

The <http://www.wvagriculture.org/> Market Bulletin

Gus R. Douglass, Commissioner
Janet L. Fisher, Deputy Commissioner Steve Hannah, Deputy Commissioner



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"The Basis of All Wealth is Agriculture"

May 2009



Gus' View . . .

I consider the highlight of this month's column to be a discussion about rabies outbreaks that have been keeping WVDA staff busy. The problems seem to be east of the area where we have been conducting aerial drops of bait laced with rabies vaccine serum. Tests of animals west of the drop zone, which spans from the Northern Panhandle to McDowell County, indicate we are successful. Animals in the drop zone that have been tested have developed antibodies to the rabies virus, and we believe other animals to be immunized by ingesting the bait.

The rabies exposure we're experiencing in livestock is primarily from rabid skunks. Unfortunately, for some folks in Monroe County, a rabid skunk got into a flock of sheep the owners were preparing for various sheep shows this fall. After two of the quarantined sheep showed positive signs for rabies – and one of the confirmed positives was symptomatic for several days – a decision was made to depopulate the flock as a precaution for public safety. We alerted the Health Department and they have been very cooperative in working with the individuals exposed to rabies. Unfortunately, in most of the rabies cases we've dealt with humans have been exposed, which means the individuals will

Rabies Problems Span the State

have to undergo medical treatment.

In Hardy County there are problems involving young calves that were bitten by a rabid skunk. Two animals tested positive for rabies, and we are looking at alternatives in reference to protecting the farms in close proximity.

All this has happened just a few days after a cat attacked a man in his yard near the Lakewood area in Mineral County. The cat tested positive for rabies. The incident has caused considerable discussion between public health and veterinary officials, as both are concerned over feral cats, farm cats and pet cats. It is important to vaccinate cats and dogs every two years. As noted by a public health official, "this case gives us a great opportunity to enhance public awareness about rabies and promote vaccination of pets, including community-owned or feral cats."

A second case of rabies occurred in Mineral County. Test results on a raccoon found on the porch of a Fort Ashby residence showed the animal had rabies. Fortunately, there was no exposure to the family.

Rabies is spread by a bite or scratch from a vector species, or the introduction of saliva or nervous tissue from a vector into a break in the skin or mucous membrane. All livestock owners are encouraged to have their animals vaccinated for rabies. Please consult your local veterinarian.

Many studies are ongoing regarding the possible avenues a contagious disease can spread. An interesting study from Oregon State University was reported by the *Associated Press* March 30, 2009. The study indicated plant and human diseases that travel with the wind can spread more quickly than previously believed. The findings cause concern not only for some human diseases but plant diseases as well.

The study mentioned a new fungus, wheat stem rust that threatens global wheat production. Chris Mundt, a professor of plant pathology at Oregon State, says the new wheat stem rust, could attack 75 percent of

the world's known wheat varieties, and in a bad year might cause up to 50 percent crop losses in some areas. The University's study emphasized the fact that wind can carry diseases and viruses. I have stated many times that diseases or viruses such as foot-and-mouth (FMD) and avian influenza (AI) can reach West Virginia in a short period of time from anywhere in the world by being transported by weather, global trade and travel, and the migration of birds. This is why disaster preparedness is very important, especially the ability to diagnose diseases quickly through the use of technology and modern laboratory facilities. These harsh variables make farming more challenging as we attempt to cope with disease problems as well as droughts, floods, and economic factors.

I have no doubt after reading recent news releases that the Environmental Protection Agency (EPA) is going to be acting on environmental issues, including those related to agriculture, as they review many activities already underway. It's been in the headlines lately about their review of mountaintop removal permits. They are also looking at issues in regard to the Chesapeake Bay program, as well as the Confined Animal Feeding Operations (CAFOs). We are in active negotiations with the state Division of Environmental Protection to determine the future of the agricultural operations that might fall under the CAFO regulation. It is not known at this time how many of our agriculture operations here in the state will be affected by the rules as approved by EPA. For agriculture operations that don't require permits, we are encouraging farmers to use good environmental practices on their farms. Farmers understand and strive to be good stewards of the land and water because they derive their livelihood from our renewable resources. I will keep you posted on future rule changes. We will be planning regional meetings to give you an opportunity to have your questions answered about what is happening with the CAFO's regulations.

