

WEST VIRGINIA

SMALL FARM ADVOCATE

WVU Extension Service Small Farm Center Risk Management Education

Winter 2017

WVU Extension Service Small Farm Center Risk Management Education

THE CASE FOR FOOD PRODUCTION IN WEST VIRGINIA: THE \$8.3 BILLION OPPORTUNITY

Tom McConnell,

Program Leader

WVU Extension Small Farm Center

This graphic represents how the American Food Dollar is divided between the many sectors ranging from production to processing and marketing. For every dollar Americans spend on food, the farmers receive 10.4 cents and the processors see another 15.3 cents. Now consider this, West Virginians spent \$8.3 billion for food last year, half in the home and half out. The money spent on food was consumed in West Virginia, but there was no financial benefit to our local communities in terms of employees to process the crop or for local farmers to grow it. West Virginia has virtually no food industry. Its modest agricultural income from the sales of all agricultural crops, \$769 million dollars, pales in comparison.

With few exceptions, our local food businesses serve as no more than fran-

chises for out-of-state food producers and processors. There is great opportunity to claim that business for West Virginians. If West Virginia were to answer the call and produce its share of that 10.4%, it would add another \$863 million of new income to its economy. If the farmers and communities were to process the state's share of this food, another \$1.27 billion in meat cutting, vegetable peeling and other processes would create jobs and infrastructure. This type of agricultural business enjoys a "multiplier" effect of nearly 2 times, meaning that for every dollar received for food in the community it results in two dollars of economic activity. This added production and processing will not impact the agriculture that exists now except to add to it.

Few folks grasp this opportunity. There exists a \$2 billion opportunity to grow and pro-

cess food for consumption in West Virginia. Those who grasp this movement will take jobs to the most rural communities where most folks talk about "the way it used to be". Then the food that we eat will complete a short haul of only a few miles as compared to the U.S. average of 1,500 food miles. All the efficiencies and technologies developed over the last 75 years can be "caught up" with a single purchase. These investors can be local or imported, but for financial progress to become sustainable, it must have well informed local control.



Food opportunity cont.

Most folks consider the opportunity too good to be true and they ask about the demand for the food and the supply. The demand is secure, according to the USDA Economic Research Service. This leaves the supply question, "Do we have this production now?" No, we do not but we have 21,000 farmers in WV, most of whom are underemployed and are looking for a crop to grow to help them realize their lifelong dream living off the land. The missing piece of this opportunity is education and organization. When looking to increase family farm production most will assume that the present level of production is an indication of no interest. That is incorrect. The WVU Extension Small Farm Center

has proved that local farmers want to produce, but lack of experience with wholesale growing and marketing in addition to management inexperience prevents them from trying. That attitude goes away once farmers receive the proper training and enjoy the benefits of larger sales. If you show a person how to grow a crop and find them a market, they will produce!

None of this can grow into a food system without entrepreneurs. The future West Virginia food system must have professionals to join and lead it. Folks who can develop transportation, assess efficient pathways, secure funding, and further develop the processing opportunity are all needed to make the system functional. The food system must stretch the

resources it has and build the ones that it lacks.

The possibilities are exciting! If West Virginia processed all the red meat it consumes, the number of animal processing jobs would leap from the present 100 to a staggering 3,500 employees. Growth in the fruit and vegetable markets are different but no less amazing, as nearly every crop will require storing, sorting, and value adding.

Planting and processing so many acres with a variety crops promises an exciting world of busy, productive farms surrounding equally busy communities working together for a brighter future.

Red York - Mountaineer Apple

Dr. Mira Bulatovic-Danilovich

WVU Extension Horticulture Specialist

West Virginia apples, without a doubt the most famous are Golden delicious and Grimes golden. But, the state has another apple with interesting history behind it. The apple is Red York and was discovered by John L. Hevener in his orchard in Roanoke, W.Va. about 1945. The orchard was right where the Stonewall Resort is today. The



remembrance of the old orchard is still tucked away on the top of the hill overlooking the lush golf course.

As the story goes, John L.

Hevener was walking through his orchard when he spotted an unusual and inviting site...an apple tree with some nice big, red apples hanging from a branch. He picked the apple and took a bite. Though passed its prime, apple was still very much edible and in surprisingly good condition. The fruit was large, somewhat reminiscent of "Yorking" (Imperial York) but not so lopsided which was definite improvement, completely covered in deep, dull red color with a thick skin covered with many small, circular dots over the whole fruit. The new apple was a genetic/bud mutation of the Imperial York variety. John L. Hevener propagated his new apple at the Roanoke Nursery at Roanoke, W. Va. He closely monitored and carefully recorded his observations about his new apple for the next fifteen years. Having good stack of data to substantiate his claim, he submitted a request to the United States Plant Office for a pat-

ent for his apple which he received as Plant Patent 2,288 on October 8, 1963.

In the Patent document Red York is described as a tree of medium size, hardy, heavy and regular bearer. Ripens approximately two weeks after Imperial York, about October 15. Fruit is of very good quality with firm, fine but crisp texture, rich flavor and distinct aroma. In comparison to Imperial York, the fruit has deeper color, thicker skin, deeper calyx and smaller core. It is an apple that keeps well for ten months without refrigeration, a significant improvement over Imperial York.

This variety has a very good potential for the local farm markets due to its nice size, appearance, taste, very good cooking properties, and of course, it is "home-grown, West Virginia" apple.

Is the Price Right?

Brandy Brabham

WVU-Roane County Extension Agent

What's your pricing strategy? The price must fall between two points: what the customer is willing to pay and your breakeven point (you start losing money). Charge too much and it won't sell. Charge too little and no profits. While research indicates that price is one consideration, there are multiple layers of pricing.

