and labor to provide, and the prospect of producing the remaining 11 million pounds or 69% is dependent on lengthening the growing season and matching the market to the optimum growing conditions. Cheese makes sense.

There are presently 4 cheese makers who are licensed to make in West Virginia. 1.) Terry and Linda Clapp, TLC Dairy in Jackson County make goat’s milk cheese: 2.) Spring Gap Mountain Creamery, Penny Sagawa and Jurgen Schelzig who make Aged Cow’s Milk Cheese in Morgan County: 3.) Vincent Rullo makes mozzarella cheese in Chester: and 4.) the newest cheese maker entering the business is Green Glades Creamery in Terra Alta. Ben and Callee Walsh make aged and fresh cheese from their Jersey herd. Many other dairy families are exploring their options.

Each of these cheese makers share their advice that one should be prepared for long days in the cheese house, lots of planning including businesses plans, health department regulations, a steep learning curve, serious commitment to marketing, and a substantial investment. Like every other enterprise, the ease of startup is dependent on the level of “know how” each beginner brings to the project. Obviously, the amount of work a beginning cheese maker can do him or herself, will increase the speed required to understand the process and reduce start-up costs.

So many farmers lament their difficulty working through the health regulations when others wisely include all the regulators in every step of the planning and ultimate construction. Since no two operations are exactly the same, no two cheese houses will receive a rubber stamp of approval. The regulators try very hard to help farmers make the right decisions as opposed to changing incorrect installations that can become a health threat. A properly installed, in-compliance cheese house is a protection to the farmer as well as the customer.

It has been proven that there are many ways to develop cheese making systems, but the more time spent learning how to make cheese and visiting many operations prior will reward the beginner many fold. It’s also well understood that buying a “ready to go” system will cost the beginner in two ways. First, in actual money spent and second by losing the experience and understanding of the system as a way to troubleshoot problems. And last, having a personal relationship with a well qualified technical person who knows milk processing and equipment is invaluable.

The opportunity to make cheese is rich with potential. It can reward the entrepreneur with the satisfaction of helping to feed an appreciative customer, but careful preparation is a must.
Foodies, Buy Local and Agri-Tourism

BY DR. ALLEN ARNOLD, DIRECTOR, THE FARM2U COLLABORATIVE

There is a Center for Rural Affairs in Lyons, Nebraska that has done a substantial amount of work on agri-tourism. They define agri-tourism as expanding an agriculturally-based operation in order to host visitors on the farm. Obviously there are a significant number of options as to what experiences you can provide your paying guests, but what they emphasize makes a lot of sense: “it’s always best to base your agri-tourism operation on the existing strengths of your enterprise.”

If you’re interested in this topic you may want to check out their site. An even better idea may be to check with one of the farmers here in West Virginia who has been successful. Dirk McCormick, in Monroe County, has created a maze in his corn field and attracted visitors.

Another tactic that farmers have tried to capitalize on the “buy local” food craze and bring tourists and foodies to their farm for a food event. A couple of years ago, “buy local” might well have been called a trend, but these days it is probably better described as a virtual frenzy.

All Americans are concerned about food safety. Many of them believe that there’s a connection between where it comes from and how safe it is. You might think that refers simply to whether it’s been grown in the United States rather than China, but what I’m talking about, is that there are a growing number of people who care about what county-in what state-it was grown or raised. Beyond that, they’d be happier if they could identify the farmer who grew it and how he grew it.

Here’s an example of how the interest in “buy local” provides some important opportunities for agri-tourism or more specifically culinary agri-tourism:

A young soon-to-be bride, who grew up a half-hour north of Pittsburgh, but who now actually lives out-of-state wanted (1) to be married on a farm back home, and (2) to serve her guests food at the reception that had been authentically and sustainably grown.

The couple became so committed to this goal that they did extensive research through friends and connections, as well as, on the web and found a West Virginia caterer and chef, Dale Hawkins, in Upshur County, who is deeply committed to all of their concerns.

But here’s the surprising (at least to me) part of this example. Certainly it is customary, before committing to a caterer or restaurant, to have a tasting. So it wouldn’t have been at all out of the ordinary, after having discussed the menu and costs, to have the couple request that the chef bring samples of his culinary skills for them to evaluate.

But this couple took it one giant step further. They drove 3 plus hours each way and brought their family to the farm to see where and how it had been grown. Before sitting down to sample an extraordinary fare, they spent an hour out in the fields looking at the crops and learning about the sustainable practices.

