

THE WEST VIRGINIA

Small Farm Advocate

February 2012 Edition

WVU Extension Service Small Farm Center Risk Management Education

BUILDING OUR FOOD SYSTEM FOUNDATION

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

The local food opportunity exists for everybody. Supply gaps exist in every part of the local food market. The fact that the demand and opportunity for local products has never been greater seems to do little to draw more farmers into the business. There are simply not enough farmers who want to take advantage of the local food opportunity.

There are several reasons. First, the farmer population is aging. The average age of a West Virginia farm operator is 58 years. The prospect

of this present generation making a major change in their management to include value adding or even a new enterprise is very slim.

Many argue that farmers lack that entrepreneurship spirit and would rather “just produce” than become involved in a new or more demanding facet of their current business. Many also attribute this apparent lack of entrepreneurship to the fact that our ancestors were never involved in a business, so a food production/marketing legacy was never built. A

friend shared a personal story with me that makes this point. He, with the help of his brother, was “working” his cattle one day when a neighbor stopped to speak to them. As the neighbor looked at the two young farmers covered in manure, mud and other job-associated materials he said, “What would you boys be doing today if your dad had been a banker?” They never thought of their operation as anything more than producing feeder calves.

For agriculture to really make a

difference in West Virginia’s farm economy and sustainability and for communities to regain some of the life drawn out of them by big businesses in faraway places, we must develop our local farmer base and build that foundation for our young producers.

Young people must be introduced to the concept of food production. Many are receiving a very good beginning through the agriculture science programs at their local

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GETTING FOOD FROM YOUR FARM TO SCHOOLS

BY DANIEL TODD, PROCUREMENT COORDINATOR, OFFICE OF CHILD NUTRITION, WV DEPT OF EDUCATION

Across the state of West Virginia, communities are becoming more aware of an economic opportunity in their own backyards. Schools are not only institutions that invest in our children’s education but these institutions provide a marketplace for local foods. In the 2012 school year, the Office of Child (OCN) reimbursed county Boards of Education approximately \$155 million through the National School Lunch Program (NSLP). In addition, close to 2 million dollars was provided to 150 elementary schools in 43 counties to purchase fresh fruits and vegetables for over 40,000 students. For the 2013 school year, OCN introduced a \$250,000 reimbursement incentive to urge counties to purchase locally. This incentive was an effort to confirm that purchases from local

farmers were not only allowable but encouraged. With new meal patterns introduced at the national level, schools will be required to serve more fruits and vegetables each day. All of this speaks to the opportunity for local producers to capture a greater piece of the market.

Purchasing decisions are made at the county level. Each county has a Food Service Director who manages the child nutrition operations. The Food Service Director is the first point of contact to begin the discussion of how the county purchases, stores, and distributes food. Local, state, and federal purchase procedures must be considered and provide purchasing guidance. The purchasing procedures range from informal to formal based on the value of what is being purchased over the school year.

In some situations a Food Service Director could order product over the phone. Other times they may be required to request prices from at least three vendors. It is critical that both parties follow local county purchasing procedures as you begin buying and selling local agricultural products. Each county board of education has its own purchasing thresholds that dictate the formality of the process. They generally range from \$2500 to over \$50,000.

The Food Service Director could help farmers identify foods the school may use in the upcoming school year and discuss how products would need to be distributed. Starting small may provide a way to work out the bugs and to gain a better understanding of how to work together. For example focusing on items featured on the

salad bars, working with one school, having a local item on the menu once a month, might be a good way to start. Also, farmers may work together to distribute, market, and sell their produce to schools. The local Extension Agent is a great resource to help coordinate this interest.

Each school day, breakfast and lunch is offered to students in every school across the state. Counties budget to purchase food and receive federal reimbursement to help support those costs. The opportunity exists to increase the amount of food that is purchased locally. This opportunity requires building relationships at the local level and working together to make our communities more sustainable. The Office of Child Nutrition encourages you to begin.

FOUNDATION cont.

high schools. In West Virginia, the Agriculture Education program has refined its curriculum to include this important topic as well as increase the number of counties offering an agricultural education curriculum. Furthermore, the activities of the FFA promotes and supports the Agriculture Education program and serves to introduce the members to many real life food business/food production opportunities.

Introduced this year, one such activity is the first WV FFA Entrepreneurship/Business Plan competition. Built on the belief that there are more budding ag entrepreneurs among us than ever. These young entrepreneurs must come forward to actually develop a plan to grow their existing ag business or start a new one. That success in

agriculture requires a specific set of skills that must be learned. Sponsored by the WVU Extension Service Small Farm Center, the WV Department of Education, and other sponsoring organizations this program introduces and nurtures students to take an idea and develop it through the process of creating a business plan. Students must then present their plan to a group of judges who have life experiences and education in ag business. The competition finals will take place Wednesday, February 27, before the WV Small Farm Conference.

With great inaugural success, thirty-seven FFA members researched, developed, and wrote business plans for the competition. Fifteen students were chosen as finalists to compete further at the WV Small Farm Conference. In preparation, the finalists attended a day-long workshop at WVU with Professor Fonda Holehouse, learning

how to further refine their plans and pitch their idea as if speaking to real-life, potential investors.

The 1st place winner will receive \$2500 and 2nd and 3rd will receive \$1500 and \$1000 respectively. The winnings are to be used as start-up money for their business idea or to continue their education.

Listed in no particular order, the names of the finalists are as follows:
The Barn – Farm To U: Jessica Woodworth, Mineral County FFA Chapter.

Phelps Hatchery: Savannah Phelps, Lincoln County FFA Chapter.

Windy Ridge Farm Goat's Milk Soap: Tiffany Harvey, Ravenswood FFA Chapter.

CSA Box Company: Elijah Carpenter, Nicholas Russell, Nathaniel Russell, and Levi Gay, Buckhannon-Upshur FFA Chapter.

Pink Chiffon's Floral Design: Callie Moles, Roane County FFA

Chapter.

Fort Hill Farm: Sarah Page, Mineral County FFA Chapter.

Cowbelle Cattle Company: Sierrah Gaddy, Cabell Midland FFA Chapter.

Harper Farm Equipment: Tyler Harper, Roane County FFA Chapter.

Bucktown Boers: Mikenze Poling, Buckhannon-Upshur FFA Chapter.

Just Our Luck Farm: Maggie Parsons, Buffalo FFA Chapter.

Alder Ridge Diversified: Logan Alderman, Hampshire County FFA Chapter.

Better Bloom Floral Service: Kieran Warner, Mineral County FFA Chapter.

Smith's Home Made Corn Hole: Gabriel Smith, Mineral County FFA Chapter.

Burgs Herbs: Burgandy Walls, Roane County FFA Chapter.

D.R. Agritainment: Andrew Hauser, Tucker County FFA Chapter.

POTOMAC HIGHLANDS FOOD & FARM PROGRAM

BY JENNIFER POLING, TUCKER COUNTY AGENT, WVU EXTENSION SERVICE

After over a year of planning and development from several partnering organizations, the Potomac Highlands Food and Farm Initiative has officially hired a Program Coordinator and is moving full speed ahead toward the goal of establishing a year-round retail market for regionally sourced food and farm products in Tucker County, W.Va. Actually the idea for the project started much earlier as the dream of Diane Hinkle, Director of Development for the Tucker Community Foundation. It was her idea and leadership, along with Foundation Director Rob Burns, that led to the collaboration of the partnering organizations and the submission of the grant proposal. The project is centered in the town of Davis and plans to open a retail site in that location soon. Funded through the Claude Worthington Benedum Foundation, the project is a collaborative effort between the Tucker Community Foundation, the WVU Extension Service, the Tucker County Development Authority and

the Tucker County Convention and Visitor's Bureau.

Along with establishing a retail market, major goals of the project include promoting participation in the local farmers markets, increasing the number of producers who participate in the Farm to School program, assisting local restaurants in the acquisition of regionally sourced foods, formation of a local growers group, hosting culinary and agriculture related classes and further developing Tucker County as a food destination. WVU Extension Agent Jennifer Poling states, "This project couldn't have come at a better time. We are so excited about the possibilities for growth in the regional food sector and hope this project will serve as a model for other areas of the state. We can and should be looking consistently to local farmers to supply more locally grown food in our schools, restaurants and shopping centers. This is a unique situation in which all of the partners in the project share a won-

derful working relationship and are so committed to the common goal."

The recently hired Program Coordinator, Kimberly Clements, is no stranger to using locally grown produce to supply a business. She's already been doing that as a chef for White Grass Café and Tip Top Coffee, both located in Tucker County. She has a strong and growing network of local growers and a clear plan of action for the growth of the retail market and the project as a whole.



"I feel like I've been preparing for this position for years. Researching food and farm related topics is what I enjoy doing in my free time, so this was a natural fit. I plan to take the ideas from project partners, community growers and consumers to ensure I fill the niche that best fits everyone's vision. There are many talented food and farm related professionals here in Tucker County, and the surrounding areas, and I hope to highlight their skills and assist them in attaining their goals, in whatever way I can!"