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WVDA MISSION STATEMENT . . . The mission of the West Virginia Department of Agriculture is to protect plant, animal and human health and the state's food supply through a variety of scientific and regulatory programs; to provide vision, strategic planning and emergency response for agricultural and other civil emergencies; to promote industrial safety and protect consumers through educational and regulatory programs; and to foster economic growth by promoting West Virginia agriculture and agribusinesses throughout the state and abroad.

I'm pleased to note President Obama has weighed in on food safety issues. He presented some alarming statistics during a weekly radio address. Each year, about 76 million people in the United States are sickened by contaminated food, hundreds of thousands are hospitalized, and about 5,000 die. Thirty-five years ago, the Food and Drug Administration (FDA) did annual inspections of about half of the nation's

food-processing facilities. Last year the agency inspected just 7,000 of the nearly 150,000 domestic food facilities, and its oversight of foreign plants was even spottier. This again emphasizes the work being done by State Departments of Agriculture, which are doing about 90 percent of the inspections on food products. I have noted previously that this Department strives to maintain a high level of surveillance here in West Virginia because the FDA only has two inspectors here in the state – one located in Charleston and one in Morgantown.


Gardening is becoming more popular with urban dwellers than I've seen in a long time. I am pleased to learn that the First Family has started a White House garden. South East Dairy Farmers Association, March 27, 2009, notes that White House Executive Chef Cristeta Comerford and Pastry Chef Bill Yosses got help from children from a local elementary school as a 1,100 square foot patch of the South Lawn was tilled to start the first fruit and vegetable garden there since World War II. The produce will be used in the meals served at the White House. The reports say beets, a food the President prefers to avoid, will not be planted in the new garden.

While on the subject of gardens, in Ranson, a cooperative effort between the city of Ranson and WVU Jefferson County Extension Service is renting space to local gardeners. Plot sizes and prices for the 2009 growing season: 10-foot by 10-foot plot is \$20, 10-foot by 20-foot is \$25, and a 10-foot by 30-foot plot is \$30. For more information or to register for garden space, contact Jane Tabb at 304-728-1473, ext. 1, or Jane.Tabb@mail.wvu.edu. The

Department is receiving many "how-to" calls as more people are taking an interest in growing their own fresh vegetables. Good luck to all gardeners!

The professionalism of my staff continues to be recognized, for which I am very proud. Forest Health Protection Specialist Jeff Johnson is one of six people from West Virginia selected to be members of a Rotary Group Study Exchange that will visit Japan for five weeks beginning March 16. The Rotary chose Jeff because of his agricultural background and work involving plant pest issues. During his stay in Japan, Jeff will live with Japanese families in four cities/states and meet with individuals who perform work similar to what he does in this country. I understand that later on this year folks from Japan will make a trip here to see how we operate. Congratulations, Jeff on being the recipient of this once-in-a-lifetime opportunity. I will be honored to meet your Japanese delegation when they visit here in West Virginia.

The farm is as active as always during the springtime. Tom is involved in a conservation program to protect the wildlife and preserve water quality in a watershed that originates here on the farm. The effort involves a lot of fencing. He has been innovative in using the equipment we have on the farm to install the fence. I'm surprised at how fast the fencing is going in with a post-hole digger that mounts on the loader of the farm tractor. It is extremely convenient and maneuverable. He also moved last year's crop of calves to market, even though the price is lower than last year.

I'm in the garden, as usual. I have green beans, kale and cabbage planted, and I'm getting ready to plant some tomatoes. Anna Lee is fully recovered from her cataract surgery and is busy around the house. I hope things are going well for you in your gardening efforts. 

