

Beef industry's first goal: satisfy consumers

By WAYNE R. WAGNER

Livestock Specialist, WVU Extension Service

Change. There is plenty of it occurring in the beef cattle industry. If you do not like change, this is not an industry for you.

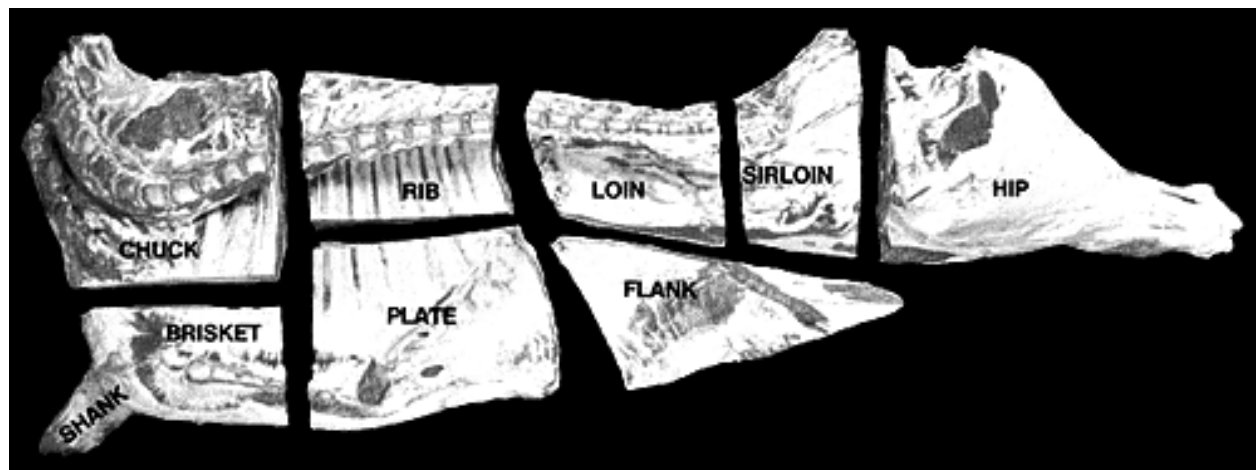
Beef industry leaders have determined (and rightfully so, in my opinion) that the industry must become more consumer focused. The National Beef Quality Audit of 1995 reported the following, among other findings, about our product:

1. – Not enough uniformity and consistency
2. – Inadequate tenderness
3. – Low overall palatability
4. – Insufficient flavor
5. – Excessive weights/size of cuts
6. – Not enough cattle in the higher USDA grades.

It is time for us to become more knowledgeable about our product—a food item. It is also time for us to become more dedicated to positively changing beef to satisfy consumers.

Instruments are being developed and studied to evaluate carcasses for tenderness and to provide more accurate assessment of carcass yield and quality grade. Within the next year, instrument assessment of yield is expected to be utilized in U.S. packing plants. This will help packers more accurately determine value differences due to yield of edible meat.

Just as exciting, but on a different front, is the identification of genetic markers. Researchers have begun to map the bovine



New technology offers better assessment of beef carcass yield, tenderness, and quality grade.

genome. So far that have located two markers for marbling, five markers for flavor and four markers for cholesterol. The next step is to validate these markers across the U.S. beef cattle population. If these markers prove to be indicative of marbling, tenderness, flavor and cholesterol, we would be able to do a DNA test to determine the presence or absence of genes affecting these traits. I believe, for example, that we will soon be able to evaluate bulls in the West Virginia Bull Evaluation Program for at least some of these traits.

More and more producers and groups are becoming interested in our product and collecting information. Nonetheless, the interest in branded beef products, alliances and value-based marketing is on the rise.

Take a look at such groups as PM Beef, Harris Ranch, Coleman Natural Beef, Farmland Supreme, U.S. Premium Beef, Northern Plains Premium Beef, Laura Lean, etc., and such

products as Certified Angus Beef, Certified Hereford Beef, and others. It is time for us to consider alignment with one or more of these products and/or alliances.