Develop a goal. Pricing reflects how you position your product. If you want to be the go-to-girl for a certain product or service, then always sell only top quality product and offer great service. If you're positioning your enterprise as a family activity, then have activities and operational hours geared towards the weekends with family friendly packaging, activities and prices.

Study the competition. The Internet can give an abundance of information about

your customers, the marketplace, and the profit potential. Interview potential customers. Tell them you're thinking about selling a certain product and ask what they are currently paying for similar products.

Calculate total costs. Add fixed costs and variable costs. Then calculate the break-even price for a product or service. Of course you're not in business to just break even.

Identify added value. "What's your unique selling point? Is it quality, different varieties, free delivery, convenient location, or locally grown? What can you offer that customers are willing to pay more to obtain?"

Consider pricing options:

- Utilize odd-evening pricing (\$3.99 instead of \$4.00), standard mark-up pricing (typically a producer marks up price 15% over total cost per unit, a wholesaler 20% over costs, and

a retailer 40% over costs.), or customary pricing (when the product "traditionally" sells for a certain price).

- Target "quality" customers versus "quantity" customers.
- Offer volume discounts or add-on products.
- Offer two layer pricing- one price for premium service and a lower price for economy service.
- Match competitor's pricing.
- Use the same price to establish consistency.

When setting prices, perception is everything. How customers view your product or service and what they are willing to pay for it is based upon perceptions. In the end, customers will tell you through their purchasing behavior whether or not prices are too high, too low, or right on the money.



RISK MANAGEMENT BECAUSE IT MATTERS

[HTTP://WWW.RMA.USDA.GOV/TOOLS/AGENT.HTML](http://www.rma.usda.gov/tools/agent.html)

MANAGING COW-CALF ENTERPRISE FINANCES

Allison Tomlinson

WVU Extension Instructor, CRED

Cattle markets have been disappointing to many in 2016, with calf and yearling prices decreasing throughout much of the year, only to nose-dive in mid-October. Prices for these classes early fall were 30% below 2015 and 60% below 2014. Average per cow profits below \$300, serve as a cue to review farm profitability and management decisions. Many producers well know the cyclic nature of the beef industry, however when asked about how they assess profitability of their cow-calf enterprises, fewer have really put the pencil to the paper to create usable/ easily interpretable data. Considerations to maintain or improve profitability include attention to cost management strategies, value-added marketing, and utilizing resources to their highest value.

Due to tight profit margins facing many beef farmers, increasing attention to farm finances is a must. It is easier to deal with the symptoms of financial strain through awareness than through the escalation of the reality of financial difficulty. Farmers regardless of full-time or part-time status are multi-talented, possessing a wide skill set to tackle the demands of an agriculture operation. Production and financial records sometimes are not as much of a focus compared to other items on the daily to-do list. With the development of a simplified financial analysis program, it is the hope that farmers become more open

to farm record analysis and further adopt good record-keeping habits.

To perform financial analysis, data such as income and expenses, tax records, debt and asset values, production records, etc must be accessible. This data can then be used for financial measures such as profitability, intensity of resource use, etc. to become useful information, and thus knowledge to the contributing entity. BEEF TRANS is a computer generated spreadsheet that uses income tax and balance sheet records and calculates a beginning and ending net worth statement, net farm income statement, and annual cash flow statement. It additionally, calculates beef income and expenses on

a per cow or per pounds of beef sold basis. Sixteen ratios recommended by the Farm Financial Standards Task Force are calculated along with other measures to help analyze finances per acre, per cow, per pounds of beef sold, and per full time labor equivalent.

Obtaining more information about this new program available to West Virginia beef cow-calf producers is easy. Contact your local agricultural WVU Extension Service agent or Brian Wickline and Allison Tomlinson in the Monroe County, WVU Extension Service office, 304-772-3003.

Allison E. Tomlinson
304.772.3003 allison.tomlinson@mail.wvu.edu

* <i>INPUT Forms</i>		BEEF TRANS 4.44 Farm Net Worth Statement				Page 3		
ASSETS								
CURRENT		Begin	End	Notes				
Current Cash on Hand		\$0	\$0	Checking Account/Investments				
Prepaid Expenses		\$0	\$0	Feed and Crop Expenses				
Account Receivables		\$0	\$0	January payment for December Sale				
Inventories	Quantity			Quantity	feed note	Price	Unit	
Corn	248	\$19,840	\$19,840	248		\$80.00	Dry Hay	
Dry Hay	160	\$13,600	\$13,600	160		\$85.00	Haylage	
Haylage	0	\$0	\$0	0		\$85.00	ton	
Corn Silage	0	\$0	\$0	0		\$33.00	ton	
Silage Bales	0	\$0	\$0	0		\$50.00	bale	
Resale Lvstck	0	\$0	\$0	0		\$0.00	head	
Resale Lvstck	0	\$0	\$0	0		\$0.00	head	
Small Tools/Supplies...		\$10,000	\$10,000				Shop Tools, Supplies	
Other		\$0	\$0				Bedding	
Total (Current)		\$43,440	\$43,440					
NON-CURRENT		Cost (Tax) Basis			Unit	Unit	Fair Market Value (FMV)	
Breeding Stock	Quantity	Begin	End	Quantity	Cost	FMV	Begin	End
Beef Cows	140	\$0	\$0	130	\$0	\$1,900	\$266,000	\$247,000
Breeding Heifers	30	\$0	\$0	21	\$0	\$1,800	\$54,000	\$37,800

Management is the Key to Marketing

Tom McConnell

WVU Extension Service Small Farm Center

Marketing is a huge topic to reduce to a small article but it is vitally important. So many shepherds “lose their way” and quit the small ruminant enterprise when they are disappointed with their income after failing to lambs with a market. Other shepherds fail by not having a handle on their management. Shepherds who have clear goals have a basis for production measurements and can manage toward those goals. Those who do not fall from the ranks and report to their neighbors that there is no money in sheep... but this article is about marketing.