If you would like more information about the Potomac Highlands Food and Farm Initiative please contact Kimmy Clements, Project Coordinator at phffi@frontier.com or (304)259-5388 or Jennifer Poling, WVU Extension Agent at Jennifer.Poling@mail.wvu.edu or (304)478-2949 x. 209.

FARM OPPORTUNITIES DAY

BY BRANDY BRABHAM, ROANE COUNTY & DAISY FRYMAN, GILMER COUNTY, WVU EXTENSION SERVICE

Evaluations are in from last month's "Farm Opportunities Day" conference in Glenville, WV, and attendees are saying it was a great success. More than 100 people attended the first regional farm conference on January 26, sponsored jointly by WVU Extension Service and Glenville State College. Farmers networked, visited with an array of agricultural lenders, service providers, and agency vendors. Farmers also attended workshops on topics related to making small farm enterprises more profitable and local communities stronger through agricultural-based economic development. The conference concluded with a panel discussion lead by regional market gardeners,

Community Supported Agriculture managers, farm-to-school vendors, local-meat suppliers, and agri-tourism experts. The panel discussion allowed conference participants to ask a wide range of questions, which would assist them in improving their farm enterprises. One participant stated that the panel discussion was inspiring; while another enjoyed hearing other farmers discuss their experiences.

Participants had opportunities to learn about selling to local schools, pricing products, producing and marketing in larger markets, extending the growing season, and finding funding opportunities. Other topics included farmers market tools, insurance and risk management

considerations, regulations and labeling requirements for farm products in West Virginia, and much more.

Attendees said their highlights included meeting people from varying backgrounds - new and experienced farmers alike- and of course the locally-sourced menu at the day-long intensive training. One attendee commented, "You could just feel the buzz of enthusiasm. People really want to work together to improve the agricultural economy in the region and throughout West Virginia." WVU Extension's Small Farm Center Program Leader, Tom McConnell, said "This conference provided yet another venue for small farmers in West Virginia to learn about the many

profitable enterprises that exist in our local food systems."

Conference organizers hope to share this event as a model for other regional efforts to highlight local agricultural economic development opportunities. Organizers were pleased with the attendance and the great suggestions on how we can improve and expand on future conferences.

Plans are underway for a similar conference in 2014. As details are made available, more information will be posted on the conference website found at <http://www.anr.ext.wvu.edu/farm-opportunities>.

WHAT'S ON THE MENU FOR FARMERS?

BY BEKKI LEIGH, OFFICE OF CHILD NUTRITION, WV DEPT OF EDUCATION

The meal nutrition standards changed at the beginning of the 2012 – 2013 school year. Why?

- Obesity is a national epidemic that requires solutions. The nation faces an obesity epidemic with nearly 1 in 3 children at risk for preventable diseases like diabetes and heart disease due to overweight and obesity. Left unaddressed, health experts tell us that our current generation of children may well have a shorter and poorer quality of life than their parents. Since kids may consume as many as half their meals in schools, school meals play a critical role in helping children learn how to lead healthy lifestyles.

- The Dietary Guidelines for Americans (DGA) and the Institute of Medicine provided the evidence that a change in the meal pattern was necessary. The nutrition standards for school meals have not been updated since 1995 and the new standards reflect the latest knowledge base about health and nutrition. The

standards are based on the Dietary Guidelines for Americans – the Federal government's benchmark for nutrition – as well as the recommendations of the nutrition experts at the Institute of Medicine – a gold standard for scientific analysis.

- The changes are mandated by the Healthy, Hunger-Free Kids Act (HHFKA) of 2010. Section 201 of the HHFKA requires USDA to update nutrition standards for school meals based on the recommendations of the DGAs.

How did the changes affect the school menu?

- The new school meals are intended to be high in nutrients and adequate in calories, consistent with the latest nutrition science. New portion sizes and calorie ranges reflect the latest scientific recommendations from nutrition experts on the dietary needs of school children.

- Under the new science-based standards, school meals are "right-



sized" and reflect the appropriate balance between food groups. Based on their age, students are getting the recommended portions. In addition to lower-fat dairy and leaner proteins, the new school meals offer more fruits and vegetables at lunch – roughly double compared to previous standards. Whole grains are also increased substantially.

- The new school meal patterns require specific types and amounts of vegetables. USDA requires five subgroups of vegetables be offered to students over the course of a week. The subgroups are: dark green (like Romaine lettuce, spinach, broccoli), red/orange (like sweet potatoes, carrots, red peppers and tomatoes), dry beans, peas and legumes (like

pinto and black beans, black-eyed peas, lentils), starchy (like corn, peas, potatoes) and other vegetables (like cucumbers, iceberg lettuce, cauliflower, green beans). The amount

of each subgroup varies based on the grade grouping – elementary, middle or high school.

- School meals are designed to meet only a portion of a child's nutritional and energy needs over the course of the day. Breakfasts and lunches are designed to meet roughly one-fourth and one-third, respectively, of the daily calorie needs of school children. Other programs also support nutritional needs and can offer students the additional foods they may need, depending on their specific circumstances.

For more information, visit: <http://www.fns.usda.gov/cnd/Healthierschoolday/default.htm>

ETHNIC SPECIALTY CROPS

BY MICHAEL HARMAN, JEFFERSON COUNTY AGENT, WVU EXTENSION SERVICE

What is an ethnic specialty crop? As defined by public law 108-465, a “specialty crop” is fruits and vegetables, tree nuts, dried fruits, and nursery crops (including floriculture). The Oxford dictionary defines ethnicity as the fact or state of belonging to a social group that has a common national or cultural tradition. Thus an ethnic specialty crop is simply any fruit, vegetable, tree nut, dried fruit, or nursery crop (including floriculture) that can be associated with any social group that has a common national or cultural tradition. They are the high value horticultural crops individuals within an ethnic group associate with their community and these crops have significant marketability.

The ethnic nature of America is changing. America is becoming more densely populated, older, and more diverse.¹ In 2010 16% of the US population consider themselves Hispanic, 12.2% African American, and 4.5% Asian.² By the year 2050 the estimated ethnic breakdown will be 30.2% Hispanic, 11.8% African American, and 7.6% Asian.² Within each of these groups, there are strong emotional attachments to the foods they most closely associate with an ethnic group. This is particularly strong in first or second generation immigrant families. The food heritage of these groups creates a real market opportunity for ethnic specialty crops.

In addition to changing demographics, popular culture is generating opportunities for ethnic specialty crop production. Popularity of television shows like the Travel Channel’s No Reservations and Bizarre Foods have helped pique consumer interest to new food ideas. New ideas need new ingredients. New ingredients are a market opportunity. Still, for many interested producers there is an expectation that successful ethnic specialty crop production is dependent on a local ethnic population. However, while the line at your local farmers market may not be for pickled goat eyeballs,

there could be a line for tomatillos or eggplant. Additionally, some sources estimate up to 75% of the ethnic produce in America is consumed by the mainstream population.³ So whether you’re a foodie, a world traveler, or simply a fan of molecular gastronomy, new and exciting exotic foods can be as close as a trip to your local market provided these crops can be grown with minimal additional production considerations.

At the end of the day what matters most is the economics. Limited demand, complex growing requirements, and low market prices can kill a crop faster than blight. However, scarcity is a great economic motivator and these crops can fetch substantial returns. I have been told anecdotal stories of individuals harvesting and re-selling ethnic specialty crops grown in Maryland from a pick-up truck from Trenton NJ to Atlanta GA for a significant profit. Researchers at the University of The District of Columbia claim several ethnic specialty crops from West Africa have the potential to generate around \$40,000 per acre in gross revenue. While growing some ethnic specialty crops can be challenging, many of these crops are relatively easy to grow. If you can grow tomatoes, potatoes, flowers, peppers, and squash, you have what it takes to grow many of these crops.

If you are looking to diversify your market offerings or expand your presence into new markets and locations, ethnic specialty crop production bears your consideration. In recent years, the field of ethnic specialty crop production has become quite popular. The federal government has funded a great deal of research on this topic and many states have begun to develop or redevelop their specialty crops programs to include ethnic specialty crops. There is help out there. You will not be alone. Cooperative extension services across the nation have generated factsheets, handouts, and production guides to

assist you in cultivar selection, fertilizer recommendations, pest management planning, and marketing for all specialty crops. To access this information search the web, contact your local extension office, or contact me, and I’ll help you find the information

you need to make the transition into ethnic specialty crop production.

Resources: ¹ Shrestha, L.B. and E. J. Heisler. 2011. The Changing Demographic Profile of the United States. Congressional Research Service www.crs.gov

² Kaiser Family Foundation. 2010. Distribution of United States Population by Race/Ethnicity 2010 and 2050. <http://facts.kff.org/chart.aspx?ch=364>

³ University of the District of Columbia. 2011. Ethnic Crops Program – Fact Sheet.



Apple and Peach Insurance Deadline November 20

What is insured?

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

What does it protect against?

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

Next step?