And this is not an isolated incident. It may be time to consider—or re-consider—whether there is potential for agri-tourism on your farm.

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.

AGENT LOCATOR: http://www3.rma.usda.gov/apps/agents/
Who is the WVFMA?

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

The West Virginia Farmers Market Association is comprised of farmers markets and on-farm markets across West Virginia. Formed in 2007, the Association was established to support the development and functioning of farmers markets and on-farm markets across the state. It is open to farmers market groups and/or grower groups representing two or more growers and/or on-farm markets representing one or more family. Each Market Entity is counted as one member and is entitled to one vote, representatives identified by member markets. Member representatives meet annually in late winter, usually in conjunction with the WVU Small Farm Conference. Currently, there are about 30 markets, of the approximately 80 farmers markets and an unknown number of on-farm markets in West Virginia, who have joined WVFMA. WVFMA began its 5th year in February 2011 with its annual meeting held in Morgantown.

WVFMA is an all-volunteer Board of Directors, elected to three year terms, by the member markets, to conduct the Association’s annual activities. The Board was recently expanded on approval of the membership to nine directors. Seven new directors were elected in February to serve on the Board along with two continuing directors. Current Board members are distributed widely across the state-- representing different regional conditions and reflecting a broad range of backgrounds and occupations. New Directors elected in 2011 include:

Craig Canterbury, from Gay, West Virginia, represents the Jackson County Farmers Market where he currently serves as Market Master, as well as, Vice-President of the Jackson County Farmers Market Association. He and his family vend at the market, raising and processing Cornish Cross chickens and turkeys, marketing eggs from free range laying hens, and producing heirloom and grape tomatoes and other vegetables on their Jackson County farm. Craig is an agriculture teacher and FFA Advisor at Ripley High School.

Ann Conageski represents the City of Parkersburg Farmers Market. Ann is presently the Development Director for the City of Parkersburg and has served as a Market Manager for the market, which was started downtown in 2007 by the Downtown Development Task Force and the City of Parkersburg. The market serves as a retail avenue for area farmers as well as an economic development tool to help revitalized downtown Parkersburg.

Lesa Gay, representing South Morgantown Community Farmers Market comes to the Board from a consumer perspective, as well as, that of a market manager. Motivated by the desire to have more local produce for community use and nutrition, the market was established in 2009 through the support of the Community United Methodist Church. The volunteer-run market is managed by members of the church with support from vendors. The market furthered the mission of community support by installing Electronic Benefits Transaction (EBT) equipment in 2010.

Brenda Shiflet, represents the Morgantown Farmers MarketGrowers Association, serving as the market manager since 2009. She came to farmers market managing through a strong desire for local foods, but without formal education in agricultural business or marketing. Brenda is dedicated to growing the market from both a consumer and producer perspective, promoting locally grown products.

Deb Workman, represents the Bridgeport Farmers Market, as a founding member of their market in 2009 and has had many responsibilities with that market including fundraising, vendor recruitment, marketing, business functions, planning special events, market management and planning for improvement and expansion of the market. Deb is interested in giving new farmers markets a comprehensive resource and tools they need to be successful.

Continuing Directors:

Savanna Lyons, representing the Fayetteville Farmers Market, was elected to the Board in 2010, continuing her activities with the Fayetteville Market while also serving as Director of the West Virginia Food and Farm Coalition, an organization serving local agriculture and food issues throughout the state in conjunction with the West Virginia HUB.

Larry Lower, representing the Berkeley Springs Farmers Market, was elected to the Board in 2009, helped initiate the market in 2002, served as Chairman of the Market Committee through 2010 and now is on the Board of Directors of the recently created Morgan County Association for Food and Farm.

Officers for 2011 were elected in March and will serve until February 2012.

President: Larry Lower
Vice-President: Craig Canterbury
Ad Hoc Vice Presidents: Brenda Hunt and Brenda Shiflet
Secretary: Savanna Lyons
Treasurer: Lesa Gay

WVFMA is guided by advisors and partners from several organizations, including WVU Extension Service, the West Virginia Department of Agriculture, West Virginia State University, the West Virginia HUB, the Farm2U Collaborative, and regional Resource Conservation and Development Districts across WV.

Want to know more about WVFMA? Visit the WVFMA website at www.wvfarmers.org; or Contact us at wvfma@wvfarmers.org or reach directors through individual email links on the website.
Is there a ‘natural beef’ program in your future?