To start, the shepherd must understand that the breed of sheep has everything to do with the marketing of the lamb. The long wool breeds tends to mature slower and produce less desirable carcasses in the framework of yield of meat. Those lambs with less muscling are best marketed as an ethnic holiday tradition where there are very exact requirements for size, degree of fatness, and even requesting intact

lambs with long tails. To learn more about this aspect of marketing, go to the Cornell University web site at <http://sheepgoat-marketing.info/calendar.php> to learn how and when to present lambs for market.

For day-to-day success in your marketing program, it is best to develop a relationship with your end buyer. This person could be the manager of the stockyard, the local butcher, or person who buys lambs for a bigger lamb purveyor and you will learn much from the communication. First, you will learn how your lambs performed and hear suggestions on marketing improvements. You may find your type of lambs should be sold in the ethnic holiday market or fed to a heavier weight. Your success is in the hands of the buyer and you will be successful as soon as you accept that fact.

In many ways the marketing starts with the selection of the ram. High quality, thrifty lambs sell better than those that are not. Many ewe deficiencies can be overcome with a good ram. It is always suggested to go to a performance tested ram sale to make this purchase. These rams

have had their important traits measured and compared to their peers.

Isolation from markets and from other shepherds creates huge marketing challenges. Maybe the first thing a beginning shepherd should do is to find other nearby shepherds who may offer opportunities to share rides to market and from the farm supply. Nothing can rob an operation of profit faster than distance. Learning to coordinate with fellow shepherds is not always easy, but the rewards are financial. Taking that cooperative spirit further, one could coordinate breeding times to maximize marketing efficiency to either increase load size to reach distant markets more efficiently, or to separate lambing so your local butcher would have an extended period of supply. The obvious extension of cooperation would be sharing a really good ram. Again, a talk with your neighbor and your primary buyer to develop this thinking further. So do not assume anyone else has considered that before; it is always good to discuss.

Good “thrifty lambs” always outsell lambs that are more common. To take ad-



Management is the Key cont.

vantage of this, careful attention must be paid to internal parasite management, adequate pasture, and securing a high quality source of fine stemmed hay for winter-feed. So many ewes lose weight in the winter because they were allowed to carry a heavy internal parasite load and fed coarse hay all winter. Many shepherds try to offset their poor forage management with shelled corn. Increasing the energy of the ewes will help them maintain or develop more body cover, but that takes a long time and it can prove expensive. The best, most profitable, and probably those that bring the highest price lambs, come from ewes kept in moderate bodyweight all year long. This requires good pasture management combined with excellent internal parasite control. Healthy ewes of moderate flesh will deliver more twin lambs that are big enough to be thrifty and immediately find a teat. The healthy well-fed ewes have more colostrum and the lambs perform better. Pre-breeding examination and culling for bad udders will result in fewer orphan lambs to raise, which will help the bottom line and the shepherd's attitude throughout the spring.

Freezer sales are an attractive and in some cases the only option for the small shepherd. This prospect requires the shepherd to understand lamb meat first and maybe more importantly the people who eat it. Many issues can arise in this process that could be averted with clear information about



yield and process. Carcasses are small and the price is high so the same

folks who pay \$50 for a lamb dinner at a restaurant act robbed when they receive a lamb back from the butcher. Just like your other marketing endeavors, it is vital that the shepherd talk to other shepherds and especially their butcher to help prevent these issues with freezer lambs. Scheduling can be a problem, but normally is addressed with plenty of lead-time.

From the shepherds perspective the cost of butchering can be prohibitive. Some think that they can pass this along to the buyer, which is fine except that if it is too high, eventually the buyer will recoil. After a few lambs are processed, the butcher will learn that you will be on time and will pay your bills, and then a lower rate can be negotiated with potentially more flexibility in scheduling.

Lastly, on-farm sales are a process for the more gregarious shepherd that does not have a heavy workload. When someone comes to the farm to buy a lamb or two they will want to embellish the farm experience, including a long chat with the farmer who grew the lambs. Consider that you must first bring in the whole flock to allow someone to choose a lamb to butcher or take to the county fair. Be prepared that some of the buyers of the ethnic holiday lambs will want to slaughter the lambs themselves on your farm. Remember that your new best friend, the buyer, will ask you to dispose of the offal. It is important to negotiate the price before the buyer gets to the farm, so you can determine if it is worth the effort.

Marketing and management are vital to your success and profitability. It requires study, patience, persistence, and a strong desire to get the best price that your product deserves.

SALES CLOSING DATE

3/15/2017

FOR
WHEAT,
OATES,
CORN,
SOYBEANS
& TOBACCO



A Quick Course in Pasture and Grazing Management

Dr. Ed Rayburn

Extension Specialist, WVU-Extension Service

For many, the details of pasture management are fun to discuss. However, for someone not familiar with the how and why of grazing management the details can become overwhelming. As a professor who studies and teaches pasture management I appreciate knowing many of the intricacies of livestock grazing. As a livestock producer I have learned that there are three principles that enable the producer to achieve near maximum production at the lowest cost in time and money. The three principles are:

1. Soil fertility
2. Timing and Intensity of grazing
3. Balancing forage production and live-stock feed demand

Soil fertility is evaluated by proper soil testing. Mixed cool-season pastures based on orchardgrass, tall fescue, bluegrass, and clover need a soil pH of 6.0 or higher with soil test phosphorus, potassium and magnesium in the “High” range. If pH is below 6.0 apply high quality lime. If magnesium is below “High” use a high magnesium lime. If the soil is below “High” in phosphorus or potassium apply the recommended fertilizer to bring these nutrients into the low end of the “High” range. Grass-clover pastures do not need nitrogen fertilization. Clovers produce the equivalent of 150 to 200 lbs. of nitrogen/acre/year if the soil fertility for other nutrients is where it should be.