Apple and peach insurance is currently available in the following counties of West Virginia: *Berkeley, Calhoun, Hampshire, Hardy, Harrison, Jefferson, McDowell, Mercer, Mineral, Monroe, Morgan, Nicholas, Putnam, and Webster.*

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

AGENT LOCATOR:

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

Information brought to you by:
Extension Service
West Virginia University
Small Farm Center

This crop insurance tool is a product of:



Contact:
Tom McConnell
(304) 293-2642

TRMcConnell@mail.wvu.edu
<http://smallfarmcenter.ext.wvu.edu/>

TAKE THE CAULIFLOWER CHALLENGE

BY LARRY G. CAMPBELL, HARRISON COUNTY EXTENSION AGENT & ASSOCIATE PROFESSOR, WVU EXTENSION SERVICE

If you consult the WVUES Garden Calendar, you will find that February 8th is the first date to seed your cauliflower plants indoors. If you are considering growing cauliflower this year, here are a few things that you should know.

Cauliflower is the cultivated descendant of the common cabbage and probably originated in Asia Minor. It is also called "heading broccoli".

Cauliflower can be challenging for the home gardener to grow. Many factors such as the timing of the planting, heat, drought, and other stressors can affect the success of the plant.

Both a spring and a fall planting of cauliflower transplants can be made. Spring transplants should be started indoors six to eight weeks before planting in the garden. Transplants should be set out two to three weeks before the average last frost date in the spring. Fall transplants are started in early July and set out in early August.

Sow seeds indoors 1/4 inch deep in individual containers. The optimum

soil temperature for seed germination is 80 F. Once germinated, the growing temperature should be 60 F. Keep the soil moist and provide adequate light.

Harden-off transplants outdoors for at least five days in a protected area before planting them in the garden. Plant 18" apart in the row for spring planting and 24" in the fall. Spring planting should be done early enough to insure that heads mature before the heat of the summer, but not so early as to risk frost damage.

Cauliflower is composed of undeveloped florets attached to a single stem that form a head which is also called a "curd". Unlike broccoli, the plant produces only one head which is generally six to eight inches in diameter at maturity.

To produce a desirable head, cauliflower must grow vigorously from seedling through harvest. Any disruption of this process from stress such as excessive heat or cold, drought, or insects can hinder the development of the head.

Cauliflower can take 50 to over 100 days to mature. Sixty day varieties such as "Snowball" are best for gardeners in our area.

At maturity, many varieties require "blanching" to protect the head from sunburn and to keep it from turning green and developing an off-taste. Some varieties are called "self-blanching" which means that the leaves surrounding the head tend to curl over the head. When the head is approximately tennis ball size in diameter, loosely tie the leaves over the head or simply fold the leaves over top of the head to promote blanching. The head should be ready for harvest in one to two weeks.

Though cauliflower curds are traditionally a creamy white in color, new varieties that are orange or purple are now available. The orange variety started with an orange-colored mutant found growing in a field with white cauliflower. This mutation was further developed through selective breeding at the NY State Agricultural Experiment Station. The orange color

is from the natural pigment, carotene, which is converted to vitamin A in the human body. Orange cauliflower's vitamin A content is 25 times higher than white cauliflower. The variety "Cheddar" is an orange cauliflower. Purple cauliflower such as "Graffiti" gets its color from anthocyanins which is the antioxidant found in red wine. Reportedly, it has a sweeter flavor than white cauliflower.

Again the key to successful cauliflower production is the timing of the planting and the avoidance of stress on the plants particularly from heat and drought. Too much heat can cause small, premature heads. This is referred to as "buttoning". Leaves can also appear in the curd due to heat stress. Make spring or fall plantings which avoid having the cauliflower heads mature in the heat of summer and provide adequate moisture in order to experience good production.

GARDENING TIPS

BY BILL SHOCKEY, PRESTON COUNTY AGENT, WVU EXTENSION SERVICE

Remove aphids from houseplants with a mixture of equal parts rubbing alcohol and water and add a drop of dishwashing detergent. Apply this to troubled plants with a soft brush.

Provide extra protection to houseplants on window sills if it is very cold. Place cardboard between the plants and the glass. Be sure the plants don't touch the windowpanes.

Check any bulbs and tubers you may have stored to determine if moisture is okay. Repack bulbs that seem too damp, discarding any moldy ones. If bulbs seem too dry, try moving them to another location.

Now is the time to prune your fruit trees. Contact your local county extension office for pruning

information.

Sometimes during a warm winter spell some bulb plants may peek above the ground. If this happens, what should you do? Nothing. If it gets cold, the plant will go dormant. If it stays warm, so what?

Test buds of peaches and other sensitive fruits for freeze damage. Bring in a few twigs cut from the trees and place them in a vase of water. If the twigs bloom in a week or two, expect blossoms in the spring and a crop next fall.

Houseplants will be sensitive to overfeeding at this time of year. Provide lots of sunlight, fresh air, and frequent bathing for plants that seem a little worse for the winter.

Take an inventory of your preserved foods--in the freezer, in cans, or the root cellars. This should help you decide your seed order for the upcoming season.

A barrel or other covering placed over rhubarb plants will hasten the spring crop.

Spider mites are apt to thrive in warm, dry houses. Frequent misting under the leaves of houseplants will discourage them. A solution of 1 cup flour, 1/4 cup buttermilk, and a gallon of cool water, applied in a mist, is a good organic deterrent.

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water. If the twigs bloom in a week or two, expect blossoms in the spring and a crop next fall.



PASTURE POULTRY FOR PROFIT

BY ANGELA LAMP, GRADUATE ASST AND DR. JOE MORITZ, WVU DAVIS COLLEGE OF AGRICULTURE

Small-scale egg producers that utilize sustainable practices must demand a premium for their eggs due to increased labor and cost of production. Consumers have justified spending more for these eggs because they perceive animal welfare and nutrition are enhanced compared to conventionally produced eggs. The reality is that while animal husbandry differs, the nutrient content of eggs produced by the two systems is typically very similar. Small-scale egg producers would undoubtedly benefit from use of production strategies that alter the nutritional quality of their eggs relative to most conventionally produced eggs. Recent studies conducted at the West Virginia University (WVU) Organic Farm demonstrated that practical

management strategies may be used to increase omega-3 fatty acid content. Omega-3 fatty acid consumption has been associated with health benefits for humans; and consumer interest has grown for omega-3's evidenced by the multitude of foods enhanced with omega-3 fatty acids, i.e. baby formula, juice, breakfast cereal, cookies, etc. However, it is important to understand that not all omega-3 fatty acids are equal in their potential to improve human health. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are omega-3 fatty acids typically derived from marine oil or cultured algae and are associated with improved heart health, cognitive development, and decreased joint inflammation. Alpha linolenic acid (ALA) is an omega-3

fatty acid found in certain plant oils such as flaxseed and soybean. Due to price and availability, ALA is more widely utilized to support omega-3 marketing despite fewer associated health benefits with consumption. Most commercially available omega-3 fortified eggs are enriched in ALA. The enrichment of pastured eggs with EPA and DHA would represent a unique product that could supply a niche market and warrant a premium price.

Research at WVU has shown that a 1% marine oil inclusion into a laying hen's diet has produced at least 100 mg/egg of DHA/EPA. The American Heart Association advises that healthy individuals consume approximately 250-300 mg per day (avg.) of DHA/EPA, which could largely be met by

consuming two eggs produced using this production strategy.

A local source for EPA and DHA laying hen feed has been identified in Maryland. R.F. Warner's is a family owned supplier of feed and farm equipment established in 1932 with the capability of producing specialized feeds to support niche market production. R.F. Warner diets are formulated by a professional poultry nutritionist. R.F. Warner's "Pastured Poultry Performer (Peak Layer)" is a textured mash feed containing a proprietary mix of ingredients that support hen health, egg appeal, and EPA/DHA content.

R.F. Warner Sons, Inc.

4229 E. Main Street Lineboro, MD 21102, (410) 374-2660.

PRODUCTION OF PASTURED EPA/DHA EGGS CAN SUPPLEMENT A FAMILY'S INCOME

The following is an example of economic factors in a 300 hen production system.



R. F. Warner Feed
Cost = \$800 per ton or
\$0.40 per lb.



Cost of a ready to lay pullet = \$3.22
A hen will consume approximately 3
lbs of feed to produce a dozen eggs in
approximately 2 wks



A dozen of eggs enhanced with
EPA/DHA can be sold at \$4 per
dozen (ALA enhanced Eggland's
Best Eggs sell for \$3.50 per
dozen)

In a 2 wk period, 300 hens would consume 900 lbs of feed costing \$360 and produce 300 dozen eggs with a value of \$1,200. Conservatively, with a 9 month production period per year, a small-scale producer could make \$11,600 per year. This figure does not include labor, electric, and housing.

