

Feeder cattle grades change for 2001

BY DAVID J. WORKMAN

Hardy County Extension Agent, WVU Extension Service

Most cattle producers are unfamiliar with a change to the grading standards for live feeder cattle that occurred in October 2000. This change took place in the middle of the fall calf marketing season. For the last part of 2000, states were busy getting familiar with the new standards so no change was implemented then. In the spring of 2001, the grading of feeder cattle at sales across the United States will reflect the changes.

The grades and grading system that we have been applying have been around for many years. The Agricultural Marketing Act of 1946 originally mandated the standards and charged the U.S. Secretary of Agriculture with "promulgating" them.

The current changes were applied to the grading standards adopted in 1964 and 1979. Many things about the beef industry have changed since then.

These grading standards have allowed for many advances in cattle marketing. They are used as a tool for penning cattle at officially graded sales. This allows for putting together large numbers of cattle that belong to different owners. This large lot can then be offered for sale as a uniform group of like cattle or calves. Historically, larger lots have yielded more dollars for producers than smaller lots or groupings of cattle.

These standards also certify the grades used to make contracts for cattle on the futures market. They do offer a valuable tool for marketing of cattle and calves.

The grade of feeder cattle is determined by evaluating three general value-determining characteristics—frame size, thickness, and thriftiness. Frame size is a skeletal measurement that takes into consideration height and body length in relation to age. Thickness refers to the development of the individual animal's muscling in relation to its skeletal size. Thriftiness is an appraisal of the apparent health of the animal and its ability to grow and fatten normally.

Frame size standards for thrifty feeder cattle are assigned one of three marks, L (large frame), M (medium frame), and S (small frame). Large-frame

cattle would possess the typical minimum qualifications for the grade including thriftiness and have tall and long bodies for their age. Large-frame steers and heifers would be expected to reach a U.S. Choice carcass grade (about 0.5 inches of fat at the 12th rib) at a weight heavier than 1,250 pounds.

Medium-frame cattle would be expected to possess the same minimum qualifications for the grade including thriftiness and have slightly long and tall bodies for their age. They would be expected to produce a U.S. Choice carcass (about 0.5 inches of fat at the 12th rib) at live weights of between 1,100 to 1,250 pounds for steers and a live weight of 1,000 to 1,150 pounds for heifers.

Small-frame cattle would be thrifty but have small frames and shorter bodies. Steers and heifers in this grade would be expected to produce a U.S. Choice carcass (about 0.5 inches of fat at the 12th rib) at live weights of less than 1,100 and 1,000 pounds respectively.

The thickness (muscling) grades range from Number 1 to 4. Number 1 muscled cattle show predominant beef breeding. They are moderately thick and full in the forearm and gaskin, with a well-rounded appearance through the back and loin and moderate width between the legs (both front and rear). Cattle show this thickness with a slightly thin covering of fat, but that cover may vary.

Number 2 muscled cattle show a high proportion of beef breeding. A slight degree of dairy breeding also may be detected. They are slightly thick and full in the forearm and gaskin. They show a rounded appearance through the back and loin with slight width between the front and rear legs. Like the Number 1s, the Number 2s show this thickness with a slightly thin covering of fat, which may vary.

Number 3 muscled cattle are thrifty and thin through the forequarter and the middle part of the rounds. The forearm and gaskin are thin, and the back and loin have a sunken appearance. The legs are closely set. Number 4 muscled cattle are still thrifty, but they have less thickness than the minimum requirements for the Number 3 grade.

There is one final grade—Inferior—which includes cattle that are unthrifty and are not expected to perform normally in their present state and those that are "double muscled." Inferior cattle can have any combination of thickness and frame size.

How will this affect you as a calf producer as you sell or market your calves in the future? Where we have had only four grades or so to concern ourselves with in the past, we now have 13. They are L1, L2, L3, L4, M1, M2, M3, M4, S1, S2, S3, S4, and Inferior. This will give potential buyers an even clearer picture of the calves offered for sale. Producers and buyers alike will benefit as the entire beef industry looks to improve the quality and consistency of the product that eventually finds its way to our dinner tables.