Timing and Intensity of grazing determine the health of pasture plants and nutrition of the grazing animals. Plant height

provides the guidelines for proper grazing timing and intensity. Plant height is the tallest leaf within a 9-inch diameter circle (a hand span) around a pasture stick. Use the average of 20 or more plant heights across a pasture.

Timing of grazing is the plant height at which animals should go onto a pasture. Intensity of grazing is the plant height at which animals should be taken off a pasture and put onto a fresh pasture. In all cases, animals should graze a pasture for no more than 7-days.

Timing or pre-grazing height

- Cool-season grass-legume pastures should grow to an 8- to 12-inch height before grazing
- Graze at a lower regrowth height to obtain less mature, high quality forage
- Graze at a taller height to obtain high forage mass and to stockpile for deferred grazing

Intensity or post-grazing height

- Move animals out of the pasture when it is grazed to a 2- to 4-inch height
- Graze to a shorter height for high gain/acre, to stimulate legumes, and in cool weather
- Graze to a taller residual height for high gain/head and in hot-dry weather

Where pastures are continuously grazed the number of animals (or acres grazed) need to be adjusted so that average pasture height stays in a 4- to 6-inch range.

Pastures grow faster in the spring than in the summer and fall so there needs to be a plan for balancing forage supply and animal feed demand. One way WV farmers do this is to make first-cut hay on some fields then graze the aftermath growth instead of making second-cut hay. Other options are growing warm-season annuals or perennials or moving stocker cattle off the farm in August, at board sale time when prices are high. When there is a drought or in winter, animals need to be confined to a single or a few pastures or hay meadows and feed hay. This should be done on land that can use the fertility from the manure produced from the hay. Also, do not over-stock the farm. As stocking rate goes up, production costs go up and animal performance goes down. Stock at a moderate rate to increase profits and reduce risk.

Follow these management principles to ensure that pasture grasses and legumes flourish and provide excellent nutrition to the grazing livestock.

CAN'T FIND AN AGENT?



USDA

FIND YOUR AGENT AT

<http://www.rma.usda.gov/tools/agent.html>

Once a Patriot, Always a Patriot

Beekeeper Joshua Nelson of Seth brings commitment of protecting our country to feeding his neighbors

Deep in the forest covered hills of southern West Virginia, where the Big Coal River traverses through the heart of Appalachia, times are tough.

While the region, once driven by a thriving coal mining industry, is reeling from poverty and widespread unemployment, Farmer Veteran Coalition member Joshua Nelson is busy creating solutions to put a little buzz back into the economy.

And after recently being awarded a \$3,500 Farmer Veteran Fellowship, Nelson's business, Patriot Bee Company, is starting to take flight.

Born in Charlotte, North Carolina, and raised between there and southern West Virginia—where his roots run nine generations deep—Nelson comes from a long line of military service. Two of his ancestral grandfathers fought against the British in the Continental Army during



the American Revolutionary War, one of which was tasked with guarding British General Charles Cornwallis during his surrender in 1781.

His paternal grandfather, who Nelson looked up to as a hero, was a Marine and influenced his decision to enlist in the Marine Corps Reserve as a combat engineer at the age of 19.

“I never remember a time that I have not wanted to serve my country,” said Nelson, now 29 years old. “Honestly, I am not sure it is something I was able to choose; I think it chose me. I joined the Marine Corps because, in my opinion, they are the world's best ground war fighters.”

When he's not busy defending the country, Nelson is focused on building Patriot Bee Company. Though he has been involved with agriculture his whole life, beekeeping is a relatively new endeavor for Nelson who thinks West Virginia's unique landscape is well suited for it.

“Agriculture has always been a part of my life,” said Nelson, a current MBA student at the University of Charleston. “I started studying beekeeping while in pilot training. The reason I chose this is because West Virginia has a lot of hillside property. We import over \$8 billion in agriculture from other states. I knew whatever we did to try and increase Ag GDP in our state had to be able to be done on a hillside. The bees do not mind flying to the side of a mountain.”



“Farmer Veteran Coalition set our operations forward by well over a year by increasing our hive count up to 20 hives,” Nelson said. “This year, we are focusing on growing the number of bees to be split to 40 (hives) next year.”

In the next couple years, Nelson plans to increase Patriot Bee Company's hive count to more than 100, while focusing on pollination and bee products. He also wants to expand his operation into manufacturing equipment with the goal of creating a robust business that will allow him to hire more veterans.

For veterans considering a career in agriculture, Nelson offers the following advice:

“The best advice I would like to give to any vet considering getting into agriculture or beekeeping is to do it, but make sure you join a support group of seasoned persons who have been there and done that,” he said. “It is much better to learn from someone else's mistakes.”

Lee Rosenblum

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Management of Leucostoma Canker of Stone Fruits caused by fungal pathogen *Leucostoma persoonii*

Drs. MM Rahman

Plant Pathology Extension Specialist

Alan Biggs

Retired WVU Fruit Pathologist, Kearneysville Tree
Fruit Research and Extension Center

I. Introduction: Leucostoma canker, also known as perennial canker, peach canker, Cytospora canker, and Valsa canker, is one of the most destructive diseases of stone fruits (peach, nectarine, apricot, sweet cherry, and plum) in the mid-Atlantic region. The disease is most damaging to young orchards, where it may cause tree death. In older orchards, trees gradually lose productivity and slowly decline as individual scaffold limbs are killed.

II. Symptoms: The fungus attacks the woody parts of stone fruit trees through any injury to the bark, pruning cuts, and dead shoots and buds. The first visible symptom is the exudation of gum at the point of infection (Fig. 1). The canker starts from a small necrotic center that slowly enlarges with the collapse of the inner bark tissue. The canker enlarges more along the length than the width of the branch. Older cankers are therefore oval to elongate in outline (Fig. 2). In new cankers, the outer bark usually remains intact except at the points of gumming. In older cankers the bark in the center of the canker becomes torn. The gum turns black due to alternate wetting and drying and the presence of saprophytic fungi. Older cankers are surrounded by a roll of callus tissue. Each year the canker enlarges by repeated invasion of healthy tissue.