WINTER LICE CAN BE COSTING YOU MONEY

BY J.J. BARRETT, WVU EXTENSION AGENT-WOOD COUNTY AND PHIL OSBORNE, WVU EXTENSION SPECIALIST

Don't let these parasites rob your cattle this winter. The USDA estimates cattle lice cost livestock producers \$125 million annually. Heavy infestations can steal valuable nutrients, decrease gain and leave cattle more susceptible to disease. This can be crucial in winter, when adverse weather conditions like extreme cold, snow, mud, and high winds can cause an increase in nutrient requirements up to 30% for livestock.



Lice can be controlled in most cattle herds with good management. If producers find some infected cattle, it is recommended to treat all animals on the farm. Follow up with a second treatment two to three weeks later. If you only apply one treatment, eggs on the hairs can survive, and hatch later. Another management tip is to time treatment in the fall to prevent winter outbreaks. If producers treat too early, surviving lice can rebuild populations and return in large numbers. Treatment in October or November offers less opportunity for the population to rebuild. In cattle, two types of lice are very common: the biting and sucking louse. The biting louse will be seen moving about on the cattle as it feeds by biting and moving. The sucking louse will bury its mouth parts in the cattle and take long blood meals. Lice are typically a winter parasite. Summertime skin

temperatures are too warm for lice to survive, so they reproduce in late fall and affect cattle in late winter in the northern U.S.

If you observe your cattle scratching themselves and rubbing against fences, trees or feed bunks, they may be infested with lice. Cattle with louse infestations scratch due to itching and irritation caused from the biting, sucking, and aimless wandering of these parasites. The constant scratching will lead to hair loss (especially on tail head or neck), hide damage, and skin infections. Severe infestations with sucking lice can result in significant blood loss and anemia. The easiest way to diagnose lice infestation is to look at several key areas on your cattle, including hairs on the tail head, around the neck, ears and dewlap. Observe for the presence of the moving lice roughly the size of a flea. In the tail switch itself lice eggs (known as knits) can be seen attached to hair follicles.

Adult lice are killed with a variety of pour-on products. Read labels carefully to give animals correct dosages according to weight. When working to control lice, it is extremely important to use maximum dosage levels, whatever product you choose. Under-dosing an animal may not kill all the lice, and re-infection of the herd may occur. Pyrethroid pour-on insecticides (Boss®, Ultra-Boss®, Durasect®, Saber®, Ultra Saber®) and cyfluthrin (Cylence®) are effective against all types of lice, and can be used in winter months. The systemic products like avermectins (Ivomec®, Dectomax®), moxidectin (Cydectin) and eprinomectin (Eprinex) (either pour-on or

injectable) mainly kill sucking lice and must be used before winter to avoid adverse reactions due to death of migrating grubs. Treating for lice at this time of the year with the avermectins is a poor choice because you are not going to control internal parasites now and you are only setting yourself up for internal parasite resistance to the avermectin products. The pyrethroid products referenced earlier and products like Synergized Delice®, Cylence®, Permethrin CDS® and the dust products are better choices for external parasites at

this time of the year. According to research, it pays to use name brand products when treating for internal parasites. Research trials have revealed the generics have failed to perform as well as the name brand commercial products. Don't waste your time and save your money.

Extension Service
West Virginia University



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

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

Corn, Oats, Tobacco, and Soybean Crop Insurance

Sales closing/policy change date March 15

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

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

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

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

Causes of Loss

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

Next Step?

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

More questions?

Visit us at <http://smallfarmcenter.ext.wvu.edu> OR RMA at <http://www.rma.usda.gov>



Yield Protection: provides protection against production losses.

Revenue Protection Plan: provides protection against loss of revenue due to a production loss, price decline or increase, or a combination of both.

Tom McConnell
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Small Farm Center
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USDA-Risk Management Agency
1400 Independence Ave., SW, Stop 0801
Washington, D.C. 20250-0801
Telephone: (202) 690-2803
Fax: (202) 690-2818
Web site: <http://www.rma.usda.gov>

READY, SET, CALVE: TRYING TO AVOID DYSTOCIA

BY DARIN MATLICK, DVM, WVU EXTENSION SERVICE

What is dystocia? Dystocia is simply difficult calving. As calving season is either here or fast approaching for most of us being prepared is a key factor in our positive outcomes. This article will cover our steps we need to take to get that healthy calf on the ground.

First it is wise to consider the calving area and history of the herd with respect to calf scours. If calf scours is a problem in your newborn calves a scour vaccine given to the cows prior to calving can help this problem (Consult your Veterinarian). There are also oral scour products that can be given to the calf after it is born to help protect from certain types of scours. Other ways to address this problem is calving area, the calving area is vitally important to the start of the calf's life. Calving on a dry slope of ground is ideal but as we all know can be difficult. Calving in the barn can have higher incidence of naval infections and scours if the barn is not clean. Think through these calving areas and prepare the calving area to be as free of mud and manure as possible. If calving in the barn is the only option then be sure the ventilation in the barn is adequate for air flow and the calving area is cleaned between calvings.

Now let's think about that cow and the process of her giving birth. First we need to pay attention to the cows and watch for signs of the impending birth. These signs are udder swelling and vulva relaxing and swelling. Now we put her on the watch list, cows should be observed frequently. In a normal birth a cow will lie down and start to strain and the water bag should rupture in 30-60 minutes. The

calf should then be expelled all the way in the next 30-90 minutes after the water bag ruptures. Of course the normal position or posture of the calf is front feet first followed by the nose. Heifers require more attention because they are twice as likely to have calving issues. If the cow or heifer is having problems we need to read her body language such as, getting up and down, straining a lot with no results, kicking at her belly, frequent urination and not eating. If these kinds of signs are noticed and no progress has been made then it is time to get her in a head chute and check her. The quicker we check the cow after noticing problems the better the chance for a good outcome. At this point we call our Veterinarian for help or better yet train ourselves to identify and correct the problem. First we need to clean the cow's vulva area with a mild disinfectant such as 1% iodine or equivalent. Next with a long clean palpation sleeve reach through the vulva and discover if there is a calf there or not, if so do we feel two feet and a nose. If the calf is there but there is only 1 foot and a head, only a head, only two feet, or only a tail and rump we know now we have a malpresentation (calf coming the wrong way). This malpresentation now needs corrected before we can pull that calf. Correcting these problems yourself or through your Veterinarian should be done as quickly as possible. Correction of the malpresentations can present challenges physically and mentally. For instance 1 leg back, sometimes we have to push the calf back in the cow to gain room to reach the other leg. Caution should always be taken

such as guarding the hoof with your hand as you straighten the leg so we don't punch a hole in the uterus. Often if the head turns back when trying to pull a calf then the calf is too large to fit through the cow's pelvis and the cow may need a c-section if the calf is alive. When pulling a calf it is wise after the calf is out to then check for a second calf. A malpresented calf that is small often has company and the second calf is better to be pulled than left behind. When pulling the calf try pulling when the cow pushes with her contractions. On hard pulls, pulling one leg at a time can help the calves shoulders get through the cow's pelvis (called walking out the shoulders). Chain placement is critical so we do not damage the legs, the first loop should go above the dew claws, then half hitch with the second loop below the dew claws. This will spread out the force of the chain trying to avoid broken legs. Correcting these calving mishaps can be rewarding and the more you can learn in these situations from a hands on approach the better cow-calf operator you will become. On the other hand the cow needs time to go through the process herself, trying to pull calves too early may mean the cow's cervix is not dilated enough and damage can be done to the cow.

Being prepared with a calving box and not scrambling looking for equipment is best. In the calving box the following items should be readily accessible: Shoulder length gloves, disinfectant, two 60 inch calving chains, two-three chain handles, OB lube, halter and rags to wipe the calf off. Other options in the box would be oxytocin and dexamethasone. These

drugs and dosages can be obtained through your veterinarian. Oxytocin helps to contract the uterus after a long calving and/or a hard calving, this is to help the uterus from prolapsing (losing her calf bed). Dexamethasone is a steroid that can be used after a hard prolonged birth and or pull to help prevent obturator nerve paralysis (cow or heifer not being able to get up from nerve damage). Calf jacks and other mechanical devices can be used but must be used conservatively, realizing that too much force can damage the cow.

Now that the calf is on the ground we made need to stimulate the calf to breath, wipe the mucous from the calf's mouth and stick a finger or piece of straw gently in the calf's nose and rub the calf briskly. Spraying or dipping the umbilical cord remnant or naval will help the cord dry up and provide less chance for bacteria to cause a naval infection. Tag the calf for identification and record keeping and possibly castrate at this time. Now it is essential that the calf get mother's colostrum in the next few hours, colostrum provides essential nutrients but also provides nearly 80% of that calf's immunity to the world for the next several months. If the cow has no milk in her udder than a colostrum replacement must be given as quickly as possible.

Being observant, checking cows frequently, noticing problems, being able to reach into the cow and recognizing problems and fixing the problem. These steps will help to ensure better calving management and more live calves on the ground.