GARDEN CALENDAR

~ MAY ~

- May 11 Seed sweet corn
- May 12 Plant early celery and tomatoes
- May 14 Seed annual flowers
- May 15 Fertilize houseplants
- May 16 Transplant or seed melons
- May 17 Plant sweet potatoes
- May 18 Plant large pumpkins
- May 19 Plant peppers and cabbage
- May 20 Harvest established asparagus
- May 21 Plant okra; Seed lima beans
- May 22 Avoid planting tomatoes or peppers with blooms
- May 23 Seed sweet corn
- May 25 Remove strawberry blossoms on new plants
- May 26 Plant tomatoes and eggplant
- May 27 Prune azaleas, viburnum, forsythia & lilac after blooming
- May 29 Plant jack o' lantern and pumpkins. Turn compost
- May 30 Plant an herb garden

Let's practice what we preach.

Tom McConnell, Director, West Virginia Small Farm Center of the WVU Extension Service

It's no surprise that the increased interest in locally-produced food has caused an increased demand. West Virginia farmers have responded to this opportunity by doubling the number of farmers' markets from 31 in 2005, to 60 for the 2009 season. But there is opportunity beyond the farmers' market to claim more market share! The market should serve as a stepping off point not the end goal.

The Winter Blues Farmers' Market sponsored by the West Virginia Farmers' Market Association the night before the West Virginia Small Farm Conference allowed 24 vendors to gross over \$7,500. The 35 farmers and food businesses using local ingredients who supplied food for the breaks and meals for the Conference itself added another \$5,000 to the local economy! The sales data from the Conference makes another point as farmers may look to their communities for sales opportunities, providing food for local events.

It causes one to ponder what other events or businesses could we be supplying? The Preston County Farm Bureau has made the decision to feature locally-produced food for their annual meeting held this fall. They saw this as a wonderful opportunity to showcase local food and the farm economy, as well as educate the community about where their food comes from and where it "could" come from. If each county group were to make the same decision, the impact would be greater than what we observed from the Small Farm Conference. But, it's not as easy as making that decision and expecting it to happen. This requires much planning. Remember how last winter we said next year

(season) we are going to grow more or do something else differently? Well, next season is here.

Each farmers market group could partner with their farm bureau to grow or save crops specifically for that event. The farmer/vendors will benefit more than monetarily. Every lesson learned by meeting the market will help them as they approach and enter other markets.

The fall meeting time is better than winter but still the growers will have to explore some means of extending their season or preserving what they grow to meet the market. As was learned with the Small Farm Conference, what is available will dictate what the menu will be. So a fall meeting will ensure plenty of fresh vegetables and leave plenty of menu space for fall crops. Maybe scheduling an event in the summer to learn how to do this, would be an easier place to start.

Those planning a local food event will probably want to ensure that the local meat course is arranged well in advance. Seven of the 35 vendors for the Conference sold beef, pork, poultry or lamb products. It's also a good idea to mention this idea to the group that is preparing the banquet early so they too may be able to help plan.

The West Virginia Small Farm Center offers its assistance to any group that wants to consider this opportunity for their county. Marketing locally produced food for local events is just a good start, but the lessons learned are applicable in many other markets. It's simply logical that when we ask others to buy our food, we should buy it ourselves! Let's practice what we preach.



Ag MAILBAG

Questions should be emailed to:
info@ag.state.wv.us or marketbulletin@ag.state.wv.us or mailed to: WVDA, Market Bulletin, 1900 Kanawha Blvd., E, Charleston, WV 25305.

Q: Will cranberries grow in our pond? If so, how can we get started? Also, would we be allowed to get a few cranberry plants from Cranberry Bogs? Also, do you harvest the cranberries that grow in the bog, and if so, do you sell them to the public? Is there a URL I can go to in order to learn about growing cranberries? *Thank you for your time.* ~ Connie

Connie's email was routed to **Tom Clark, Horticulture Marketing Specialist, WVDA Marketing & Development Division.** His response follows.

A: Will cranberries grow in our pond?

Although a great deal of water is needed for cranberry production, and "flooding" the production area with up to a foot of water is part of the cultivation process, cranberries can not live underwater year round. They enjoy wetland soils and may live on the edge of ponds, but not submerged in the pond.

If so, how can we get started?