With renewed growth in the spring, the tree forms a callus ring around the canker as a defense mechanism. This can be a very effective defense except when the Lesser peach tree borer breaks the callus ring by burrowing through the callus into healthy tissue.

III. Disease Cycle: Small black fruiting bodies containing spores of the fungus are produced on the smooth bark covering diseased areas on dead wood. These spores are washed from the fruiting structures during wet weather. The optimum temperatures for growth of the fungus are 77 to 86°F (25-30°C). Spores are produced anytime the temperatures are above freezing. Most infections occur during the fall, early spring, and winter months when the trees are not growing vigorously. The fungus cannot penetrate healthy bark or buds. Cold injured buds or wood and pruning cuts are the most important sites of infection. The fungus can also penetrate brown rot cankers, oriental fruit moth damage, sunscald wounds, hail injury, leaf scars, and mechanical wounds. The fungus becomes established in the wood and forms a canker by invading the surrounding healthy tissue.

IV. Monitoring: After shuck fall, monitor all trees in the orchard for cankers (photo 2-64). Cankers can be very small or can girdle the entire limb or trunk. Remove cankers surgically if possible or prune out the entire diseased area. Monitoring for and removal of cankers is best done at the same time.

V. Management: All attempts to control peach canker must take place within the framework of an integrated crop management strategy. All phases of orchard management from establishment of new plantings to care of bearing orchards are important. Management of cankers is based on preventative measures designed to decrease winter injury and insect damage, promote optimum plant health, and facilitate rapid wound healing. As with any other disease, once established in an orchard, new infections become increasingly difficult to control. Proper site selection for new peach plantings is essential if young trees are to enter their productive years free of disease. The site should have deep, well-drained soil and good air



Management of Leucostoma cont.

drainage to minimize the chances for winter injury. Tile drainage systems should be installed where feasible and whenever natural drainage is impeded. New plantings should be reasonably isolated from sources of inoculum. Young trees should not be planted adjacent to older, heavily infected peach blocks and the down-wind side of older blocks should be avoided. Nursery stock should be disease-free and not excessively large (greater than 11/16 caliper). Trees with small cankers on lateral branches may be planted if they are pruned so that at least 10 cm of healthy tissue below the canker is removed. Examine all trees closely. Plant trees immediately after receiving them from the nursery to avoid any additional stress. Protect trees from peach tree borer by dipping the roots and crown of new trees in an appropriate insecticide. Newly planted trees should be pruned when their buds begin to break and trees should be headed back to about 100-

115 cm to promote wide-angled branching. Control oriental fruit moth and peach tree borer even in the first few non-bearing years. These insects can cause serious damage and their feeding activity creates infection sites for *Leucostoma* spp. It is also important to control brown rot since twig infections by the brown rot fungus are often invaded then enlarged by *Leucostoma* spp.

Trees must be trained during the first season so that the tree branches develop the wide crotch angles that are necessary for long orchard life. Where narrow crotch angles form, the tissue in the crotch is susceptible to winter injury and invasion by borers. Also, portions of bark become included in narrow crotches where normally there should be solid wood, thus making the branch more likely to split when bearing a heavy crop. Wire spreaders or wooden spreaders with nails should be avoided because they injure the bark which may then become infected by *Leu-*

costoma spp. Rodent damage should be prevented with wire or plastic guards. Plastic wrap-around guards should be removed each summer because they may delay hardening of the wood in late fall, they may harbor boring insects and interfere with trunk sprays for borer control. Latex paint with Thiram also discourages rodent feeding.

Practices to avoid include excessive or late fertilization with nitrogen and late season cultivation. Nitrogen fertilizer should be applied in late winter or early spring to avoid inducing late, cold-susceptible growth in the fall. Foliage should show a healthy green color and terminal growth should be about 30 cm on bearing trees and 45-60 cm for non-bearing trees. Trees with pale, nitrogen deficient leaves are more susceptible to infection by *Leucostoma* spp. Balance nitrogen fertilizer application with an adequate supply of potassium. Use leaf analysis to determine fertilizer requirements. Southwest-injury or sunscald is caused by the warming of the bark by direct sunshine on the south and west exposures of the trunk and scaffold limbs and may occur even during relatively mild winters. This injury may be the most damaging since it occurs on trunks, scaffolds, and crotches. These sites are commonly infected by *Leucostoma* spp. To avoid southwest injury, trunks and scaffolds should be covered with white latex paint which can reduce bark temperatures on sunny winter days. Infection at pruning cuts is less frequent when pruning is delayed until late in the spring. The faster a wound heals, the less risk there is for infection. Wound healing is temperature dependent, therefore pruning should be delayed until the first forecasts of warm, dry weather. When pruning side



photo 2-64 - J. W. Travis

Management of Leucostoma cont.

branches from larger limbs, the cut should be made just beyond the ridge of thickened bark where the smaller branch joins the larger limb. The branch bark ridge should not be removed because it is in this region where the most rapid wound healing occurs. On one-year-old wood, the ridge of thickened bark is slightly inset and it is difficult to make the proper cut. In this situation, cut as close as possible to the larger branch without injuring it or leaving a noticeable stub. Prune to open the center of trees to light penetration because shaded branches are weakened and more susceptible to winter injury and *Leucostoma* infection.