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

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

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/>



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21ST CENTURY PLANT DISEASE MANAGEMENT TOOLS

BY MM (MARK) RAHMAN, PLANT PATHOLOGY EXTENSION SPECIALIST, WVU EXTENSION SERVICE

There have been a tremendous effort for the last few years to enhance fresh local food supply especially fruit and vegetables to consumers of West Virginia. Healthy plants will be essential to secure supply for a steadily growing demand, and at the same time protecting natural ecosystems, promoting quality of life through diverse and productive landscapes. In general, plant pathogens that make plants sick are difficult to control because their populations are variable in time, space, and genotype and they are not readily visible on the plants until disease situation get much worse. Most insidiously, they evolve, often overcoming the plant disease resistance that may have been the hard-won achievement of the plant breeder. Additional difficulties grower communities encounter are the reliable identification of the causal agents of a disease to species levels and beyond that are appropriate to their properties as plant pathogens and therefore relevant to their control. At the biological level, the requirements are the speedy and accurate identification of the causal organism, accurate prediction of the severity of disease and its effect on yield and quality for determining the need of preventative/curative measures.

Technological advancements in a few major areas together with structured outreach engagements, plant disease management options are now becoming more readily available to growers. Disease management approach in the 21st century will continue to rely on precise identification of the pathogen followed by analyses of weather variables that will predict disease progress and required control measures. Significant progresses are expected to continue in the 21st century in the following areas of plant disease management:-

1) Improved diagnostics: Detection

and diagnostic capacity for plant pathogens, with increased accuracy and speed, will approach that for human pathogens in the coming years. Many diagnostic protocols used for plant pathogens today have been pioneered by investigators in human pathogen detection and later on adapted for plant pathogens. With the advent of highly sensitive and rapid detection methods, supply of clean planting stocks have greatly improved and will continue to have even greater application. Quantitative methods based on real-time PCR will especially be very useful in detecting latently infected planting stocks (infected but not showing any symptom yet) and discard or treat them as appropriate. Pathogen DNA based culture independent molecular protocols have enabled diagnostic labs to produce results on the same day of sample collection. These methods are a little more expensive but cost worthy for high value crops and for generating region-wide warning system. Such warning systems are now available for Tomato Blight, Cucurbit Downy Mildew, Apple Scab etc. Many more similar plant disease prediction and warning systems are in the pipe line and may be available within a few years. It is anticipated that sensitive, real-time microbial sensing technologies, coupled with low cost wide-area surveillance technologies, will allow detection of pathogens before onset of disease in



the future. Advances in genomics, robotics, and nanotechnology will also dramatically increase the capability of diagnostic laboratories.



2) Enhanced use of information technology: Plant disease outbreak potential can now be determined from empirical models developed by collaborative efforts from Plant Pathologists and Information Technology Professionals and can be conveyed to end users through short message service (SMS). This will greatly improve scouting and adoption of timely preventative measures by the growers to manage plant diseases. Customization of individual need is becoming more user friendly. For example, if one grower has to deal with tomato early blight and wants to use resistant variety for the next year, it is possible to find out which one will be suitable by visiting the website

<http://vegetablemndonline.ppath.cornell.edu/Tables/TableList.htm>. This provides a long list of vegetables from which user can pick one of interest and explore the varieties available that are resistant against a particular disease. There are also interactive online resources for helping with disease diagnosis and selection of treatments. One such very

useful site is <http://turfdiseaseid.ncsu.edu> for turf diseases. It leads one to stepwise selection and submission of the problem apparent in a lawn or commercial turf to determine the disease. The logical next step will be to decide management option from the site <http://turfdiseasemanagement.ncsu.edu/nc>. One can submit the name of the disease and can figure out what to use, when and how. It is anticipated that these resources will be more abundant in the coming years to help growers in making their own plant management decisions.

3. Agrochemicals in the 21st century: In relation to the use of fungicides (major groups of chemicals used for controlling plant disease) in the 21st century, it is apparent that highly efficacious products are becoming available that will be effective at very low rates, environmentally benign, and nontoxic to mammals. In addition, they may have strong curative or after-infection activity for use in disease forecasting systems. Newer chemicals are also using pre-mix active ingredients to improve efficacy and reduce the probability of resistance development in the pathogen population. For example fungicide IX is used to control Dollar spot on Kentucky blue grass which is a premix of active ingredient chloroneb and thiophanate methyl. Although thiophanate methyl (Cleary's 3336) is effective against this disease, there is a very high risk of resistance development that can be minimized by mixing chloroneb in the product. While we wait for the highly efficacious newer group of fungicides to be available, our outreach efforts will continue to let users know which groups of fungicides are prone to resistance development and how rotating fungicide chemistries can make disease management sustainable.

ADD SOME TASTY NEW AND INTERESTING THINGS TO YOUR GARDEN THIS YEAR

BY JOHN PORTER, KANAWHA COUNTY EXTENSION AGENT, WVU EXTENSION SERVICE

Looking for something interesting and tasty to try in the vegetable garden or landscape this year? Something new to sell at market? It's time to take a look at some uncommon plants that can have a big impact in the garden, on the dinner plate, and at the market. There's a whole world of fantastic fruits, glorious grains, verdant vegetables, and more that can bring excitement to the garden. Think about experimenting this year and grow something new and unexpected. The following are some of my favorite interesting additions to the garden and landscape.

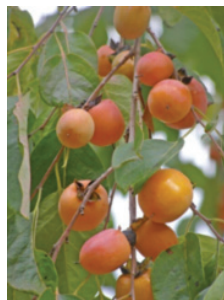
Fantastic Fruits

Perennial fruits can make a lasting impact in the home landscape. Since most are woody plants and perennials, the addition of new and interesting fruits can be an investment in time and patience. There are several less-common fruits that are showing up in local stores and catalogs that can bring big flavor and fun to your garden. In the last few



years, I've seen both hardy figs and hardy kiwis show up at local home improvement box stores. Many people are now discovering these tasty treats that grow well in our area. In my opinion, nothing can beat the flavor of a sweet, fresh fig. And hardy kiwis are bite-sized like grapes and lack the fuzz of their tropical counterparts. Figs grow as a shrub that can reach several feet tall and kiwis are fast growing vines. Figs can freeze, so you should plant them near a structure for wind protection and radiant heat. Most hardy kiwis have only one gender of flower per vine, so you need to make sure you have at least one of each (you can have up to seven females per male).

Another fruit that is finding a resurgence in popularity is the persimmon. There is a native persimmon that you often hear the "old folk" talk about from their childhood. I can remember my grandmother warning me that you had to wait until after frost to eat persimmons, otherwise they would make your face pucker for a month. It is true that underripe persimmons have an astringent quality, but late in the season you can't beat the sweet flavor of persimmon. You can find native persimmons in nurseries and catalogs. The common cultivars often reach a height and width of 15 to 20 feet. Asian varieties with bigger fruits are also available and some catalogs offer dwarf varieties.



There is an increase in the number of farmers in the state growing grains such as wheat for local consumption, there are some grain-like crops that are becoming popular with health-conscious consumers. Quinoa (pictured) (pronounced Keen-wah) has been consumed in South America for nearly 5,000 years and is just now becoming popular in the US. The seeds, when cooked, have a creamy consistency and nutty flavor and are often used in salads or cooked pasta/rice dishes. It is also ground into a gluten-free flour. It is popular because its tasty flavor pairs with its impressively high protein content. It is a wonderful addition to the garden because the seeds come from impressively

Glorious Grains

showy flower heads that make a striking addition to



the flower garden or a cut-flower operation.

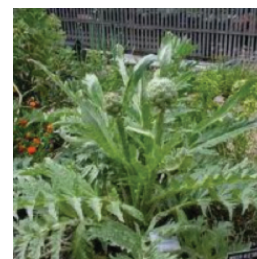
Quinoa is closely related to Amaranth (pictured), another striking plant used for its gluten-free seed. Both plants are in the Amaranthaceae family, along with spinach, beets, chard and the common pasture weed known as "pigweed". The seeds are used cooked or as a flour, just like quinoa, but have an earthier flavor. In addition to the edible seeds, the leaves of Amaranth are also edible and used much like spinach. The "Hopi Red Dye" cultivar is commonly used as a dye for textiles and food. Many varieties are sold as ornamentals in garden catalogs, such as the plant "Love-Lies-Bleeding". These varieties are also edible.



Verdant Vegetables

Most vegetable gardens feature the traditional fare, such as beans, tomatoes, squash, cucumbers, etc. There's lots of interesting things that most folks might not think about growing in the garden that can add flair and fun to garden and to the dinner plate.

Artichokes are also appearing at local box stores and local nurseries. While many haven't thought of growing artichokes in the garden, it is perfectly possible. It makes sense, since they are thistles. The part that we eat is the unopened bud of the flower and the "choke" is the mass of under developed florets that will burst out when it blooms. Some areas of the state with warmer temperatures can grow them as perennials if they are in a protected



area or mulched well. Cooler areas can grow them as an annual with an early enough start. Several catalogs now offer artichoke plants and seeds as well.