Is the beef cattle industry in West Virginia positioned to meet changing demands? Will we be able to meet the requirements for some of these new and emerging alliances and branded product lines? Some producers are, and some don't care. Some want to be, and some have no interest in change. Some believe the problems belong to someone else.

New terms and technologies are emerging, such as source verification and electronic identification. Producers who are responsible for problem products will be identified and discounted.

Beef demand is declining. The challenge for each producer is to decide whether to become part of the solution to change the decline. ■

Manage tall fescue grazing to your advantage

By EDWARD RAYBURN

Agronomy Specialist, WVU Extension Service

Tall fescue is the best forage grass for late fall and winter grazing and can effectively reduce livestock wintering cost. However, tall fescue causes animal production and health problems in some situations. Since tall fescue can provide major benefits and major problems, farmers' opinions on this forage species are often mixed and intense.

What gives tall fescue its Jekyll-and-Hyde properties is a fungus called an endophyte. About 80 percent of West Virginia's tall fescue has it. An endophyte grows inside another plant. It causes no apparent harm to the host plant and, in some cases, benefits the host. Tall fescue is such a case. The endophyte produces chemicals called alkaloids that protect tall fescue from insects and nematodes. That makes the plants more tolerant of marginal soil environments and harsh conditions.

When grazing animals consume too much endophyte-infected (E+) tall fescue, they exhibit a complex of performance and health problems called fescue toxicosis. Its main

effect on cattle appears to be on heat regulation and feed intake. It also can cause abortions and reduced milk production in animals that consume infected tall fescue during pregnancy.

In the heat of summer, cattle grazing endophyte-infected (E+) tall fescue spend a lot of time in the shade, in ponds or in creeks trying to keep cool. Heat stress can cause reduced feed intake and decreased animal performance. Early embryonic death in cattle during hot weather also may be related to heat stress.

Learning about the life cycle of tall fescue and its endophyte helps farmers to manage the plant to reduce fescue toxicosis. In cool, spring weather, the tall fescue plant is leafy and palatable. The leaf's growing point is at or below the soil surface. In the vegetative growth stage, the endophyte is located in the fescue's leaf sheath (the "stem" of the leaf below the flat blade). In May, reproductive tillers develop growing points that rise above the soil surface, pushing the seed head up through the leaf sheath. As the seed head and seeds develop, the endophyte invades the new seed. When the seeds fall to the ground and germinate, the endophyte in the seed infects the new plant, continuing the cycle.

E+ tall fescue can become a serious weed in pastures since infected plants are less palatable than other forages. Livestock graze on the tastier orchardgrass, bluegrass and clover, leaving

the infected fescue to grow and go to seed. Since infected seeds are vigorous and resistant to insects, nematodes and drought, they can be very competitive. This allows tall fescue to rapidly invade a field.

Manage for fall-winter grazing

Livestock producers have mixed feelings about tall fescue due to poor animal performance on this forage. There is seldom a problem when it is used within a system containing other forages, with the tall fescue being used primarily in the spring and winter seasons. The best use of tall fescue is for later fall and winter grazing. This is called stockpiling or deferred grazing.

Stockpiling is the accumulation of forage during a period of active growth for grazing when forage growth is slower. In late fall and early winter, well-managed stockpiled tall fescue is leafy, palatable and high in protein, sugars and digestible energy. When tall fescue is used in cool weather, the cattle are less subject to heat stress and perform better than when it is used in warm weather. Deferred grazing is a cost-effective way of wintering dry beef cattle, ewes and stocker cattle held for grazing the following summer.

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Adequate nitrogen will increase yield and quality of stockpiled tall fescue. Nitrogen can be provided by growing fescue with clovers or by applying nitrogen from commercial fertilizer, manure or chicken litter. Fescue needs adequate nitrogen to grow actively, produce proteins and accumulate sugars during the cool fall weather. The accumulation of proteins and sugars make the fescue more tolerant to freezing and provides a greener, higher quality forage for grazing.