Remove all dead and weakened wood. Cankers should be removed from the tree and burned, buried, or moved out of the orchard. Cankers on trunks and large limbs can be removed surgically in mid-summer when trees heal most rapidly. Surgery should be performed in dry weather with a forecast of dry conditions for at least three days. During surgery, remove all diseased bark around the canker and about three and five centimeters of healthy tissue from the sides and ends, respectively. Disinfect cutting tools between cuts with an alcohol or bleach solution. The resulting wound when finished should have a smooth margin and be slightly rounded above and below to favor rapid wound

closure. The practice of covering pruning cuts in spring with a thiram-latex paint mixture provides some degree of protection against fungal infection. Sites of surgery heal best if left uncovered. Leaf scar infections by *L. cincta* take place as the tree defoliates in autumn. Fall or spring sprays applied for leafcurl control have been shown to reduce leaf scar infections. There are no fungicides registered specifically for control of *Leucostoma* spp.

VI. Reference: Ellis, M.A. 1997. Peach Canker. Factsheet HYG-3005-94, The Ohio State University Cooperative Extension, Columbus, OH.

Managing Slugs

Daniel Frank

WVU Extension Specialist – Entomology

Slugs can cause extensive damage to a wide range of crops and ornamental plants, especially in mild, wet years. Slugs prefer to feed on young, succulent plant tissue. They scrape ragged, irregular holes in leaves and flowers and can clip developing shoots. This pest can also damage fruits that ripen close to the ground such as strawberries and tomatoes by scraping small, shallow pits on their surface. However, most of the damage caused by slugs occurs when they kill plants by feeding directly on seeds, or on seedlings that have germinated and emerged from the soil. In general, slugs are most active and damaging in the spring from April to June and then again in the fall from September to October. They prefer moist soils with high mulch content and are primarily active at night, or during damp cloudy days.

Since slugs prefer cool, moist conditions in undisturbed locations, limiting these habitats can be an important first step in preventing damage. Eliminate as much as possible all places where these pests can hide during the day such as under crop debris, dense weedy areas, or leafy branches growing close to the ground. In addition, allow the soil to become as warm and dry as possible by thinning heavy mulch, or using row cleaners/sweepers on the front of planters to move crop residue away from rows. Tilling

the soil, or shallow (a few inches) disking fields before planting can also help to disrupt slug habitat and decrease populations. Furthermore, ensuring that seed slots are closed after planting can also help to limit slug damage.



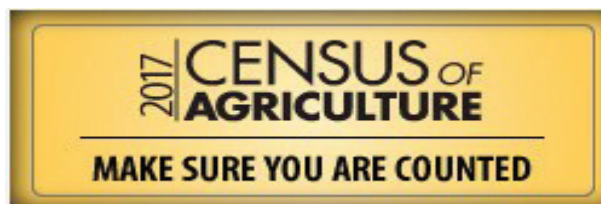
Slugs cont.

In small plots or garden beds removing slugs by hand can be another effective means of control. They can be lured and captured from underneath artificial shelters consisting of boards, wet cardboard, or other similar materials placed in the garden plot or landscape. Melon rinds are also effective for attracting slugs for hand-picking. Beer or yeast traps placed at ground level have been recommended by some to capture slugs, but these traps are not particularly effective for the time, labor, and cost involved. The bait in these traps must be replaced every few days and slugs must be within a few feet of a trap to be attracted to it. Several types of barriers can also be used to repel slugs. Copper foil wrapped around garden bed frames, planting boxes, and trees can be effective. Barriers of diatomaceous earth or other abrasive materials mounded in a band around garden beds or plants can also work as long as they remain dry.

Molluscicides (i.e. pesticide used to control slugs, snails, and other mollusks) formulated as baits are also available for slug control. Products containing the active ingredient iron phosphate are made from naturally occurring elements and are fairly safe for use around people, pets, and other non-target organisms. Baits containing metaldehyde are also common, but are more toxic and attractive to pets and wildlife. For best results, baits should be evenly broadcast over the treatment area after a rain or watering event to promote slug activity. All bait products should be applied as directed on the label.

For more information regarding slug monitoring and control contact: Daniel Frank at dlfrank@mail.wvu.edu or by phone at 304-293-8835.

Census of Agriculture



The Census of Agriculture is a complete count of U.S. farms and ranches and the people who operate them. Even small plots of land - whether rural or urban - growing fruit, vegetables or some food animals count if \$1,000 or more of such products were raised and sold, or normally would have been sold, during the Census year.

The Census of Agriculture, taken only once every five years, looks at land use and ownership, operator characteristics, production practices, income and expenditures. For America's farmers and ranchers, the Census of Agriculture is their voice, their future, and their opportunity.

The Census of Agriculture provides the only source of uniform, comprehensive and impartial agricultural data for every county in the nation. Through the Census of Agriculture, producers can show the nation the value and importance of agriculture, and they can help influence the decisions that will shape the future of American agriculture for years to come. By responding to the Census of Agriculture, producers are helping themselves, their communities, and all of U.S. agriculture.

Census of Agriculture data are used by all those who serve farmers and rural communities — federal, state and local governments, agribusinesses, trade associations and many others.

- Farmers and ranchers can use Census of Agriculture data to help make informed decisions about the future of their own operations.
- Companies and cooperatives use the facts and figures to determine the locations of facilities that will serve agricultural producers.
- Community planners use the information to target needed services to rural residents.
- Legislators use the numbers from the Census when shaping farm policies and programs.

Log on to:

<https://www.agcounts.usda.gov/cgi-bin/counts/>
to make sure you are counted for the
2017 Census of Agriculture.

KEY DATES

June 2017

Deadline to sign up to be counted.

December 2017

Look for your 2017 Census of Agriculture form in the mail.

February 2018

Deadline to complete your 2017 Census of Agriculture.

Respond online at

**www.agcounts.usda.gov or
mail your complete questionnaire.**

February 2019

NASS will release 2017 Census of Agriculture data.