Despite being a common ingredient in many cuisines, celery is also a rare find in many gardens in the area. This crunchy relative of carrots and dill is fairly easy to grow and will offer two years of growth in the garden. Since it is a biennial, it will flower and produce seeds in its second year. The seeds are also useful as a spice for several salads and dishes. Many varieties require mulching to blanch the base of the stalks, but non-blanching varieties are available. There are also varieties known as cutting or leaf celery that have small, easily harvestable stalks and a stronger flavor than other varieties.



Crop Insurance *Small Grains*

September 30 Sales Closing Date
for Barley and Winter Wheat

Wheat and barley may be covered with yield protection or revenue protection. Wheat previously covered under the Crop Revenue Coverage plan will be converted to Revenue Protection.

Yield Protection Plan and APH provides protection against production losses. Revenue Protection Plan provides protection against loss of revenue due to a production loss, price decline or increase, or a combination of both.

Causes of Loss

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



Information brought to you by:
Extension Service
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This crop insurance tool is a product of:



For more information contact your crop insurance agent or:
Tom McConnell
PO Box 6108
Morgantown, WV 26506-6031
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Fax: 304-293-6954
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ECONOMIC POSSIBILITIES OF LOCAL MEAT

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

In West Virginia, more small farms claim beef cattle as their primary enterprise over any other enterprise. Using “updated” census data and an educated guess, this represents approximately 13,000 farms. Yet few of these farms have adopted a direct marketing aspect to their businesses. Some growth has occurred in the grass-fed arena and there are some farmers who are moving several cattle as meat rather than as commodities. Sadly, the hog numbers are past a critical mass point where developing a food chain that includes hogs will require many more farmers than are currently involved. However, this could be changing as some farmers, who have never raised hogs, are seeing the interest and profit potential for pork and are beginning to respond. The 2007 Census of Agriculture reported a skimpy 600 sows, and those in the know report “traditional” farmers (those who were on the land for generations and “used to” raise hogs) have not stepped in to grow this opportunity.

This is such a contrast to the vegetable and fruit side of the local food equation, where we are awash in opportunity and desperate for growers. Here we have producers, but lack processing infrastructure and farmer interest. In many ways, the state’s ability to solve this puzzle will be an indication of what we can expect for the survival of West Virginia’s small farms and communities. There can be no expectation that our small farms, on a small land base, will prosper without claiming more of the local food dollar.

We should have many allies to help us, as \$0.80 of every dollar spent on food in America goes toward jobs to help process, market, deliver, and prepare this food. One would expect that every development person should get excited with the knowledge that people are going to eat, and we raise food right here. Every time we learn that we require infrastructure to further process a food item the

developers should look at that as an opportunity.

Recently at the request of Delegate Larry Williams of Preston County, and the help of Daniel Eades, Agricultural Economist with the WVU Extension Service, we studied the impact we would expect if the counties contiguous to Preston County were to raise and process all the beef and pork it consumes. The findings were remarkable. Using the populations of Preston, Barbour, Monongalia, Marion, Tucker, Garrett, MD, and Fayette, PA, we determined that it would require 37,689,454 pounds of cattle (on the hoof) and 23,394,235 pounds of hogs.

The impact of that change would yield incredible results. A special incentive and additional positive aspect of this initiative would be the local job creation. Even though we

have a cattle industry in each of these counties, the impact of this enterprise would require 2,068 full time jobs in producing those cattle and 230 full time jobs to produce the hogs. Another 636 jobs required to grasp this opportunity include management, wholesale trade businesses, transportation, real estate (managing and marketing) and service to buildings.

It’s obvious that with our present slaughter capacity that includes 29 plants with 117 employees would have to increase 5 times to 581 employees and the facilities to accommodate that growth. The animals could be taken back to the community to be further processed by local employees. One quick response to this opportunity would be to add another shift to many of our current slaughter facilities. This would require the addition of cooler capacity, but would help

alleviate the bottleneck in getting the animals slaughtered. The total investment would be spread out to the communities that would also benefit from the involvement. A community that is invested in a venture will protect and its citizen/workers.

The other challenge to this scenario is education. The communities will need to learn about the benefits of local processing and how to support a food industry. Additionally, the workers will have to be trained in how to do the work.

This will also require graduates from our colleges and universities as well as individuals trained in their high school programs who have begun to acquire a vision of a self-sustaining economy and are prepared to return home and lead their communities to that goal.

LIVESTOCK GROSS MARGIN- DAIRY

WHAT IS LGM-DAIRY?

LGM Dairy Cattle insurance provides protection to dairy producers when feed costs rise or milk prices drop. Gross margin is the market value of milk minus feed costs.

HOW DOES IT WORK?

LGM Dairy covers the difference between the gross margin guarantee and the actual gross margin. Indemnity payments will equal the difference between the gross margin guarantee and the actual total gross margin for the insurance period.

LGM Dairy uses futures prices for corn, soybean meal, and milk to determine the expected gross margin and the actual gross margin.

***Contact us for a free CD-ROM explaining the program!**

For more information visit us at:

http://smallfarmcenter.ext.wvu.edu/cropinsurance/lgm_dairy

Find a list of crop insurance agents with RMA’s Agent Locator:
<http://www3.rma.usda.gov/apps/agents>

Information provided by:



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WARDENSVILLE BULL EVALUATION PROGRAM

BY KEVIN SHAFFER, PH.D., WVU EXTENSION LIVESTOCK SPECIALIST, WVU EXTENSION SERVICE

For over 45 years, the West Virginia Young Sire Evaluation Program at Wardensville has been a progressive performance evaluation center focused on increasing the efficiency and profitability of West Virginia cattlemen. The program has evolved significantly since its inception, but today, the goal remains the same— identifying genetically superior bulls that will improve the bottom line of commercial cattlemen in West Virginia and the Mid-Atlantic region. The program is a collaboration of the West Virginia Cattlemen's Association, West Virginia Department of Agriculture, WVU Extension Service, and WVU Division of Animal and Nutritional Sciences, and the test center is a component of the WVU Experiment

Station at the WVU Reymann Memorial Farm in Wardensville, WV.

Now in its 46th year, the West Virginia Young Sire Evaluation Program, or Wardensville Bull Test as it more commonly known, develops and evaluates over 150 bulls annually for some of the state's most progressive seedstock breeders. Since its inception in 1967, the program has been on the leading edge of performance evaluation in cattle. Early on, the program focused on improving growth rate and feed conversion, but to meet the demands of an evolving market and to utilize improved evaluation techniques, the program also began to emphasize calving ease and carcass quality. In recent years input costs have risen rapidly, and the program's focus on feed efficiency has drawn significant

attention from both consignors and buyers. A national leader in calculating Residual Feed Intake (RFI) as a robust measure of feed efficiency, the program emphasizes balanced trait bulls that will function efficiently for commercial cattlemen.

Each year, the program culminates with a sale the fourth Thursday in March, and only the best bulls make the sale. To insure buyers a sound investment, bulls have to meet some of the industry's most complete and strict standards. Bulls fail to qualify for the sale if they do not meet minimum qualifications for structure, muscling, gain, feed efficiency, fertility, and marbling. In fact, only 2/3 of the bulls evaluated will sell. That means the program eliminates all the problems for you, and these

bulls are solid, dependable, and ready to work. They are a safe bet, and you can buy with confidence!

This year's sale will be held on March 28th at 12 noon at the WVU Reymann Memorial Farm in Wardensville. A variety of breeds are available including Angus, Polled Hereford, Charolais, Limousin, and SimAngus. The bulls will be available for inspection at the farm prior to the sale. You can track their progress, view consignor information, and review the sale catalog at bulltest.ext.wvu.edu. To request a print catalog, contact the West Virginia Cattlemen's Association. Free delivery is available to central points.

FERTILITY CHECKING BULLS PRIOR TO TURNOUT: A CHEAP INSURANCE POLICY

BY J.J. BARRETT, WVU EXTENSION AGENT-WOOD COUNTY AND PHIL OSBORNE, WVU EXTENSION SPECIALIST

The most profitable management indicator for cow/calf producers is getting cows bred to sell a live calf. A cheap insurance policy would be having a Breeding Soundness Exam performed on your herd bull before you turn him out this year with the beef herd. Recent research has shown that as many as 19-21% of herd bulls destined for spring turnout failed Breeding Soundness Exam. However, less than 20 percent of U.S. producers perform breeding soundness exams on their bulls prior to spring turnout. Don't assume a bull that successfully bred cows last year is ready to go again in 2013 with no problems. Bulls injured during the winter months from extreme cold weather (frostbite) or for whatever reason become infertile. The return on purchasing a breeding soundness examined, performance tested bull is \$17 for every \$1 invested. That is a

good deal.