If you feel you have an area suited for cranberry production, you would buy the plants, plant them and begin cultivation.

Soil based on a mix of peat and sand provides the acidity, water retention and aeration needed for commercial cranberry production. This type of soil profile is not common in West Virginia.

Also, would we be allowed to get a few cranberry plants from Cranberry Bogs?

If they are on your property or you have permission from the property owner, yes. If they are in a state or federal park, wilderness area, or reserve then, no. You can not legally take any plant from those areas.

Also, do you harvest the cranberries that grow in the bog, and if so, do you sell them to the public?

Yes, if you had a cranberry bog with ripe cranberries (either through ownership, lease or permission) you could harvest them and sell them to the public. If they are in one of the protected areas just mentioned, then no. Again, you can not legally take any plant or plant part from a park, wilderness area, or reserve. Preservation and protection from commercial interest are the whole point of these areas.

Is there a URL I can go to in order to learn about growing cranberries?

<http://www.cranberries.org/cranberries/growing.html>
<http://efg.cs.umb.edu/conne/marsha/ccintro.html>

Ag Mailbag, continued on page 4

West Virginia livestock markets serving state producers, in numerous ways, every day

West Virginia livestock auction markets across the state are bringing buyers and sellers together.

Just look at the numbers. For 2007 – the latest figures available – the state's nine markets sold almost 110,000 cattle at their weekly sales. These cattle had a value of over \$53 million. Three markets also participated in board sales, selling 15,235, valued at \$12.9 million.

And while their volume and value don't reach the level of cattle sales, markets also sell sheep, lambs, hogs, pigs, goats, horses and mules. Markets are also major participants in the state's graded feeder calf sales.

But the markets do much more than provide a convenient and dependable way to sell livestock, said Association of West Virginia Livestock Auction Markets Executive Secretary John Kissee.

"Markets provide true price discovery, through open bidding, on every class and type of livestock. Producers should also remember that the livestock market is made at the auction market. All other forms of marketing are based on the live market price," he said.

There are many other services provided by markets. These include supporting and promoting groups like FFA and 4-H, often through donating their markets for special sales; collecting and remitting, at no charge, checkoff dollars; and serving as the first

point for testing and detecting a variety of diseases.

"This is a vital step in improving the overall health of the state's livestock," Kissee noted.

Auction markets also promote community vitality, and are an important part of their local economy. "From the people they employ, to the businesses they work with and support, your local livestock market has an impact, long before and well after the sale is over," he said. "A healthy livestock marketing industry is vital to animal agriculture, independent producers and their local community."

In these tough economic times, markets also take the financial worry out of selling, by providing immediate payment with a bonded check. "Producers walk away from a sale with a check they can take right to the bank," Kissee said.

"The bottom line," he said, "is that whether a producer has five cattle to sell, or five thousand, West Virginia's auction markets are going to be there when they're needed, providing the highest level of service, and working hard to get the best price for the producer's livestock."

For more information about the state's markets, call Kissee at 770-596-0128.

2009 Gypsy Moth Suppression Program to Begin

Agriculture Commissioner Gus R. Douglass has announced that the West Virginia Department of Agriculture's (WVDA) aerial treatment for gypsy moth in the Cooperative State-County-Landowner (CSCL) Program will begin around the first week of May, depending on egg mass hatch and larval development. Commissioner Douglass said that public notices, environmental assessments, biological evaluations, work plans, safety plans, and decision notices have all been completed for the project which is a cooperative effort with the USDA Forest Service, West Virginia Division of Forestry and landowners to protect the State's forest resources.

The Program will employ helicopters and likely operate out of remote landing zones in the counties where suppression is occurring. The contact numbers for the operation will be: 304-813-9625, 304-552-6169, the New Creek Field Office at 304-788-1066, the Elkins Field Office at 304-637-0290, or the Charleston Office at 304-558-2212.

A total of approximately 39,099 acres in Berkeley, Grant, Greenbrier, Hampshire, Hardy, Jefferson, Mineral, Monroe, Morgan, Pocahontas, and Preston Counties will be treated under the CSCL Program. The proposed treatments will consist of a single application of Dimilin 4L on 16,659 acres, *Bacillus thuringiensis var karstaki* (Btk) on 21,498 acres and Gypcheck on 942 acres.