Use of Warm Season Forages to Improve Management of Winter Feeding Areas

Every year farmers are presented with the decision of how many livestock to overwinter. Forages are limited and often this decision is made by assessing how much stored feed the producer will have available. The areas where livestock are overwintered is often concentrated and abused with machine and hoof traffic. Due to concentration, these areas also become a catch of excess nutrients. Winter feeding sites are typically chosen in areas that are easily accessible from stored feed or provide shelter for livestock. During the summer months when livestock are moved to pasture these areas become weed and nutrient wastelands.

WV producers need to develop a management plan to trap the excess nutrients in these areas and increase forage availability, which in turn should save money.

Management plans of winter feeding areas should accomplish several objectives:

1. Minimize livestock feeding in concentrated areas during late fall, winter, and early spring when frequent snow and rain runoff occurs;
2. Improve soils in winter feeding sites by utilizing excess nutrients to produce forages
3. Extend the grazing season by planting forages in areas normally left out of grazing rotations.

These objectives can be met by planting warm season annuals in winter feeding areas. Warm season annuals have a different growth habit than your cool season perennials. With adequate moisture and



Use of Warm Season Forages cont.

fertility they will rapidly produce forages during the “summer slump” when cool season forages are dormant. They should be planted in May-June or when soils are above 60 degrees and will provide forages until the temperatures drop in September/October. They provide an excellent option to provide increased amounts of grazeable forages, or preserved feeds like baleage or dry hay. Warm season an-

nuals are also fast growing and produce a high volume of material that will utilize the concentrated nutrients (animal waste left from winter feeding), provide cover for runoff and increase soil productivity.

Popular warm season grasses are: Sorghum, Sudan, Sorghum-Sudan, Pearl Millet, and Crabgrass. Each forage has its own set of unique characteristic and you can contact your local Extension Office for more information.

WVU Extension Agents and WV producers have teamed up to study the benefits of planting warm season annuals on winter feeding sites over the next three years. In 2016 sites in Ritchie, Grant, Pendleton, Pocahontas, and Putman

County planted a total of 16.5 acres with Brown Midrib (BMR) Sudan Grass. Over the course of the summer agents measured rainfall, plant growth, soil and forage quality, groundcover, and yield. BMR Sudangrass was chosen for this project due to its growth characteristics, high fiber digestibility and safety of grazing animals. It achieves 90% of its growth in June, July and August and should be grazed after it reaches a height of at least 24” tall. Projected yields for Sudan Grass Hay is 2-4 tons per acre or 10-12 tons of baleage at 35% DM per acre. Looking at data collected in 2016, we averaged 1.9 tons per acre DM from the minimally managed winters feeding areas during a very droughty summer.



Tips for Good Marketing Photographs of Your Farm Products

Brandy Brabham

WVU-Roane Co. ANR Extension Agent

Customers love to see everyday activities from the farm, but taking good pictures can be a challenge. Here are some quick tips to help capture great shots.

- Work with what you have. The best camera is the one you carry. While certain cameras take exceptional photographs, it won't be useful if it's not with you! Most people carry a cell phone and most phones take decent pictures nowadays.
- Practice using your camera. Take pictures in full light and dim light to know your camera's capabilities. While cell phone cameras can produce great photos, they are usually limited in dim light, and most don't "zoom" well. Teach yourself how to get great shots using natural light and subject angle to make them more dynamic and interesting.
- Make sure your camera lens is clean. If you're using a cell phone camera, there's a good chance there are fingerprint smudges, milk or manure on your lens. Take time to wipe off lens.
- Skip the flash for head shots. It may be tempting to snap a close-ups of baby goats huddling in the barn, but using a flash may turn their eyes into "scary-movie-eyes"! The flash is not always right.
- Use different angles. Photographing a seedling or tractor? Don't just snap from your level – get down on the ground. Or, climb high and snap an overhead shot to add dimension and interest.
- Try out your options. Taking pictures of a bee pollinating flowers is challenging. However, switching your camera to a "quick-capture" mode can produce some real keepers. Play around with camera settings and modes.
- Post those great photos! Take many pictures to get the great ones to tell your story. Post photos onto a website, social media, farm newsletter or at least points of purchase locations to promote your farm or product.

Production Risk Management Tips

Farmers deal with uncertainty every day. From not knowing what the weather will be like to wondering if market prices will remain stable, agricultural producers are forced to make decisions based on imperfect information. Uncertainty can lead to injury or loss. Each time a farmer plants a field, it is possible the weather will destroy the crops. Each time a feeder purchases calves, they risk a loss if beef prices drop. Managing risks helps in decision making. Below are some tools to consider when trying to effectively bear risks.

Product diversification—By producing more than one crop or livestock product, farmers can reduce the risk of a total production loss. It is also important to choose efficient and profitable enterprises.

Adding an inefficient enterprise that creates continual losses might not be worth the lowered risk from diversification.

Maintaining excess production capacity—A farmer with excess machinery or labor capacity will be able to catch up on planting due to weather as would a farmer with excess feed for livestock be able to reduce the risk of loss if there is a drought. As with diversification, the cost of maintaining excess capacity should be weighed against the benefits of lowering production risk.

Lease Arrangements—A crop share or livestock share lease permits a farmer to share production risk with the owner. Crop share agreements give the landowner a portion of the crop yield as rental payment. A livestock producer could own one third of a bull for breeding purposes thus sharing risks with co-owners.

Information—Having good and up-to-date information can greatly reduce the risk. Land-grant universi-

ties and agriculture suppliers are constantly doing research to develop new and better ways of production.

A well-informed farmer that uses new and proven production practices, innovative products, or adopts new technologies can reduce risk.

Insurance—A major tool to reduce production risk is insurance. It could be crop insurance or whole revenue insurance. For more information about insurance options, visit a local agriculture insurance provider, the Farm Service Agency, or a local Extension Agent or see the USDA Risk Management Agency website <http://www.rma.usda.gov/policies>.