A Breeding Soundness Exam is especially important for small producers using only one or two bulls. Research has proven that reproductive efficiency (# calves weaned per exposed female) is 10 times more important than weaning weights. The worst case scenario for beef producers is to have a bunch of open cows at the end of the breeding season, or worse, realize cows are not bred close to next year's calving season. Producers should plan ahead and schedule a breeding soundness exam no sooner than 30 days prior to turnout. Testing early allows time to purchase a replacement from one of the test programs or production sales held in the early spring. Breeding soundness exams can uncover potential problems with young bulls that were just purchased and older bulls that already have sired calf

crops. More problems with mature bulls are discovered when breeding soundness clinics have been held in the state than with young bulls. Part of the reason is that producer's hold on to an older bull and report that he did not have any calves or they were late coming so they decided to test him after the fact. In most cases these bulls still have problems or are questionable. Why take the chance, when the dollars you stand to lose are greater than the replacement cost? On average, a fertility check will cost about \$40 to \$100. Take advantage of the breeding soundness clinic held in different areas of the state, cost savings can be realized. Contact your local veterinarian for prices and schedule the breeding soundness exam about 30 days prior to turnout.

Breeding soundness exams include examination of the bulls' physical structure, reproductive organs and

semen. Bulls with proper physical structure are more likely to hold up under the workload of the breeding season. Structural problems like feet and legs or movement in general can become a big issue with herd bulls. You can conduct part of the exam before you have the vet come to the farm. If you have long or curled toes he is going to flunk on soundness. Exam the testicles and make sure they are normal, both the same size and can hang freely. If the bull has suffered a penile injury you will see a lump in the sheath or you can palpate the injury through the sheath. If your bulls display any of these problems he is a poor risk to breed cows successfully, they need to be free of physical problems. A sample of semen is evaluated for motility, morphology and concentration. Motility is the

CONTINUED ON PAGE 13

FERTILITY CHECKING CONT.

movement of sperm and ideally sperm must move in a synchronized manner to swim successfully through the female reproductive tract to the site of fertilization. Morphology is an evaluation of the structure of the sperm making sure the heads and tails are the proper shape. A high proportion of sperm that has incorrect

structure will not result in successful fertilization. The testicles, prostate and other reproductive organs are evaluated to make sure they are free of injuries or defects that would prohibit a bull to breed cows successfully. This could include such conditions as a broken penis and penile warts. Scrotal circumference is heavily

scrutinized in young bulls because it is an indicator of semen volume.

When it comes to stocking rate, consider what system you are using (number of cows a bull is required to breed). Mature bulls can handle about 35 cows and young bulls 15-20. If you are synchronizing cows and not using A.I., you will need to increase

stocking rate, maybe 15-20 cows per bull. High stocking rates may lead to cows not becoming pregnant on their first heat of the breeding season and calving late the following year. Keep in mind that bulls are very active during the breeding season and will lose body condition, so they must enter it in good shape.

HERD HEALTH

BY JOHN DAVID JOHNSON, JACKSON COUNTY AGENT, WVU EXTENSION SERVICE

Herd health is one of the major factors that can affect profitability of any animal production operation. It is the responsibility of the producer to maintain a good health program. The most valuable relationship that a producer can make is with their local large animal veterinarian. He or she can advise producers of proper herd health protocol and when to administer them to your herd. They are also up to date on new drug regimens and current effective parasite control products.

As I talk about herd health I will use cattle as the example of the herd. These practices can be used on other animals with changes to the vaccinations and times of administration of the product. The three major points that I make sure to cover when I am setting up a health plan are vaccinations or immunization schedule, internal and external parasite program, and an emergency protocol in case of a disease outbreak.

The first thing that should be taken into consideration when dealing with vaccinations is to make sure they are used and stored appropriately. Always read the label to see: dosage, timing, route of administration, warnings, withdrawal time, storage environment, disposal techniques, and most overlooked, the expiration date. All of the topics listed on the label are important or they would not waister the time and money placing them on the label. It is also important to remember to never mix different

vaccinations in the same dose.

After determining the amount of vaccine to administer and if it will be given sub-Q or intramuscular, you will need to make sure that the proper equipment is present to administer the vaccine in the neck muscle or under the skin of the animal. If you are giving a sub-Q injection, a 16 to 18 gauge ½ to ¾ inch needle will be needed. If the vaccination calls for an intramuscular injection then a 16 to 18 gauge 1 to 1 ½ inch needle will be needed. For sanitation reasons, try to change the needle between animals or clean between uses. If you drop the needle on the ground, then the needle should be changed due to the chance of a burr forming on the needle or a chance of cross contamination. If possible, do not use the same needle in the vaccine container that you use to give the vaccination with, especially if you are not going to administer the whole amount over the herd at that point and time. Needles and syringes should also be changed when switching vaccination. Syringes should be changed every 7 to 10 animals and cleaned between different vaccines. Do not administer over 10ml of vaccine in one injection site on a cow and 7ml on a calf.

The time of administration of vaccines and parasite control should be timed at different stages of an animal's life. Try to time the health management protocols to maximize time and save money. Times that may be beneficial to remember are pre-

breeding, post-breeding, and post-calving in cows. In calves beneficial times would be 1 to 2 months of age, 3 to 4 weeks pre-weaning, weaning, and purchase date of new cattle. For pre-breeding, if administering a modified live (MLV) IBR, BVD, PI3, and BRSV if this is the first year, you must do a pre-breeding to avoid abortion. Administer the vaccine two weeks before breeding because IBR can cause inflammation of the oviducts and can decrease conception rates in cattle. Also, administer a Lepto hardjo-bovis, and a 7-way clostridial with an additional parasite control product. In post-breeding, you can give a booster in the IBR, BVD, PI3, BRSV and Lepto hardjo-bovis. Only give cattle (MLV) vaccine at post-breeding if they have had a pre-breeding (MLV) shot. Two months before calving and then four weeks later administer a scours vaccine. If the cow doesn't calve within 2 months of the last scours vaccine, then an additional booster may be needed.

The 1 to 2 month vaccinations for calves should be given with other management practices such as castration, tagging, weighing and dehorning. Vaccines to consider would be Clostridial 7-way, 4-way IBR, BVD, PI3, and BRSV. Also you may want to administer a pasteurella and tetanus shot after castration. Calves should also receive boosters on all these shots 3 to 4 weeks before weaning. I would also administer

a Lepto hardjo-bovis shot for the replacement heifers. Weaning and shipping are two of the most stressful events in a calf's life. They are more likely to become ill during these events in life. The boosters will help prevent illness and shipping fever.

Cattle that are brought in from an outside source should be treated as if they have never had a vaccination on arrival, or at least within the first 12 to 24 hours of arrival. I would also keep the new cattle quarantined in a different pasture for several weeks to observe any disease signs. Administer (MLV) IBR, BVD, PI3, BRSV, Pasteurella, Clostridial 7-way, and a dewormer. Other optional vaccines may include mycoplasma, Lepto hardjo-bovis, rabies, and antibiotics.

As producers we all have heard that you should never give three gram-negative vaccines at once. Which vaccines are gram-negative: Lepto, Pasteurella, Pinkeye, Scours Vaccines, Vibriosis, H-Somni, Salmonella, J-5 (e-coli). The thought behind this theory is that the endotoxins will build up in the animals system and can produce a fatal reaction. It will also over load the immune system and can cause poor vaccines response. There are still unknown variables concerning this topic, but there is a chance of death with a combination of a three gram-negative shot regiment.

GROWING BIBB LETTUCE IN THE GARDEN

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

Bibb lettuce (*Lactuca sativa*) is a cool-season vegetable that can be planted early in W.Va. gardens. Bibb is a fabulous tasting lettuce that is crisp and clean. Bibb is easy to grow and develops its best quality when grown under cool, moist conditions. Americans consume about 30 pounds of lettuce every year, making it the second most popular fresh vegetable in the U. S. Lettuce and other cold weather crops can withstand a light frost; however, sunlight and high summer temperatures usually cause seed stalk formation (bolting) and bitter flavor. Bolting causes vegetable plants to produce flowers and seeds very rapidly, and to abandon leaf growth. This is why the leaves have

a bitter flavor, which is a turn off for home gardeners and customers at the farmer's market. Slow-bolting or heat-resistant varieties of Bibb lettuce are available for extending the lettuce-growing season.

Temperatures between 45 degrees F and 65 degrees F are ideal for growing lettuce, and we experience these conditions in West Virginia in spring and fall. Bibb lettuce can be grown from either seeds or transplants. Seeds of Bibb lettuce are usually planted in the spring as soon as the ground can be worked, or in early fall for a winter crop. Transplants can usually put in the ground about 30 days before the last frost. Some varieties can tolerate a surprising

amount of frost and cold weather.

Bibb or as it is sometimes referred to as Boston or Butterhead lettuce, is a loose-heading type with dark green leaves that are somewhat thicker than those of iceberg lettuce. Bibb varieties have small, rounded, loosely folded heads with soft leaves. Bibb lettuce develops a light yellow, buttery appearance and is very attractive in salads. Bibb lettuce is a great seller for the farmer's market or for the backyard garden because of its great taste and color. Bibb lettuce will develop bitterness readily if temperatures go above 95 °F. They mature in 50 to 75 days, and are more tolerant of poor soils and weather conditions than iceberg lettuce.