For more information on the WVDA gypsy moth treatment program, contact Gary Gibson, Director, or Clark Haynes, Assistant Director, of the WVDA's Plant Industries Division in Charleston at 304-558-2212 or Butch Sayers, Gypsy Moth Program Manager, New Creek Field Office at 304-788-1066.

WHAT'S COOKIN'

May 2009

Recipes

Strawberry-Rhubarb Cobbler

Filling

- 1¼ cups sugar
- 3 tablespoons all-purpose flour
- 1½ teaspoons cinnamon
- 1½ teaspoons orange rind
- 6 cups rhubarb, coarsely chopped
- 3 cups strawberries, sliced

Topping

- 1½ cups all-purpose flour
- 3 tablespoons sugar
- 1½ teaspoons baking powder
- ½ teaspoon baking soda
- ¼ teaspoon salt
- 3 tablespoons butter, chilled
- 1 cup buttermilk

To prepare the filling, combine sugar, flour, cinnamon and orange rind in large bowl. Add rhubarb and strawberries; toss well.

Spread mixture in a 13x9" baking dish. Bake in 400°F oven for 10 minutes.

While filling is baking, prepare topping. In large bowl, combine flour, sugar, baking powder, baking soda and salt. Using fingers or two knives, cut in chilled butter until mixture resembles small peas.

With fork, stir in buttermilk just until a soft dough forms. Remove filling mixture from the oven and drop topping mixture by tablespoonfuls in 12 mounds on top of the hot fruit filling.

Return pan to 400°F oven for approximately 25 minutes or until topping is golden brown and has risen.

Ag Mailbag, continued from page 3

<http://www.theworldwidegourmet.com/products/articles/cranberry-cultivation/>

<http://www.ipmcenters.org/cropprofiles/docs/njcranberries.html>

<http://www.umaine.edu/umext/cranberries/growing.htm>

<http://web1.msue.msu.edu/vanburen/cransite.htm>

<http://www.hort.wisc.edu/cran/>

I hope you have found this information useful. If you have any further questions, feel free to email me at tclark@ag.state.wv.us.

Strawberries and Rhubarb A Winning Combination

By Jean Smith, Director, Marketing and Development Division

What spring fruit and vegetable combine with one another to make delicious pies and desserts? Strawberries and rhubarb! Both are excellent sources of Vitamin C and dietary fiber!

Did you know that each strawberry has approximately 200 tiny seeds on it? In addition to its Vitamin C qualities, strawberries are a good source of potassium, folic acid, and, of course, are fat free.

Rhubarb is a vegetable with a unique taste that makes it a favorite in pies, sauces and desserts. It originated in Asia over 2,000 years ago. Originally cultivated for medicinal purposes, the wonderful culinary side of rhubarb was discovered in the 18th Century.

Enjoy this month's spring recipes. – *Happy Cooking!*

Recipes

Grilled Chicken with Rhubarb Delight

Rhubarb Delight

- 3 cups diced rhubarb
- ¾ cup sugar
- 1 tablespoon grated orange zest
- 1 cup orange juice
- 1 jalapeno pepper, seeded and finely chopped
- 4 tablespoons sweet onion, finely chopped

Chicken

- 6 boneless, skinless chicken breast halves
- Salt and pepper to taste
- 1 tablespoon lemon juice
- 3 tablespoons olive oil

Place all of the rhubarb delight ingredients in medium saucepan; bring to boil. Reduce heat; simmer for approximately 15 minutes until mixture thickens, stirring frequently.

Sprinkle chicken with salt and pepper, then brush with lemon juice and oil. Cook on each side for approximately 6 minutes or until juices run clear.

Serve with rhubarb delight.



Recipes

Stuffed Roasted Strawberries

- 12 extra large strawberries
- 2 ounces bittersweet chocolate, chopped
- 1 tablespoon sugar

- 1 can whipped cream (found in the dairy section of your supermarket)
- Cocoa powder, for garnish

Preheat oven to 400°F.