BY P.I. OSBORNE, BEEF MARKETING SPECIALIST, WVU EXTENSION SERVICE

Natural beef and grass fed beef have become the hot topics for a number of magazines directed toward food and the culinary arts. Almost every women’s magazine has run feature articles in the past year recommending the purchase of these special meat cuts. So what is all the buzz about and is it sustainable? Natural and grass fed beef are becoming more common to the marketplace. The industry has grown more than 20 percent over the past decade contributing $6.9 billion to sales.

WV beef producers are asking what marketing opportunities may be available to enter the natural or grass fed market. The market is legitimate and a number of producers marketing in the WV Quality Assurance Sale have offered “natural” calves for the past several years. A number of early studies have shown that natural beef will bring $2 to $4 cwt premium and recently programs have paid about $120 more per head to the feeder. The $120 per head has to be shared by the feeder calf producer and the feedlot. The increased price difference does not account for the difference in production cost. The price differences have to be high enough to recover any losses or market opportunity for calves that failed to conform to standards. So far WV producers have seen feeder calf prices from no difference to more than $12.00 cwt. Why all the variation? It all comes down to risk and market timing. The calves that usually receive the premium have developed a reputation for minimal health problems and above average quality grades. They generally derive from the larger cow calf herds that can supply a single source of calves or a marketing pool of only a few producers (less than 5). The reason is that the feeder has less risk that the calves will get sick and require treatment at the feedlot. All treated calves represent an increase in production cost and lost opportunity.

Before participating in a natural or grass fed beef program, it is important to understand the requirements of the program. The table featured below provides some of the minimal requirements. A program not mentioned in the table, but a major player in the area is Pineland Farms. You can review their requirements at: www.pfmeats.com. Many of the firms have additional affidavits and/or required third party audits that have to be conducted prior to purchasing calves. Natural beef is produced to fit into a specific branded program administered and regulated by the company that owns the brand, not USDA. In order to have access to these markets, you have to be prepared prior to the beginning of the calving season. The WV Cattlemen’s Beef Cattle Short Course this winter will feature a speaker from IMI Global that will discuss how the audits are conducted for various programs and some of the production requirements that producers have to be prepared to verify.

The USDA has outlined the requirements for selling labeled Grass-finished or Naturally-raised beef (pictured below).

Suggestions for WV producers that are considering entering the natural or grass raised market include:
1. All farm personnel responsible for the production of the cattle should be Beef Quality Assured (BQA) and best management programs adopted. Almost all the BQA guidelines are included in the Natural or Grass-raised programs.
2. Develop a whole herd health program to insure calves produced remain “qualified” through the production channels.
3. Develop complete farm production records.
4. Use the WV BQA self audit to determine strengths and weaknesses of your operation. It will be a helpful tool prior to trying to entering a program.
5. If developing your own market or developing a website or labels for product, make sure you are in the limits of the USDA or FDA. A number of producers have cost themselves a lot of money declaring their meat is “hormone free” when it is actually impossible to sell hormone free beef. The proper verbiage is that the cattle never received growth promoting hormone supplements. Small mistakes can cost you if challenged or even having to reprint advertising or product labels.

The markets will continue to grow for these products over the next several years. Producers will have to determine if production cost will allow their operation to participate at a profitable level. In some cases, simple modifications may return dividends, the pros and cons will have to be weighed. WV producers have a terrific forage base to participate in some of the program wither it be in the cow calf or yearling sector.
What's 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.

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

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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.

I would like to take this opportunity to introduce myself. My name is Nola Wilson, SARE Professional Development Program (PDP) Outreach Leader for West Virginia and Western Maryland. I have been a Small Farms Extension Agent for the past 10 years in Ocala, Florida. My Extension program focus has been agri-preneurship, beginning farmers, and developing a local food system initiative. My work has also included statewide educational efforts of initiating a Florida Small Farms Conference, Regional Extension Agent Working Groups, and State Coordinator for Annie’s Project.

As the SARE PDP Outreach Leader my responsibilities over the next three years will focus on helping to provide professional development opportunities in sustainable agriculture to agriculture service providers in WV and Western Maryland. The agriculture service providers will utilize the training received to educate farmers on how to make their farming operations more sustainable. The focus of the training would be on identifying and accessing new markets, building networks and partnerships and providing technical assistance on key topics including food safety, sustainable production practices, direct marketing, value-adding and farm financial management.

The program is a collaborative effort between West Virginia University’s Extension Service, University of Maryland (Jeff Semler) and West Virginia State University (Barbara Liedl).