If you would like a copy of *United States Standards for Grades of Feeder Cattle*, you can visit the U.S. Department of Agriculture Web site (www.ams.usda.gov/lsg/stand/00-06.htm) and select Official U.S. Standards for Grades. You also can contact the West Virginia Department of Agriculture's Livestock Section or your county WVU Extension office.



Native warm-season grasses good for wildlife

BY WILLIAM N. GRAFTON

Wildlife Specialist, WVU Extension Service

Warm-season grasses are not only good insurance against drought and autumn forage shortages, but they also are excellent for wildlife. Songbirds such as bobolinks, meadowlarks, and several types of sparrows build their nests on the ground, raise their young, and feed exclusively within grasslands. Fields provide food and shelter for migrating warblers, thrushes, sparrows, and larks in autumn. Many hawks and such owls as kestrels and barn owls search grasslands for food during winter months.

Native warm-season grasses such as switchgrass, Indiangrass, and big bluestem grow in clumps. Open areas between clumps permit young birds to move freely as they search for insects and seeds. The clumps also allow nests to be built under the tufts of leaves. This lets adult birds come and go easily without delay or detection by enemies that search for the nests. Warm-season grasses are a must if you want to have pheasants or bobwhite quail in West Virginia. They are also heavily used by young turkeys that live on a diet of insects and a few seeds.

Rabbits also use hayfields, meadows, and pastures for food and cover. Deer and groundhogs find food and shelter in all fields but don't prefer native warm-season grasses if cool-season grasses, cultivated crops, gardens, or forest mast is present.

Reasonable compromises can eliminate most conflicts of encouraging wildlife while managing a farm for profit. Recommendations for management follow:

- Avoid mowing areas with ground-nesting birds before August 1 (July 15 at lower elevations).
- Use rotational grazing and graze to 12 to 18 inches. This leaves lots of cover, insects, and seeds for wildlife and keeps the grass healthy.
- Locate where birds are nesting in the field. Avoid mowing these areas until after August 1. Small unmowed areas or strips will be heavily used for food and shelter.
- Maintain a few patches of bare ground in areas of poor grass growth for killdeer and horned lark; all birds can use them as dusting areas.

Community Design Team helps visions become realities

BY DAVID P. WELSH

Public Relations Specialist

WVU College of Agriculture, Forestry, and Consumer Sciences

A group of West Virginia University faculty, staff, and students has been forging new visions for West Virginia's communities and helping to turn those visions into realities. The group, known as the Community Design Team (CDT), has visited 17 towns and cities in the state, evaluating community development efforts and offering input and expertise.



Modeled after a Minnesota program, the CDT was created by Scott Loveridge, former director of the Regional Research Institute and leader of WVU Extension's Center for Community, Economic, and Workforce Development.

"WVU's team has evolved...beyond its Minnesota counterpart," said Elizabeth Messer Diehl, an assistant professor of landscape architecture in WVU's College of Agriculture, Forestry and Consumer Sciences. "The Minnesota team focuses mostly on physical design issues, but we look at the total community development picture—physical, social, and economic issues. I think that the more communities we have visited and the more team members we have attracted, the better equipped we have become at addressing the various issues communities face."

Typically, teams include experts in landscape architecture, civil engineering, economic and community development, public administration, history and historic preservation, tourism, recreation and parks, youth issues, natural resources, transportation and traffic safety, and sometimes health care.

"Depending on the particular community's needs, we may have more or less people representing any one area, and sometimes entirely different areas are included," Messer said, adding that experts from outside WVU often volunteer to participate.

A visit from the team can be initiated in a number of ways. Sometimes local government officials initiate contact. Other times it is a group of local citizens concerned about the future of their community. The chamber of commerce is another common initiator.

"The community must be heavily involved in the organization and planning of the visit for it to be successful because the team relies on the community to convey the local issues," Messer said.