Production risk can be potentially devastating to a farmer. It is essential to understand the tools available when making decisions. Using management to reduce production risks can make farming enterprises profitable despite the uncertainties inherent in agricultural production.

DIRECTORY

County	Phone	WVU Extension Agent
Barbour	(304) 457-3254	Hannah Fincham
Berkeley	(304) 264-1936	Mary Beth Bennett
Boone	(304) 369-5869	David Roberts
Braxton	(304) 765-2809	Debbie Friend
Brooke	(304) 737-3666	Norm Schwertfeger
Cabell	(304) 743-7151	Brenda Porter
Calhoun	(304) 354-6332	Daisy Bailey
Clay	(304) 587-4267	Michael Shamblin
Doddridge	(304) 873-1801	Dave Snivley
Fayette	(304) 574-4253	Brian Sparks
Gilmer	(304) 462-7061	Daisy Bailey
Grant	(304) 257-4688	Brad Smith
Greenbrier	(304) 647-7409	Joshua Peplowski
Hampshire	(304) 822-5013	Stephen Starcher
Hancock	(304) 564-3805	Carole Scheerbaum
Hardy	(304) 530-0273	Dave Workman
Harrison	(304) 624-8650	Rebecca Smith
Jackson	(304) 372-8199	John David Johnson
Jefferson	(304) 728-7413	Emily Wells
Kanawha	(304) 720-9573	Kerri Wade
Lewis	(304) 269-4660	Bruce Loyd
Lincoln	(304) 824-7911	David Roberts
Logan	(304) 792-8690	Dana Wright
Marion	(304) 367-2772	John Murray
Marshall	(304) 843-1170	Cheryl Kaczor
Mason	(304) 675-0888	Lorrie Wright
McDowell	(304) 436-9006	Loren Wells
Mercer	(304) 425-3079	Jodi Richmond
Mineral	(304) 788-3621	Stacey Huffman
Mingo	(304) 235-2692	Dana Wright
Monongalia	(304) 291-7201	HR Scott
Monroe	(304) 772-3003	Brian Wickline
Morgan	(304) 258-8400	Cindy Smalley
Nicholas	(304) 872-7898	Brian Sparks
Ohio	(304) 234-3673	Karen Cox
Pendleton	(304) 358-2286	Dave Seymour
Pleasants	(304) 684-2448	Dianna Lewis
Pocahontas	(304) 799-4852	Greg Hamons
Preston	(304) 329-1391	Bill Shockey
Putnam	(304) 586-0217	Chuck Talbott
Raleigh	(304) 255-9321	David Richmond
Randolph	(304) 636-2455	Ronnie Helmondollar
Ritchie	(304) 643-5200	Alexandria Straight
Roane	(304) 927-0975	Brandy Brabham
Summers	(304) 466-7113	David Richmond
Taylor	(304) 265-3303	John Murray
Tucker	(304) 478-2949 ext 209	Jesica Streets
Tyler	(304) 758-2101	Julia Bolin
Upshur	(304) 473-4208	Natasha Harris
Wayne	(304) 272-6839	Julie Tritz
Webster	(304) 847-2727	Mike Hall
Wetzel	(304) 455-0934	Mollie Toppe
Wirt	(304) 275-3101	Patty Morrison
Wood	(304) 424-1960	JJ Barrett
Wyoming	(304) 732-0007 ext 309	Stephanie Lusk

IMPORTANT WEBSITES

West Virginia University
Extension Service
ext.wvu.edu

Agriculture & Natural
Resources - WVU
Extension Service
anr.ext.wvu.edu
ext.wvu.edu

USDA Risk
Management Agency
rma.usda.gov

West Virginia Soil
Conservation Agency
wvca.us

WV Dept. of Agriculture
wvagriculture.org

Farm Service Agency (FSA)
fsa.usda.gov

USDA Natural Resources
Conservation Agency (NRCS)
nrcs.usda.gov

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USDA Service Centers

WV Agency Offices	Phone
WVDA State Office	304-558-3550
WVDA Executive Division	304-558-3200
WVDA Animal Health Division	304-558-2214
WVDA Marketing & Development Division (Market Bulletin)	304-558-2210 304-558-3708
WVDA Meat and Poultry Inspection Division	304-558-2206
WVDA Plant Industries Division	304-558-2212
WVDA Regulatory & Environmental	304-558-2227

USDA Agencies	
NRCS State Office	304-284-7540
FSA State Office	304-636-1785
Rural Development State Office	304-284-4860

Multi-Agency USDA Service Centers	
Beckley	304-253-9597
Buckeye	304-799-4317
Cross Lanes	304-776-5256
Elkins	304-636-6703
Franklin	304-358-2285
Gassaway	304-364-5103
Glennville	304-462-7171
Hamlin	304-824-3236
Huntington	304-697-6033
Keyser	304-788-2332
Kingwood	304-329-1923
Lewisburg	304-645-6172
Martinsburg	304-263-7547
McMechen	304-242-0576
Middlebourne	304-758-2173
Moorefield	304-530-2825
Morgantown	304-291-4377
Mount Clare	304-624-9232
Parkersburg	304-422-9072
Petersburg	304-257-4702
Philippi	304-457-3026
Point Pleasant	304-675-2020
Princeton	304-487-1404
Ranson	304-725-3471
Ripley	304-372-6231
Romney	304-822-3020
Spencer	304-927-1022
Summersville	304-872-1731
Union	304-772-3006
Weston	304-269-8431
Whitehall	304-363-8861

Conservation District Offices	
Capitol	304-759-0736
Eastern Panhandle	304-263-4376
Elk	304-765-2535
Greenbrier	304-645-6173
Guyan	304-528-5718
Little Kanawha	304-422-9088
Monongahela	304-296-0081
Northern Panhandle	304-238-1231
Potomac Valley	304-822-5174
Southern	304-253-0261