Originally, lettuce was grown by the Egyptians not for the leaves, but to harvest the oil from the seeds. The oil was used for medicinal purposes. For centuries, even after we began eating the leaves they were only consumed cooked. Salads become popular when the English began mixing fresh lettuce with herbs and other greens, and flavoring it with an oil, vinegar and salt mixture (the original salad dressing). Bibb lettuce is named for Lt. John B. Bibb, a Kentucky native who served in the War of 1812. Bibb was also an amateur horticulturist and developed Bibb lettuce. It wasn't offered commercially until 1935.

Leafy green vegetables like Bibb lettuce contain Vitamin A,B and C, beta-carotene, calcium, folate, and phytonutrients. The dark the leaves of bibb lettuce contain much higher mineral and beta-carotene levels than iceberg lettuce. Phytonutrients, antioxidant compounds found in the plant, provide many of the health benefits from leafy veg. All lettuces have high water content and are an excellent source of fiber in the diet.

Lettuce can be grown under a wide range of soils, but thrives in rich soil conditions. Loose, fertile, sandy loam soils, well-supplied with organic matter are best. The soil

should be well-drained, moist, but not soggy. Heavy clay soils, like we have in many areas of West Virginia, can be improved with well-rotted manure, compost, or by growing a cover crop. Lettuce prefers a pH of 6.0 to 6.5.

Many improved varieties are available for bibb lettuce. Buttercrunch is an example of a Bibb type whose prized shape and buttery, chewy leaves have become a favorite for salads. Dr. Lewis Jett, WVU Extension Horticulture Specialist, recommends the following Bibb lettuce varieties for West Virginia: Dancine, Nevada, Sierra, Rex, Red Cross, and Arriana. Search the vegetable seed catalogs and experiment with some of these varieties or choose your own.

Lettuce is a cool-season crop that prefers temperatures of 55 to 65 °F for optimum growth. Lettuce can be either direct seeded or transplants may be purchased or started 5 or 6 weeks earlier inside the house. The optimum soil temperature for seed germination is 60 to 80 °F. Consider interplanting lettuce between taller, later-maturing crops. This method exposes tender young plants to the warm sun in the early stage of growth, and allows for increased shade as temperatures begin to rise and surrounding plants gain height. For a continual harvest, sow every 2-3 weeks a new crop if cutting full heads, otherwise harvesting outside leaves will encourage a longer harvest from individual plants.

If you are direct seeding in the garden or raised bed, take into consideration that lettuce seed is very small, and a well-prepared seedbed is essential. A fine textured seed bed, free of large clods will ensure proper seed-to-soil contact and increase germination.

Do not allow lettuce beds to dry out. Lettuce does not have an extensive root system, so an adequate supply of moisture and nutrients is

Livestock Risk Protection

The LRP-Feeder Cattle is designed to insure against declining market prices. Cattle producers may select from a variety of coverage levels and length of insurance coverage to correspond with the time their feeder cattle would normally be marketed (ownership may be retained). LRP may be purchased continuously throughout the year from approved crop insurance agents. Premium rates, coverage prices, and actual end values change daily and are posted online.

How LRP Works

1. Cattle producers submit a one-time application for LRP coverage.
2. Then, Specific Coverage Endorsements (SCE) may be purchased for up to 1,000 head of feeder cattle that are expected to weigh up to 900 pounds at the end of the insurance period.
3. All calves and cattle to be insured must be located in a State approved for LRP prior to insurance attaching.
4. Each SCE is available for a length of 13-52 weeks.
5. A farmer may purchase a contract for 1 to 2000 head per crop year.
6. Coverage is available for calves, steers, and heifers, including predominately Brahman and dairy cattle.
7. Feeder cattle producers choose from two weight ranges: under 600lbs and 600-900lbs.
8. Cattle producers may select coverage prices ranging from 70% to 100% of the expected end value.
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10. LRP's actual end values, coverage prices, rates, and cost of insurance may be viewed on the RMA web site; end values are posted at the end of each insurance period.



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DORMANT PESTICIDE TREATMENTS

BY BRUCE M. LOYD, LEWIS COUNTY EXTENSION AGENT, WVU EXTENSION SERVICE

As plants are now in the dormant season, it is a good time for a reminder that you can use dormant pesticide treatments to control unwanted plants in pastures or fence rows.

The most common of these is a basal stem application. This would be used on woody-stemmed plants such as shrubs or small trees. With this application, the herbicide is usually mixed with an oil type carrier such as diesel fuel or kerosene.

It is then applied to the bark around the base of the plant. It is important that the herbicide is mixed with the fuel, as mentioned, and not water because the fuel is necessary to get penetration into the bark.

It is critical to remember that this mix should not be applied to the

leaves of plants during the growing season. If this is done, the fuel will cause the leaves to brown, making it appear that you have killed the plant. However, the herbicide does not get absorbed and so the plant will come back.

The most common plants that you might consider using a basal stem application include autumn olive (pic-



tured), tartarian honeysuckle, wild cherry, crabapple, or just about any small tree.

The herbicide best suited to this application is Remedy Ultra. It is labeled to be used in the manner described above and is very effective on a wide variety of plants.

The dormant season is also a time many will be cleaning fence rows and the like by cutting out the brush with a chainsaw. Many of these plants are great at resprouting. That is, they will quickly resprout next year so that your problem may end up being worse than when you cut down the original plant.

To avoid this problem, treat the fresh cut surface of the plant you have cut down. If it is a multiple stemmed plant, such as autumn olive, you will

need to treat all of the stems.

Two critical points of this treatment are 1) treat soon after cutting the plant down – within an hour is ideal; next day is too late, and 2) the cambium layer, just beneath the bark is the important area to treat because it will carry the chemical to the roots. There is no value to treating the inner wood on the stump.

There are several products available for cut stem treatments. The most convenient are ready to use products that require no mixing and come in an applicator bottle, such as Tordon RTU.

However, if you will be doing a large number of stumps, it will be cheaper to buy a product that you mix yourself, such as Remedy Ultra.

BIBB LETTUCE cont.



necessary for good growth. Keep the soil evenly moist and mulch the soil around young lettuce plants. Mulch will help conserve moisture, suppress weeds, and keep soil temperatures cool. If weeds do become a problem, either pull by hand or cultivate very shallowly to avoid damage to lettuce roots. Lettuce may need watering up to twice a day in warmer weather. Regular attention to watering will encourage vigorous growth and minimize the development of bitterness in the leaves.

Fertilizer and lime recommendations should be based on the results of a soil test. Contact your local county WVU County Extension

office for information on soil testing or understanding soil test results. As a general rule, however, apply and work into the soil three to four pounds of 5-10-10 fertilizer per 100 square feet of garden area or use good compost to provide nutrients.

Direct seeded lettuce can be planted in single rows or broadcast over the entire bed for a wide row planting. If seeds are broadcast, seedlings will need to be thinned appropriately to allow space between plants. Wide rows should be 12 to 15 inches across. Cover the seeds with 1/4 to 1/2 inch of soil. Water carefully but thoroughly. Several successive plantings of leaf lettuce will provide a more continuous harvest throughout the growing season.

To achieve proper spacing of plants, thinning of lettuce seedlings is usually necessary. Thin bibb lettuce when sprouts are about 2 inches tall. Select the largest plants and leave about 10 inches between them in the rows. If transplanting from the greenhouse or a hot bed, space transplants 10 to 12

inches apart in rows that are 18 to 24 inches apart. Harden seedlings by reducing water and temperature for 2-3 days before transplanting.

Leafy greens have few significant problems, but occasionally pests and diseases can cause problems on lettuce. One of these is tipburn, a disease condition that causes lettuce to die back around the edges of the leaves. It results from changes in the moisture relationship between the soil and the plant. Frequent light watering helps to prevent this problem, and there are varieties available that are resistant to tipburn.

Foliage rots can be a problem in hot or wet conditions. Provide good drainage and proper air circulation to reduce risk. Avoid overhead watering by using a soaker hose or drip irrigation covered with mulch to keep the leaves dry. Aphids are usually the biggest pest problem when growing lettuce. If you have disease or insect problems, contact your local WVU Extension office for assistance.

All lettuce types should be harvested when full size but young

and tender. Harvest the lettuce when the leaves begin to cup inward, forming the loose head. Over-mature lettuce is bitter and woody. Remove the outer leaves, dig up the whole plant or cut the plant about an inch above the soil surface. A second harvest is often possible this way.

Bibb lettuce is great for salads, wraps and sandwiches. Keep in mind that Bibb lettuce will wilt quickly and must be cooled after harvesting. For the best flavor and nutritional quality, eat lettuce just after harvesting while it is fresh and crisp. If you do need to store freshly picked lettuce, store in the coolest part of your refrigerator for a few days. The ideal temperature should be near 35 degrees Fahrenheit, but do not allow the temperature to go below 32 degrees, as this will damage the leaves. Avoid storing lettuce with apples, pears or bananas. They release a natural ripening agent (ethylene gas) that will cause the lettuce to spoil quickly. Good luck and happy gardening!

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