I am located with the West Virginia University Extension Service in Morgantown, WV. I am very excited to work as the new SARE PDP Outreach Leader and look forward to opportunities to meet and work with you in the future.

Please feel free to contact me at 304-293-7312 or at Nola.Wilson@mail.wvu.edu.
Control of squash vine borer
BY DAVID RICHMOND, WVU EXTENSION AGENT, RALEIGH/SUMMERS COUNTY

One of the more common questions received through this office is, “what is attacking my squash?” and other members of the curbit family. The answer is usually the squash vine borer.

Attack by squash vine borer is characterized by sudden wilt of the plant. Larvae bore within stems, usually in the lower three feet of the stem. Stems can be girdled by borers, which prevent water and nutrients from circulating in the plant.

The point where a borer enters a stem is marked by a hole with yellow granular or sawdust-like frass exuding from it. Injured vines often decay and become wet and shiny. Infected plants may be weakened or they can die; the ultimate effect on the plant depends on the number of borers and their location.

Over 100 larvae have been found in a single plant. If a plant wilts but there is no evidence of borers, other possible causes are root feeding by larval cucumber beetles or a bacterial wilt infection.

The hosts include squash, zucchini, pumpkins, and gourds which are all attacked. The borer prefers hubbard squashes over other hosts. Butternut squash is less susceptible than other squashes. Cucumbers and melons are usually not attacked.

Appearance and identification is key to control. Eggs are oval, flattened, dull-red in color, and 1 mm (1/25 inch) in diameter. The larva is a fat grub-like caterpillar with a white wrinkled body and a brown head. A fully grown larva is 25 mm (1 inch) long. The pupa is brown and 16 mm (5/8 inch) long, and contained inside a cocoon that is made of earth-covered black silk and is 19 mm (3/4 inch) long.

The adult is a moth that looks like a wasp; the body is black marked with orangish-red, and the hind legs are feathery with black and orange hairs. The front wings are metallic green, and the hind wings are transparent; the wingspan is 25 to 37 mm (1 to 1.5 inch). Male and female moths are similar, although the male is more colorful, smaller, has a narrower abdomen, and more feathery antennae.

The squash vine borer overwinters as a fully grown larva in cocoons in the soil, 2 to 15 cm (1 to 6 inches) deep. It pupates in the spring and the adult (a moth) emerges in June. Moths are active during the daytime and in the evening they rest on leaves. This is different than the behavior of most moths, which are active at night. The moths fly slowly in zig-zags around plants, and lay eggs singly on stems; eggs are usually found on the main stem near the base, but are also found on leafstalks or on the undersides of leaves. Moths are active for about one month.

Eggs hatch in 9 to 14 days. Larvae enter the stem at the plant base within a few hours after hatching from the eggs. Larvae feed inside the stem for 4 to 6 weeks. Fully grown larvae leave the stems and crawl into the soil to pupate. There is usually one generation per year in West Virginia, but a partial or complete second generation is possible.

Cultural Control
- Destroy vines soon after harvest to destroy any larvae still inside stems.
- Disk or plow the soil in fall to prevent egg laying.
- Cover vines at leaf joints with moist soil, to promote formation of secondary roots that will support the plant if the main root and stem are injured.
- A trap crop of very early-plant ed Hubbard squash can be used to alleviate pest pressure from other cucurbits.

Physical Control
- The following are suitable in small plantings:
  - Borers can be removed from vines if detected before much damage is done. Examine stems in early summer; once holes are detected, slit the stem longitudinally with a fine sharp knife, remove the borer, then cover the wounded stem with moist soil above the point of injury to promote additional root formation.
  - Stems can be covered with a barrier, such as strips of nylon stockings, to prevent egg laying.
  - Catch and destroy the moths—especially at twilight or in early morning when they are resting on the upper side of leaf bases.
  - Hand-pick the eggs before they hatch.

Chemical Control
Squash vine borer can be killed by chemicals, but the trick is in the timing of the application. An insecticide is effective when applied at the time that eggs are hatching. A preventative treatment regimen is to apply an insecticide when vines begin to run, and re-apply every 7 to 10 days for 3 to 5 weeks. The application should be directed to the base of plants at crowns and runners.

Chemicals used for borer control in gardens are methoxychlor, rotenone, pyrethrum, malathion, or carbaryl (Sevin), applied as sprays or dusts. The biological insecticide B.t., in the forms currently available, is not effective because it cannot be applied to the plant parts that are eaten by the borer.