Slice the tops off of berries just below the cap. Cut ¼" off the tip of each berry to allow berry to sit up straight. Using small spoon or melon ball scoop, hollow out each strawberry, working from top to bottom to create a pouch. Place some chopped chocolate into the pouch in each strawberry and place in an upright position in a baking dish. Lightly sprinkle berries with sugar. Roast the berries until soft and chocolate is melted, about 10-12 minutes. Remove from oven.

To serve, place 3 strawberries on dessert plate. Drizzle any liquid from roasted strawberries over them. Spray a mound of whipped cream on plate. Then top each strawberry with a small amount of whipped cream. Dust with cocoa powder and serve.

See **Strawberry-Rhubarb Compote** and **Strawberry-Pecan Bread** Recipes in June Market Bulletin

More Food From Your Pond — A Cage of Fish

By Ken Semmens — WVU Extension Specialist — Aquaculture

Your garden may produce well, but what about your pond? What is the value of the fish harvested from it? Growing fish in confinement is an idea that has worked for many people. Perhaps it can work for you, too, if you have access to a suitable pond, lake or even a stream where you can float a cage,

The most convenient thing about growing fish in a cage is that they can be observed, tended, and recovered whenever needed. It is actually a very small aquatic feedlot where fish feed is converted into fish flesh. Considering the availability and cost of fresh fish, it might be an efficient way to grow something different for your family.

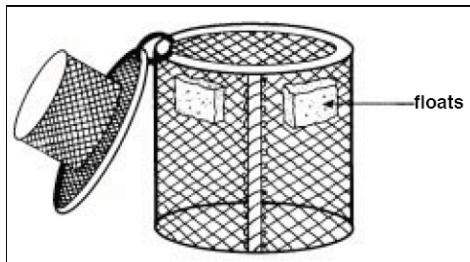
The Water: It is important that water of good quality circulate through the cage so the fish have a suitable environment for growing. It should be deep enough that the cage floats a foot or more above the bottom. It is best if water flowing out of the pond is drawn from the depths rather than the surface. Called "bottom water release," this practice limits accumulation of "bad water" (water without oxygen) in deep areas of the pond. The pond should be reasonably clear of vegetation that might impinge on the mesh or interfere with water circulation around the cage. If rooted, submerged vegetation is a problem, stocking grass carp to eat the weeds may be the answer. It is most convenient if there is a dock or some structure to access the cage daily so the fish can be observed and fed. This also is more convenient when harvesting the fish.

The Cage: The cage must contain the fish without fail through the culture period. A good design is a cage made of ½-inch plastic mesh with a lid and feeding ring. The mesh comes in 4-foot widths so many fish cages have a diameter and depth of about 4 feet. A smaller mesh will retain smaller fish, but it is more easily clogged with material growing on the mesh surface. Larger mesh will permit greater circulation of water through the cage.

It is best to use a noncorrosive wire to attach the mesh to the frame, and it is important to have a lid securely attached to the cage. This should keep fish in and predators out. The feeding ring is made of a mesh small enough to retain feed pellets floating on the surface. The floating feed pellets easily pass through the ½-inch mesh of the cage top as they are poured into the feed ring. Reliable flotation of some sort may be required to keep the top of the cage floating above the water surface.

With proper care, a well-designed and constructed cage can last as long as 10 years. Due to the cost of shipping, most cages are constructed locally and transported to the pond. Cost is usually between \$150 and \$200 per cage, or between \$30 and \$40 a year for 5 years of use. When you call around for fish, ask if the vendor has cages for sale.