Tall fescue fields having only a small amount of legume in them will respond well to nitrogen fertilizations if the other plant nutrients and soil moisture are available. Nitrogen-fertilized tall fescue will withstand freezing weather better than fescue grown with legumes.

When using nitrogen, apply 50 to 100 pounds per acre, depending on the amount of forage desired. Stockpiled tall fescue produces 0.50 to 1.0 additional dry matter per 50 pounds of nitrogen applied. Fertilizer nitrogen should be applied soon after stockpiling starts. If using urea, apply it just before a rain to reduce the loss of nitrogen by volatilization.

Tall fescue stands containing more than 30 percent legume will show little benefit from applying nitrogen for increased production. When legumes are used to provide nitrogen, the fall growth can be lightly grazed to use the legume before it is lost to freezing weather. Weaned calves can make good use of this high-quality legume forage, and you can then save the grass for later use by dry cows. If the legume forage is not used before or shortly after frost, the usable forage yields from legume-tall fescue stands will be reduced.

Tall fescue stands containing clover or lespedeza should be grazed close during the winter or spring to encourage the establishment of legume seedlings. Dragging the pasture in



Tall fescue seed head, plant crown.

Research shows that stockpiled tall fescue yield is determined by the number of days the stand is allowed to stockpile (Days) and the rate of nitrogen fertilizer applied (Nrate). The dry matter yield will vary due to differences in fall weather, soil conditions and management before stockpiling and at harvest. The following equation predicts the effect of days regrowth and nitrogen rate on December dry matter yield per acre. (Prediction error over three years was +500 pounds per acre, or lb/a.)

early spring will spread the manure and seeds, ensuring a better distribution of seedlings and plant nutrients. By grazing the area after dragging, the cattle will walk the seed into the soil surface, improving seedling establishment.

Start stockpiling now

Stockpiling tall fescue for winter grazing has to be planned. Due to low light intensity and cool temperatures, little forage growth occurs after mid-October. For high yield and quality, stockpiling of tall fescue should start between mid-July and mid-August. The earlier stockpiling starts, the greater the late fall and winter yield will be. If fescue is stockpiled before July, quality will be lower but yield will be about the same.

Dry matter yield lb/a =

$$(17.6 \times \text{Days}) + (0.0825 \times \text{Days} \times \text{Nrate}) - 767$$

The quality of stockpiled tall fescue is adequate for beef cows and ewes and is better than much of the hay put up for these animals. If fertilized with 50 to 100 pounds actual nitrogen in July or August, the forage harvested in early December will yield 2,000 to 4,000 pounds dry matter per acre, containing 11 to 16 percent crude protein and 60 to 65 percent digestible energy.

To decrease forage waste and provide uniform animal nutrition, strip graze the stockpiled tall fescue. If animals are allowed free access to stockpiled tall fescue, they will eat only a part of the forage and trample much of the feed into the ground. By providing only what the herd will consume in one to seven days, you can ensure that more forage will be eaten and less walked into the ground.

One acre of a dense 8- to 10-inch high tall fescue stand will feed 50 to 60 1,200-pound cows for one day. In extremely cold weather, forage intake may be higher.

Cattle will graze stockpiled tall fescue through fresh snow up to 8 inches deep. However, if the snow has a hard crust, cattle will require supplemental feeding. Sheep learn how to paw snow off stockpiled feed and can graze through the snow as well as or better than cattle.

Close grazing will increase forage use and decrease the competitive nature of infected fescue. This helps maintain more legumes in the stand. If you have endophyte-free tall fescue, leave more stubble (2 to 4 inches) at the end of the grazing cycle to provide for a vigorous growth that will help to ensure long-term stand persistence. When grazing tall fescue during cold weather, livestock do not refuse the forage near manure piles as they do during summer grazing. ■

Cost per unit is best yardstick for profitability check

By **TOM MCCONNELL**

Farm Management Specialist, WVU Extension Service

There is no greater threat to the survival of the American farmer than the lack of profitability. Bankers look for profitability, and families need it.