If more information on this topic or other agriculture related topics is needed contact David Richmond, WVU Extension Agent at (304) 255-9321 or (304) 466-7113.
Today the American Kennel Club recognizes eight groups of breeds-four of these are associated with agriculture. Using dogs to help our forefathers on the farm dates back thousands of years. Think about what was required to keep a farm and farm family safe, healthy, and successful years ago before the many tools we take for granted were invented. Maybe tying the traits of some of these dogs we see every day (at least, on TV) can give some insight into how our ancestors lived and the prominent role dogs played in those family farms.

The twenty-five breeds recognized in herding are clearly those with the closest ties to the farm. The Border Collie known as the “workaholic” of the dog world is probably the dog that first comes to mind when considering farm dogs. This relatively young breed come from the border country between Scotland and England and has been known as a sheep herder for more than 100 years as it began its divergence from the modern Collie we know today. When the Celts migrated from what is now Germany to the British Isles three thousand years ago, they brought with them their Cardigan Corgis. The Hungarian Puli has herded and driven for over a thousand years. The Swedish Vallhund dates back to the Vikings. All over Europe if there were cattle or sheep there were dogs. Before barbed wire the German Shepherd did the work of a fence. The Collie was the equivalent of a gooseneck trailer, designed to bring livestock to market. And at the same time these dogs protected their masters and helped them stay warm in the winter.

The working group breeds tend to be large dogs. Some of the breeds are sociable such as the Dogue de Bordeaux which was bred to herd cattle and protect the farm. Standard Schnauzers also acted as guards and did rat catching duty on the side. The Leonberger stands 30 inches at the shoulder and was bred as a draft animal. The less social Komondor is a direct descendant of dogs, the Huns, came across as they invaded Europe. These dogs are bred to protect a flock independent of their owner’s supervision.

Terriers were the rat poison of the day. Bred to kill vermin, a dangerous occupation, they tend to have thick protective coats. Scotties are diggers. The Skye Terrier weighs between thirty-five and forty-five pounds is swift and muscular and able to locate foxes, badgers and otters.

In the Non-Sporting group the Schipperke was bred as a ratter and the Tibetan Terrier while primarily regarded as a good luck charm also did some herding and retrieving. There are still thousands of working dogs today. Large flocks of sheep in difficult terrain are still best managed by dogs. A German Shepherd was recently purchased for over $300,000.00 to work as a guard dog. But for the most part we have moved on to wire, poisons and the internal combustion engine. Purebred breeds are still around because there are dedicated breeders and trainers who strive to maintain the qualities of personality and physique which made them so important to us in the past. And in so doing they reveal to us some truths about our ancestors and how they lived--and how we got here today.

For more information visit www.AKC.com

Join us for
The 8th Annual WV Small Farm Conference
March 1-3, 2012
Morgantown, WV

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

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

It’s been another exciting year for local food at the WVU Small Farm Center as we, again, gathered people together to enjoy local foods at our meetings and conferences. Continuing our mission to create awareness among consumers about where their food comes from, we source farm products from within 200 miles of the event and create a meal to serve to the attendees. We’ve worked with several facilities on this project and have run into some positive and less-positive feedback from the kitchens. However, as we continue to stay the course, we gain the experience needed to help smooth the food pathway.

The importance of the mission is this: we purchase raw product from the person who grew it, meaning that farmer receives 100% of the food dollar. When we buy from a grocery store, the farmer who grew the product only receives 19% of the purchase price. In addition, the food is fresher when buying directly from the farmer, and we know more about where it came from and how it was grown.

For an economist’s point of view of the benefits of local food, we can turn to Daniel Eades, WVU Extension’s Specialist in Rural Economics and Community Design. Daniel says, “I like to think of the economy as a big tank of water: When the community sells something to the “outside world” water (money) comes into the region and our tank gets full. When we buy something from outside our region, the water leaks out. Purchasing local foods is a convenient way for communities to limit some of that leakage from their economy. Keeping water in the tank allows it splash around and be reinvested in the community, contributing to more jobs and higher incomes for local residents.”

We can’t begin to express our excitement that so many organizations are taking the initiative to feature local meals at their events. Some seasons are more difficult to source in finding local farmers in their counties to purchase product from, for their personal st-home consumption.