The visit brings together a broad base of community members with the team to ensure that the players understand all of the issues, concerns, and dreams of the community's various groups and individuals.

"The more we know, the more successful we can be at creating recommendations that will work for the community," Messer said. "Because of that, it is important that the community bring together many groups and not just rely on one or two organizations to work with the team. We ask that the community hold meetings prior to completing the team application to discover what citizens are thinking about.

"I would say that the recipe for success is broad-based involvement and support from the community in the CDT process and widespread publicity for the visit so that people know they can get involved," Messer commented.

Undergraduate and graduate students often are invited to join teams. They serve alongside other professional team members and share in the ideas and decisions.

"Students get a tremendous amount of exposure to community development issues, team collaboration, and working with community members," Messer said. "I feel they are very important to the team; they often bring fresh and creative perspectives to the process."

Students from the community also are involved. They tell the team their concerns and hopes and the things they would like to see happen, which often are a bit different from those of the adults in the community.

"They are the future of the community and their thoughts must be considered," Messer said.

"The team is a catalyst for community development, and as such, we can't really take credit for things that get accomplished... because those things are up to community members," Messer explained. "We can, however, identify many projects that have been completed that were suggested by the team during the visit, as well as many other projects that were tackled along the way."

Community outcomes related to CDT recommendations:

Lost Creek

- Took steps to preserve an old bank building and celebrate its history
- Purchased an abandoned rail line, turning it into a trail linking the business district to the area's only park

Upper Pocahontas

- Created a new local nonprofit organization to start a GED program

Grafton

- Partnered with WVU faculty and students to produce plays about the town's history
- Created an Internet program and CD-ROM to market empty downtown buildings
- Created a walking tour and historic building brochure and map

Weston

- Improved downtown access by redesigning parking
- Repaired a pedestrian bridge accessing downtown

Logan

- Preserved green space and obtained thousands of dollars in grants to interpret sites of historic interest
- Redesigned traffic flow and parking in downtown

Mullens

- Received grant funds for sidewalk repair
- Painted additional historic murals
- Recruited industry to move into motor barn facility, employing 27 people
- Received a \$1.2 million grant to build a new bridge to the motor barn facility
- Created community committees and task force to implement community projects

Richwood

- Established the Monday Night Group of citizens concerned about local drug dealers; they are setting up a Neighborhood Watch program and working on other community projects
- Received a grant to create a skateboard park
- Added another outdoor mural in the downtown
- Created a local youth group that organizes various community activities
- Received a Division of Culture and History grant to identify a historic downtown area
- Received a \$150,000 TEA-21 grant for sidewalk repairs and additions

Petersburg

- Established a Yard-of-the-Month program sponsored by the local Garden Club
- Removed traffic safety hazards on downtown street
- Received money for park and recreation facilities

Other Outcomes

- Several communities have used the CDT visit to establish long-term relationships with volunteers who served on the team
- Others have written joint grants with WVU faculty or have collaborated with team members through follow-up workshops.

Lady beetles are health concern

BY T. W. McCUTCHEON AND H. R. SCOTT
Extension Agents
WVU Extension Service

The multicolored Asian lady beetle, *Harmonia axyridis* (Pallas), an exotic nuisance pest, was first collected in West Virginia in 1992. The next year, the West Virginia Department of Agriculture (WVDA) and county offices of the West Virginia University Extension Service (WVU-ES) received many reports about the beetles invading homes in large numbers.

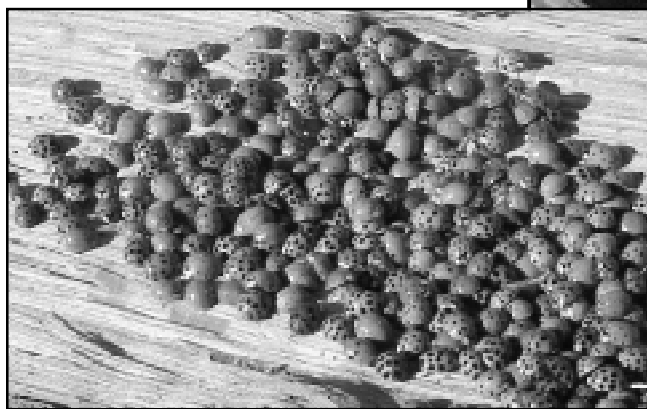
The Asian lady beetles have continued entering homes each October and staying through the first part of April. This significant nuisance generates the most pest calls received by the WVDA and WVU-ES.