The Fish: Catfish is a good choice to stock in the spring. Mixing in some hybrid



Typical cylindrical cage.
(From SRAC publication 162.)

bluegill sunfish adds diversity. To grow fish to market size by the end of September, it is important to stock large fingerlings in early May. Selecting 8- to 9-inch catfish and 4-inch hybrid bluegill fingerlings should work well. Stocking 300 catfish in a cage (4-foot diameter, 4-foot deep) is a good choice. Buy healthy fish from a reputable grower. Live fish come with no guarantees so it is important to examine the fish you purchase to see that they appear healthy and in good condition. West Virginia vendors can deliver fish directly to the pond, and they know how to temper the fish to their new environment. This also allows opportunity to seek advice about your pond and get a bag or two of feed. Some people place a few koi carp in the cage to graze the mesh surface to help keep the cage clean. Koi are also colorful and easily seen in dark water. Fish loose in the pond will benefit from feed that escapes the cage and from the fertility added to the pond.

Because the fish in the cage are confined, they will not be able to find much natural feed in the pond and must be fed routinely. A light near the surface of the cage at night will attract bugs, but not enough to feed the fish. A complete diet that floats is best.

For catfish, a diet with at least 32 percent protein is recommended. If a cheaper feed with less protein is used, it will likely take more feed to grow a pound of fish and create more waste. The growth rate may be slower.

The fish depend on the feed, so once feeding is begun, it should not be stopped. Feed daily when water temperatures are above 70 degrees F. The volume of feed required will depend on temperature and the amount of fish. A rule of thumb is to feed what the fish will eat in about 20 minutes. If fish in the cage will eat, feeding several times each day will help them to grow faster. Overfeeding is wasteful and should be avoided. Skipping a day here and there does no harm. It is expected that the fish will convert 1.5 pounds of feed into a pound of fish. Consid-

ering that a 50-pound bag of catfish feed may cost \$18, or 36 cents per pound, feed cost for each pound of gain should be around 54 cents.

It is important to remove scrawny or sick fish from the cage, as well as any dead fish. Diseases are a greater risk for caged fish than for fish swimming free. Fish that do not look healthy may be placed in the pond and have a better chance to recover and thrive. Sick or dead fish in the cage will attract predators and scavengers. They may damage the cage as they struggle to get the dead fish. It is important to keep such threats from developing bad habits.

A Plan: What follows is a description of what should occur if the cage is well-managed. The plan is built on the expectation that pond water temperature will increase from about 68 degrees F in early May to about 77 degrees F during the heat of the summer. The plan assumes that 300 channel catfish weighing a total of 30 pounds are stocked on April 30 and fed at every opportunity through the end of September. When water temperatures are below 70 degrees F, the fish are fed every other day; otherwise the fish are fed each day. The amount fed each day increases steadily throughout the season from about 1 pound to about 6 pounds each day. The fish are fed about 4 percent of their total body weight early in the season, but this declines as the season progresses to less than 2 percent of their total body weight at the end of the season. Average fish weight increases from 0.1 pound to about 1.25 pounds at the end of the season. Total weight at the end of the season is about 350 pounds for about 277 fish. The fish will reach a size suitable for use (1 pound average weight) in early September.

There is a fellow named Jeff who grows catfish like this every year. He harvests in the fall at the first sign of disease.

Pond Food, continued on page 12

You won't move firewood. Promise because we need to protect our trees from the Emerald Ash Borer beetle. It lives in firewood. And when you move firewood — to your camp or to your backyard — you can spread the beetle. So don't move firewood. Burn it where you buy it. Promise me. [Go to StopTheBeetle.info](http://StopTheBeetle.info).



THE MARKET BULLETIN

West Virginia Department of Agriculture
Gus R. Douglass, Commissioner
1900 Kanawha Blvd., E.
Charleston, WV 25305-0170

May 2009

Return Service Requested

Nonprofit Organization
U.S. Postage Paid
Permit 80
Charleston, WV 25301

Pond Food, *continued from page 5*

He schedules a Saturday as fish cleaning day and cleans the whole lot of fish on one day. Jeff has a routine of dipping fish from the cage into a tub filled with water. He has found that a few tablets of Alka-Seltzer added to the tub increases carbon dioxide concentration in the water and calms the fish so they are easier to

clean. When he's finished, his family has a nice stash of dressed fish to eat from during the winter.