Reasons to buy local food include a fresher product, accessible information about how the product was grown, and the bud of a relationship with a farmer. Sourcing local food at our conferences and events in West Virginia invokes a sense of pride in the farmer who produced it, as well as those who may be from the same community. Always remember that you vote with your purchasing dollar. So when you choose to purchase eggs from your neighborhood FFA student, you’re choosing to support that style of production. We all hear about “factory farms” and commercial hog- and chicken-houses, which represent a corporate style of food production and probably aren’t as evil as the ten o’clock news makes them appear. However, if you prefer a more sustainable, natural style of food production, local might be the way for you to go.

One of the drawbacks to using local products is that they tend to be raw; as in whole potatoes, unpeeled carrots, and frozen, bone-in meat cuts. Additional preparation time is required to turn these ingredients into something edible and delicious. A box of potato flakes may be faster, but the difference between “just add water!” and home-style “smashed” potatoes is notable. The facilities that we have worked with to create local meals have handled the additional prep time and labor quite well, bringing their extra employees in a day early to peel, dice, mash, debone-- and present mouth-watering meals every time. It can be a challenge to teach the casual home consumer how to prepare a meal from raw product if one isn’t in the habit of doing so. This is why many farmers markets are including chef demonstrations, so their customers can watch and learn (and then buy the ingredients!).

How do you find local food to purchase? Check out your local farmers market, call your county’s WVU Extension Office, internet search “local food” and your town’s name, visit the WV Farmers Market Association website at www.wvfarmers.org, visit the Small Farm Center’s website at http://smallfarmcenter.ext.wvu.edu, visit www.localharvest.org, and don’t forget the power of “word of mouth” when it comes to what’s good to eat! Keep it fresh, keep it delish, keep it local.
Timely solutions at your fingertips

BY ANN BERRY, ASSOCIATE DIRECTOR, WVU EXTENSION SERVICE

As many West Virginians know, the local WVU Extension office is a goldmine of helpful information and practical solutions for everyday life. But sometimes our questions don’t occur to us during office hours. Or maybe you’d like to gather more information on your own.

The WVU Extension website - www.ext.wvu.edu - is designed with you in mind, providing on-demand answers for a variety of timely topics.

At the site, how-to features at the top of the opening page answer questions about current concerns.

Just in time for summer gardening, one feature is “What’s Bugging Your Plants?” an illustrated chart prepared by WVU Extension experts that explains the steps to take this year to avoid problems during the next growing season.

The WVU Extension agriculture section continues to grow as new information is added to help gardeners, farmers and landowners. From the front page of the website, click on “Agriculture” on the left-side blue navigation bar. Many topics await your exploration, including aquaculture, bees, commercial horticulture, forest stewardship, oil and natural gas, master gardener program, the WV Small Farm Center, and youth agriculture.

Click on any of those topics and a new world of research-based information opens. For instance, the Gardens, Lawns and Landscapes section includes links to WVU Extension’s popular garden calendar, and how-to sections on growing herbs, starting a garden, lawns, ornamental plants, straw bale gardening and vegetable gardening.

One of the most popular sections on the agriculture website is also one of the most important steps to take for successful planting - soil testing! At http://anr.ext.wvu.edu/lawn_garden/soil/soil_testing, you can read and watch a video about the proper methods for collecting soil for testing as well as practices for improving the overall quality of your soil.

Another helpful feature within the website is information about every WVU Extension county office. From the front page of the website, click on the County Offices tab in the yellow bar. Every county office has their own web page, complete with phone number, a listing of agents and staff, and information about programs available in that county.

WVU Extension’s website is a wealth of information at your fingertips, all the time.

Revamped Curriculum for Ag Education

BY NATHAN TAYLOR, EXECUTIVE SECRETARY, WV FFA

In the late 1800s and early 1900s, agriculture courses were needed to instruct an agrarian society on how to solve agricultural problems. The needs of agriculture, as a whole, have changed drastically in the last 100 years. With that, agricultural education has transformed to meet those needs. In West Virginia, Ag Education is undertaking a major transformation in order to better help students to meet needs of a 21st Century workforce. Under the vision of Dr. Kathy D’Antoni, Assistant State Superintendent of Schools--Division of Technical, Adult, and Institutional Education, all career and technical education concentrations have been put to the task of forming industry-advisory committees to identify specific skill sets and knowledge that WV high school students need to enter the workforce. Further than this, the committees are looking to prepare the students for completion of college degrees in their respective program areas. Through the coordination efforts of Jason Hughes and Nathan Taylor, WV FFA coordinators, industry professionals were identified in the areas of Agribusiness, Ag Mechanics, Environmental & Natural Resources, Forestry, Horticulture, Animal Science, Animal Processing, Soil Science, Biotechnology, Landscaping, Floriculture, and Production Agriculture. These professionals have worked at four different meetings since November 2010 to collaborate on the needs of their respective industries. They have led the current changes to new and improved concentrations and curriculums for high school agriculture students. Of course, there is still work to be done in developing the curriculum and industry certifications for the new industry-led concentrations. However, the end result will be a quality product that resulted from collaborative efforts of the agricultural industry, agriculture teachers, and the West Virginia Department of Education.