Asian lady beetles are spread widely across the United States. There has been much debate about whether the beetle became established in this country from intentional releases between 1916 and 1985 or by accidental introduction on nursery items carried on ships from Asia.

Depending on the temperature, the beetle's life cycle from egg to adult requires about 36 days, allowing for multiple generations each year. The eggs are laid on the underside of leaves and hatch in three to five days. The larvae feed on aphids, scale, and other soft-bodied insects for 12 to 14 days and then pupate. Five to six days later, adults emerge.

In spring and summer, Asian lady beetle larvae and adults feed on more than 50 species of insects that are pests of ornamental roses, crepe myrtle, plum, peach, apple, magnolia, clover, cabbage, vetch, pine, tulip tree, maple, and other plants.

In the fall, the adults seek overwintering sites, often aggregating in large numbers. In West Virginia, this begins during the second or third week of October and generally continues through mid-November on warm, sunny days. Houses and buildings are attractive overwintering sites; beetles locate dark openings to enter the structures. When the temperature rises during the hibernation, the beetles will become active and often move into a home's living area.



Asian lady beetles aggregating under vinyl siding cause bad staining on this home near Parkersburg. In large numbers, the beetles clog the siding's weep holes. Eventually, the moisture buildup breaks through the holes, releasing a liquid mixture of insect debris, which results in unsightly stains.



For overwintering, the beetles are attracted to the sunnier sides of exposed, prominent, and usually light-colored buildings. Site selection occurs individually as beetles go to the structures reflecting sunlight. After arriving, the beetles may then respond to chemical and/or thigmotactic (touch) stimuli provided by other individual beetles, leading them to aggregate within the structure.

Although people have been told that Asian lady beetles are "good" or "beneficial" insects that control many insect pests, the public's attitude toward this type of biological control strategy has become negative. The beetles are a nuisance, and people report that they bite, get in food, stain walls and fabrics, wake them at night, smell bad, make the vacuum smell bad, and can distract or irritate them during many indoor activities.

Control recommendations have included sealing outside openings that are larger than 1/8-inch wide. This is impossible for many structures. Once the beetles are inside the house, it is recommended that they be swept up with a broom or vacuum.

Exterior sites can be treated with a residual formulation of synthetic pyrethroids in late September or early October before the beetles begin entering the structure. This does not provide 100 percent control, however.

Insecticide use inside the home is not recommended. Insecticides control only the beetles that are sprayed directly or walk over a sprayed area. Spraying wall voids would create a large number of dead beetles, which would attract other household pests. Also, because of the lack of tolerance for the beetles, some people could misuse insecticides and create a health risk in the home.

In 1998, U.S. Agriculture Secretary Dan Glickman announced that an indoor trap had been developed for indoor flying insects, including Asian lady beetles. However, there has been no published research on the trap's effectiveness.

Recent research has shown that monoterpenoids, which are plant compounds, may be useful in repelling Asian lady beetles from overwintering in buildings. Camphor and menthol were found to be the most effective. Researchers are developing a "push-pull" management strategy for Asian lady beetles. Repellents would be used to "push" beetles away from structures, and attractants would "pull" them to traps.

Because the Asian lady beetle has been identified as an allergen and a public health concern, the development of effective management techniques has become even more urgent.