Diversifying the Experience: The same basic strategy can be used for trout, largemouth bass, hybrid striped bass, tilapia, koi carp and yellow perch. Growth of each type of fish is optimal at a specific temperature so it is important

to select the proper time of year and start with a fingerling that will reach harvestable size before the season ends. Regardless of the fish chosen, they must be able to thrive in confinement and readily eat fish feed pellets. For more information about aquaculture visit the WVU aquaculture website (www.wvu.edu/~agexten/aquaculture/).

Acreage: Harrison Co., 48+A., barn, fenced, paved road, \$75,000. Cynthia Ritch, Rt. 2, Box 160A, Jane Lew, 26378; 677-8374; cynthianjan@aol.com.

Trailer, Lowboy tandem utility, heavy duty, 6x16, 2 5/16 receiver hitch, title, 10" side board, \$1,395. David Roberts, P.O. Box 66, Hambleton, 26269; 478-3252.

Hay, 4x6 rolls, never wet, \$50/bale. Ronnie Rowe, 2851 Little Fudge Circle, Barboursville, 25504; 736-7647.

Miniature Aust. Shepherd 6-wk. pups, \$150/ea. Rebecca Saylor, 316 WPA Rd., Walker, 26180; 679-3670.

Aust. Shepherd/Sheltie Collie pups, \$150/ea. Ruth Slater, Rt. 4, Box 201, Charleston, 25312; 984-0754.

Rabbit cages, indoor, toP/Side load, removable bottom pans, 34x21, \$35/ea.; ceramic feeders & lg. water bottles, \$5/ea.; litter box/hay rack free w/cages. Linda Sparks, 41 Beech Tree Lane, Belle, 25015; 549-2941.

Acreage: Monongalia Co.: 53.7 A. w/barn,

bldgs., city/well water, near Morgantown, \$225,000. Glen Spitznogle, RD 4, Box 83, Cameron, 26033; 686-2373.

Hay, 39x45, '08 1st cut, mixed, barn kept/never wet, \$20/bale. Mike Stephens, 204 New England Way, Washington, 26181; 488-0140; stephens@wvbc.org.

Great Pyrenees pups, goat raised, \$100/ea. Dorothy Stewart, Rt. 1, Box 545, Fort Gay, 25514; 272-6422.

Trailer, Adams '07 stock combo, 7' tall, 8½' wide, rubber mats/walls lined, indoor/outdoor carpet in dressing rm., many extras, \$1,200/obo. Dean Stump, P.O. Box 598, Cool Ridge, 25825; 787-3288.

Acreage: Harrison Co.: 90 A., woods, pond, pasture, Brushy Fork, \$195,000. Ed Tomes, 129 Ridgeway Dr., Bridgeport, 26330; 838-4221; jtomes2@ma.rr.com.

AKC Rotweiler, Am./Can CH avail. for stud service to approved females, OFA cert. excel. disp., \$500. Patsy Tomlin, P.O. Box 95, Birch River, 26601; 619-0230; winterrh06ak@yahoo.com.

Locust posts, #2 grade, mixed length, sharpened, \$2/ea. Mark Waldo, P.O. Box 9, Buckhannon, 26201; 472-8130, ext. 102.

Hay, 4x5 round bales, orchard/timothy/clover, approx. 1,200 lbs., \$50/bale. Richard Ward, Rt. 1, Box 56, Lost Creek, 26385; 745-3165.

MISCELLANEOUS WANTS

Rabbits: Flemish giant, unrelated trio for breeding. Michael Billie, Rt. 1, Box 74, Mannington, 26582; 986-1103.

Potato gardening equip., digger, hiller, planter, more. Roger Flanagan, P.O. Box 6437; Morgantown, 26506; 742-8868; rallenflanagan@yahoo.com.

Round pens or corral panels, used. Kevin Mullins, HC 66, Box 10, Frankford, 24938; 497-2818.

Fence line feeders, precast concrete J bunk, 8. Ronnie Plybon, 4150 Mount Union, Huntington, 25701; 523-5292.

Free Blue Heeler. John Thompson, 41 Andys Dr., Hearts, 25524; 855-4051.

Used pressure canner, good cond. John Warner, HC 68, Box 4, West Union, 26456; 873-2452.

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