Make Plans Now!

WV Small Farm Conference
March 1-3, 2012
Morgantown, WV

Contact: Tom McConnell (304) 293-2642
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http://smallfarmcenter.ext.wvu.edu/
Sampling and Forage Testing
Hay and Haylage

By Dr. Ed Rayburn, Forage Agronomist Specialist, WVU Extension Service

Feed prices are at record highs. Livestock prices are also at record highs, but have not increased proportionally to feed costs. To minimize feed cost it is important not to purchase any feed or supplement that will not provide an economic return in animal gain or health. In 2010, farmers supplementing cattle based on forage testing had a $10 savings in feed cost for every $1 spent on forage testing.

One step toward doing this is by taking a sample of your hay and having it analyzed to measure its nutritional quality. This information, compared to the nutritional requirements of the animal you are feeding, is an effective way to determine what supplements, if any, are needed to optimize animal performance. A laboratory analysis is good only if the sample submitted is representative of the forage the animal will eat. Proper collection and preparation of the forage sample are important.

Sampling Hay

When taking samples from hay bales, you need to have the right tools to take a representative sample. Purchase or borrow a forage sampler, such as the Penn State Forage Sampler (Fig. 1). Your county agent or staff from your conservation district may be able to help you with sampling. Forage samplers are sharpened tubes that are drilled into a hay bale to cut out a sample. These tools may look expensive, but compared to the cost of feeding supplements they are a good investment. When sampling hay, divide the hay into lots based on the date of the cut and the maturity of the forage species in the field (orchardgrass versus timothy, grass-legume mixes versus nitrogen fertilized grass). Two fields cut on the same day, having similar forage species and legume content, can be combined into one lot. From each lot, randomly select 12 to 20 bales. Using the forage sampler, take a core from each bale. When sampling large round bales stored outdoors, take the sample from below the weather damaged “cap” of hay if the animals will not be forced to eat this material. Combine these 12 to 20 cores and mix them to make the sample to be sent to the lab.

Haylage

Baled haylage should be sampled the same as dry hay bales. Haylage stored in a silo should be sampled after removing the exposed outer silage. Then take several grab samples out of the feed wagon or bunker. If forage from different fields has been layered in a bunker, take grabs from across the height and width of the face to ensure a representative sample for analysis. You can also take a sample after the silage has been mixed in a mixer wagon.

Sample Preparation

Wet silage samples can spoil rapidly in warm weather. Proper care needs to be taken when preparing and mailing the sample if you are to obtain a meaningful report. Put the haylage sample into a plastic bag, press the sample to remove all the air, and then seal the bag. The acid in the silage will continue to preserve it if there is no oxygen in the bag to cause secondary fermentation. It is important not to dry silage or haylage samples since the organic acids that preserve these feeds evaporate during drying. Shipping a frozen silage sample with a freezer pack or over night shipping to the lab will reduce the risk of spoilage.

Hay samples can be put into a plastic bag and sent directly to the laboratory since they should be adequately dry.

Sample Submission

Fill out the information sheet provided by the forage testing laboratory. Some laboratories will send copies of the report to other people, such as Extension agents or nutrition consultants. If you work with these individuals and want them to receive a copy-- make sure their names and addresses are in the appropriate places on the form.

Next, you need to select the analysis to be conducted. Most forage testing laboratories can measure many nutritional components in samples. Since not everyone wants the same information, the labs offer different testing packages. Which package to request depends on your livestock type and management goals. A beef operator may want only an estimate of digestible or net energy, protein, and major minerals. This analysis can be conducted at a low-cost using near infrared (NIR) analysis. However, a dairy operator probably also wants neutral detergent fiber (NDF), protein fractions, and trace minerals, which will require a more expensive combined NIR and wet chemistry procedure. After completing the submission sheet and properly preparing the sample, you can send them to the laboratory. A copy of the results will be returned to the addresses listed on the sample information sheet.

Many of the Soil Conservation Districts in WV have hay analysis programs. Check with your district and see if they have a program that you can participate in.