Mark Your Calendar

May
30th West Virginia Agromedicine Conference, Days Inn Convention Center, Flatwoods.
Contact: David Workman
(304) 538-2373

June
2nd Friends Day at WVU Jackson's Mill (Bring the family; join the fun!)
Contact: Helen Hardman
1-800-287-8206

July
17th-20th 7th annual Aquaculture Water Reuse Systems Short Course, Shepherdstown.
Contact: Ken Semmens
(304) 293-6131, ext. 4211
23rd-28th West Virginia Poultry Convention and Festival, Moorefield.
Contact: David Workman
(304) 538-2373
27th-29th West Virginia Sustainable Fair, West Virginia Wesleyan College, Buckhannon.
Contact: Tom McConnell
(304) 293-6131, ext. 4237

Genetic engineering

Part 3: Current and future directions of transgenic crops

BY RAKESH S. CHANDRAN

Extension Integrated Pest Management Specialist, WVU Extension Service

Recent breakthroughs in genetic engineering have sparked heated discussions of national and international interests. Genetically modified organisms (GMOs) have played a silent but active role in our daily lives over the past few decades. Some medicines (insulin, vaccines, etc.) and common food products (bread, yogurt, cheese, etc.) are processed with the aid of genetically engineered microorganisms.

An estimated 60 percent of the items on the grocery shelves have genetically modified components. GMOs have undoubtedly become part and parcel of our daily lives. However, research on this technology's indirect effects on human health and the environment is continuing.

Based on current information, it is highly unlikely that research findings would pose major hurdles on the implementation of this technology. This final article in the series covers future directions of the technology.

According to the National Center for Food and Agricultural Policy (NCFAP), Bt corn plants (a hybrid capable of resisting the pest European corn borer) have saved 60 million to 70 million bushels of corn yearly that otherwise would have been destroyed by the European corn borer.

Bt cotton plants have eliminated the need to spray 2.7 million pounds of pesticides each year. Roundup Ready soybeans (a soybean hybrid capable of resisting the herbicide glyphosate) have reduced weed control costs by more than \$200 million per year.

More than 20 million acres of field corn, 10 million acres of cotton, and 40 million acres of soybeans were planted with genetically engineered cultivars last year. An NCFAP scientist says that this represents a significant acreage of U.S. agricultural production and notes that the crops have superior ability to withstand agricultural pests.

Dr. Val Giddings of the Biotechnology Industry Organization claims that approximately 40 percent of the food grown today is lost to spoilage, insects, diseases, and other postharvest problems. He says that such losses are preventable by using biogenetics.

Transgenic crops have had international success stories. Dr. Stanley Wallach of the American College of Nutrition says that more than 100 million children worldwide are deficient in vitamin A, a condition that may lead to as many as 250,000 cases of childhood blindness.

To address this devastating health crisis, a transgenic rice hybrid, commonly known as "Golden Rice," was created through biotechnology to produce beta-carotene, a precursor of vitamin A. Scientists also are trying to improve the nutritional profiles of many of the world's foods, to enrich crops with higher levels of iron and vitamins C and E. According to the World Bank, biotechnology could boost food productivity in the developing world by 25 percent, feeding more people while using fewer resources.

Dr. Gunter Blobel, a professor at Rockefeller University and winner of the 1999 Nobel Prize in medicine, says the following about the science of genetic engineering: "Cells have been dividing for over 3.5 million years, and each cell comes from a pre-existing cell. Continual division of cells has given rise to all organisms, starting from a single cell to the human cellular makeup as it exists today. It is all done, to a large extent, by genetic engineering.

"The problem is to sort it all out, and we will be better for it. Insertion of certain gene traits in plants or organisms may have some consequences that we don't intend, but more research will counteract it. Like all new technology, we must look at its benefits, risks, and the means (taken) to reach its goals."

Several transgenic crops are in the pipeline for the farmer. Two that may be of particular interest to West Virginians are herbicide-resistant alfalfa and herbicide-resistant turfgrasses.

Scientists also are genetically modifying potatoes to protect us against *E. coli* and tomatoes to protect against hepatitis B. Virus-resistant squash and tomatoes with enhanced flavor and extended shelf lives have been developed.