Fig 1. Penn State Forage Sampler. Proper forage sampling will ensure that the forage sample represents what the animals are being fed. The forage analysis can then be used with confidence to develop a ration that meets the animals’ nutritional requirements and your management goals.

The 2nd Annual Tristate Farm & Food Conference
Visit the website for coming updates and information!

http://smallfarmcenter.ext.wvu.edu/
Many home gardeners are very disappointed when they harvest the first tomatoes of the year only to find sunken dark decaying areas on the fruit. This problem is known as Blossom-End Rot and is one of the most common problems gardeners experience. It is due mainly to management and environmental conditions in the growing arena.

Blossom-End Rot is a serious disorder of tomato, pepper, and eggplant that develops on the blossom end (opposite the stem) of many fruit, especially the first fruit of the season. This nonparasitic disorder can be very damaging with losses of 50% or more in some years.

Blossom-End Rot on Tomatoes

BY DAVID RICHMOND, WVU EXTENSION AGENT, RALES/SUMMERS COUNTY, WVU EXTENSION SERVICE

On tomato and eggplant, blossom end rot usually begins as a small water-soaked area at the blossom end of the fruit. This may appear while the fruit is green or during ripening. As the lesion develops, it enlarges, becomes sunken and turns black and leathery. In severe cases, it may completely cover the lower half of the fruit, becoming flat or concave. Secondary pathogens commonly invade the lesion, often resulting in complete destruction of the infected fruit. On peppers, the affected area appears tan and is sometimes mistaken for sunscald, which is white. Secondary molds often colonize the affected area, resulting in a dark brown or black appearance. Blossom-End Rot also occurs on the sides of the pepper fruit near the blossom end.

Blossom-End Rot is not caused by a parasitic organism, but is a physiologic disorder associated with a low concentration of calcium in the fruit. Calcium is required in relatively large concentrations for normal cell growth. When a rapidly growing fruit is deprived of necessary calcium, the tissues break down, leaving the characteristic dry, sunken lesion at the blossom end. Blossom-End Rot is induced when demand for calcium exceeds supply. This may result from low calcium levels or high amounts of competitive cations in the soil, drought stress, or excessive soil moisture fluctuations, which reduce uptake and movement of calcium into the plant, or rapid, vegetative growth due to excessive nitrogen fertilization.

In order to help control and manage the problem the following management steps should be taken.

1. Maintain the soil pH around 6.5. Liming will supply calcium and will increase the ratio of calcium ions to other competitive ions in the soil.

2. Use nitrate nitrogen as the fertilizer nitrogen source. Ammoniacal nitrogen may increase Blossom-End Rot as excess ammonium ions reduce calcium uptake. Avoid over-fertilization as side dressings during early fruiting, especially with ammoniacal forms of nitrogen.

3. Avoid drought stress and wide fluctuations in soil moisture by using mulches and/or irrigation. Plants generally need about one inch of moisture per week from rain or irrigation for proper growth and development.

4. Foliar applications of calcium, which are often advocated, are of little value because of poor absorption and movement to fruit where it is needed.

5. One thing to consider is this year’s crop is probably already affected, and these steps should be applied as preventive measures for next season.
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<td>Randolph</td>
<td>304-636-2455</td>
<td>Ronnie Helmondollar</td>
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<td>Ritchie</td>
<td>304-643-2164 ext 5</td>
<td>Alexandria Straight</td>
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<td>304-927-0975/6</td>
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<td>Taylor</td>
<td>304-285-3303</td>
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<td>Tucker</td>
<td>304-478-2949 ext 209</td>
<td>Jennifer Poling</td>
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<td>Tyler</td>
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<td>Christie Richards</td>
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<td>Upshur</td>
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<td>Wayne</td>
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<td>Wirt</td>
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<td>Patty Morrison</td>
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<td>Wood</td>
<td>304-424-1960</td>
<td>J J Barrett</td>
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<tr>
<td>Wyoming</td>
<td>304-732-8000 ext 213</td>
<td>Susan England-Lord</td>
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### Important Websites

**West Virginia University Extension Service**
www.ext.wvu.edu/

**Agriculture & Natural Resources-WVU Extension Service**
www.wvu.edu/~agexten/

**West Virginia Soil Conservation Agency**
www.wvca.us

**West Virginia Dept. of Agriculture**
www.wvagriculture.org

**Farm Service Agency (FSA)**
www.fsa.usda.gov

**United State Dept. of Agriculture Natural Resources Conservation Agency (NRCS)**
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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