University of Florida researchers are working on citrus cultivars that could grow under colder conditions. The University of Berlin has even developed barley with a gene makeup that will help keep the foam on beer!

Genetic engineering is a branch of science still in its infancy, and we have yet to understand its long-term benefits and risks to human society and the environment.

Demand good at Wardensville Bull Sale

BY WAYNE R. WAGNER

Livestock Specialist, WVU Extension Service

For those of us from WVU who attended the Wardensville Bull Sale in March, the most frequently asked question the next day was: How did the sale go? At the sale, 88 Angus averaged \$1,658, four Herefords averaged \$1,625 and two Charolais averaged \$2,175. Prices ranged from \$1,000 to \$6,100.



Interest in and demand for the top bulls were good, but I don't think there were enough buyers. When buyers' needs were filled, some bulls remained to be sold. These bulls sold under their value. Some people took advantage of the situation and bought a spare bull—probably for insurance purposes.

It was obvious that several buyers had done their homework, studied the data, and looked at the bulls. It was apparent these folks understood the implications of their decision that day. After all, if you keep your own replacement females, 87.5 percent of the genetic makeup in your calves comes from the last three bulls used. I bought a bull for the University that day, and his genes should still be an influence in that herd long after I am gone.

After the sale, someone asked me why I had bought that bull. I did not give him a very good answer at the time. Afterwards, I remembered that I thought he was the best bull for the University herd. In my view, he was the most complete bull. He did not have the lowest birth weight expected progeny difference, the biggest spread between birth weight and yearling weight, or the highest average daily gain or weight per day of age.

However, he is a very sound, athletic, and good-footed bull with excellent scrotal size and semen quality. I intend to use this bull extensively this year. Some of the 60 to 65 cows he will be turned in with will be artificially inseminated first, but he will be expected to breed approximately 40 cows. This exceeds our typical recommendation for a yearling bull, but then I do not consider this bull to be typical. His structural correctness, fleshing ability, scrotal size, and semen quality suggest to me that I can get more out of him than the average bull.

I know some people think the bulls at Wardensville are too fat and can't breed cows. The truth is that with the right management, the good ones can handle rather large numbers. The poor ones cannot. In my opinion, management after the sale has a bigger impact than energy level on feed.

Kinsey's Oak Front Farm consigned the top-selling bull, Lot 94, for \$6,100. He was purchased in partnership by West Virginia University and Stevenson's Diamond Dot Angus Ranch in Hobson, Mont. The second high-selling bull, Lot 103, was also consigned by Kinsey. He sold for \$4,300 to Clarence Fibre Jr., of Clarksburg. The third high-selling bull, Lot 122, was consigned by Triple O Farm and sold to Triple G Farms, Dailey.

The high-selling Hereford bull, Lot 206, consigned by Terry Boggess, went to Hickory Spring Farm at Fairmont for \$2,000. Mouser Charolais Farm consigned the high-selling Charolais, Lot 303, which sold for \$2,300 to Darl Bolyard at Whitmer.

WVU UPDATE

The West Virginia University Extension Service and the WVU College of Agriculture, Forestry, and Consumer Sciences are pleased to offer this educational insert to the Farm Bureau NEWS as a service to West Virginians. We welcome your questions or comments.

Joyce Bower and Donna Colebank,
Editors (304) 293-4221

Pat Kerns, Graphic Designer

**Edmond Collins, William Grafton, John Jett,
Shelly Knight, Sue Miles, Wayne Wagner, and
David Welsh,** Editorial Planning Committee

Programs and activities offered by the West Virginia University Extension Service are available to all persons without regard to race, color, sex, disability, religion, age, veteran status, political beliefs, sexual orientation, national origin, and marital or family status.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Lawrence S. Cote, Director, Cooperative Extension Service, West Virginia University.

West Virginia University is governed by the W.Va. Higher Education Policy Commission, the W.Va. Higher Education Interim Board, and the WVU Board of Advisors.