No one can deny the success of a manager who is turning a profit. But, how can that success and that profit be measured? For managers trying to analyze their specific operations or consider a management change, the most important bit of financial information is the cost per unit of production. For cow/calf producers, this is the cost per pound of calf produced.

This point can best be illustrated by reflecting on the yearling and feeder calf prices of the last three years. Backgrounders sold their heifers three years ago at around 50 cents a pound. That was bad. However, they could replace their yearlings with calves for nearly the same price per pound. That appeared to correct that problem. When they sold those cattle nearly a year later, the price was nearly 70 cents per pound.

So, the backgrader recovered and enjoyed a good year at the apparent expense of the calf producer. Had the backgrader improved his or her management to turn a dismal year into a windfall? Or, was it the calf producer doing something wrong and then seeing per-calf income drop to half that of the previous season?

Neither question is fair, and neither can be answered using profit as the measuring stick. For the manager to evaluate what

happened, he or she must determine what it really cost to produce each pound of yearling or calf. Knowing that cost, managers then can make appropriate adjustments.

The cost per unit of production can show the manager what impact a price swing had on the operation. More importantly, it also can expose the real progress made toward a more efficient production unit. Profit is mandatory for survival, but only cost per unit of production analysis can help a producer track management efficiency.

Arriving at this figure can be as simple as using the total cost from a Schedule F form and dividing it by the pounds of calf weaned or sold. The manager can then glean more detailed and explicit information from this basic data by changing the formula. This can be illustrated by using the same Schedule F and, considering only feed purchases, dividing that figure by the pounds of calf weaned or produced. The manager has many options to consider, but most agree that using that simple figure is a great start.

What else can you do with a cost per pound of production analysis? Consider the same 1995 cattle prices. Many farmers considered buying more cows or culling fewer cows to give the operation more calves to sell. If a comparison of cost per pound of calf was applied to the actual pounds of calf (heifer or steer) a cow produced, a farmer would know which cows to consider for culling. Since there is no point to keeping cows producing below the break-even price, replacement heifer decisions would be easier as a result of this analysis.

The cost per unit principle then allows for a comparison within your operation rather than a comparison with your neighbors'. Perhaps a cow just isn't suited to your farm's environment. It is imperative to know how individual cows rank in the herd. Some very well-bred and young cows don't

match your management. This analysis helps you identify those cows and take appropriate action.

Comparison between herds, although not as important as a day-to-day management tool, has some utility. Being able to look at your inputs keeps you informed as to your relative success at cost containment. Using feed as an example, if your feed costs are 25 percent higher than a population you choose for comparison, a closer look at your feed costs might be revealing. Continuing along this comparison, if a change were incorporated relative to your feed costs, you will be able to measure the impact of that management change in next year's analysis.

Some caution on comparisons is in order. Recently, shepherds attending a meeting on this topic revealed that their cost per pound of lamb produced varied by almost 40 cents. Every producer denied losing money; so, there must have been different production goals. The point here is that goals must be made very clear before analysis can be helpful.

The most important comparison derived from this exercise is that of a single operation from one season to the next. The manager can determine if the problems identified and the actions taken have made a difference.

Where do you start? Just get your Schedule F, which provides your calf receipts, and grab a calculator. If you want a more formal exercise, use the West Virginia Quickview Analysis Sheet found on the WVU Extension Service's farm management web site, or ask your accountant or bookkeeper to help you. While you are looking at your records, you might want to examine the last several years and calculate that one powerful figure—the cost per unit of production. ■

Get your cattle ready for feedlot program

By **WAYNE R. WAGNER**

Livestock Specialist, WVU Extension Service

Cattle from the 1997/98 West Virginia Feedlot and Product Information Program have been harvested. We are just beginning to assemble the data and information. We also are beginning to plan for the next group of cattle to be fed. The requirements for 1998/99 are as follows:

1. Participants must be current members of the West Virginia Cattlemen's Association. (For membership application, contact Jim Bostic, WVCA, at 304/472-4020.)
2. Steer and/or heifer calves should be born after about Dec. 1, 1997.
3. Minimum consignment is five head, and there is no maximum. Sire groups of five head or more are encouraged but not mandatory.
4. Steer calves should weigh 550 to 750 pounds by the delivery date. Heifers should weigh 525 to 725 pounds at delivery.
5. Calves should be weaned at least 30 days and preferably 45 days (Sept. 25) before delivery. They should be started on feed, taught to eat out of feed bunks and taught to drink water from a trough.
6. Calves must be vaccinated for the following between Sept. 22 and Oct. 1, except as noted below: 7-Way Clostridial (two injections 2-4 weeks apart); IBR, PI3, BVD, BRSV, and Lepto 5 (Use Cattlemaster 4 + I5 or similar product.



Do these animals measure up to beef industry standards? Cattle can't talk, but the Feedlot and Product Information Program tells plenty.

This requires two injections 2-4 weeks apart, and second injection should be no later than Oct. 26.); Pasteurella (time of vaccination depends upon product used).

7. Cattle must be treated for grubs and dehorned. They will be dewormed and implanted at the feedlot. (Calves should not be implanted within 60 days of being shipped.)
8. Nomination fee of \$40.00/head is due by Sept. 28 and MUST accompany nomination form. Fee is forfeited if cattle are not delivered to feedlot, but will be applied to transportation costs for those cattle delivered. (It is important that cattle nominated be delivered to the feedlot test.)

9. Approximate delivery date is Nov. 9. Pickup points will be announced and will depend upon the locations from where the cattle are being consigned.

10. Cattle probably will be marketed on a grid most suitable to the kind of cattle being fed.

For an application for the West Virginia Feedlot and Product Information Program, contact your county's WVU Extension Service office. Or, call Jim Bostic, WVCA, 304/472-4020 or write to Wayne Wagner at P.O. Box 6108, Morgantown, WV 26506-6108. ■

Source verification data? Check the tags

By **PHIL OSBORNE**

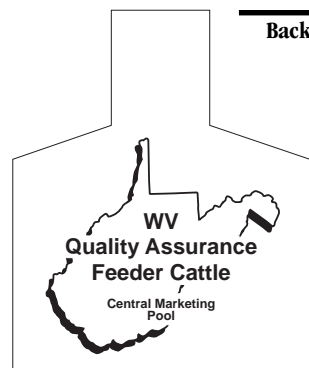
Livestock Specialist, WVU Extension Service

The ear tags your calves are sporting will soon reveal more history than just the sire and dam. Consider these tags your ticket to the new value added marketing systems.

Emerging beef marketing alliances nationwide are attempting to change from commodity-style marketing, which is based on purchasing and selling on averages, to a value based system. Beef alliances operate under a grid or matrix system that assigns premiums or discounts based on individual animal quality. Producers pool together their resources to improve efficiency, product quality and increase profitability. More than forty beef alliances are operating today, and all are using a value based payment program.

All beef alliance or value based marketing programs are dependent on a system of accounting that allows for the collection and distribution of data. That requires a good source verification program that permits the flow of information from the producer through to the consumer. The introduction of the Hazard Analysis and Critical Control Points (HACCP) system to protect the safety of our food supply also requires identification and source verification.

The West Virginia Quality Assurance (QA) Feeder Calf Sale uses an identification program that allows for accountability of calves in each pool or load sold. Every calf within a pool is uniquely identified with an eartag in order to trace outstanding performance or potential problems back to the point of origination.



New tags stress accountability, enabling buyers to trace outstanding performance or potential problems back to the source.

A number of the calf pools have begun to utilize source verification. The eartags allow the feedlots receiving the calves to be able to identify those with the WVQA Program. Without this information, the identity of a calf or marketing program many times is lost since the calves are often co-mingled with so many others.

The WV Quality Assurance tag is designed with the outline of the state, the program title and individual calf pool name on the back. The front is stamped with a unique number within the

pool and a symbol often called the flying WV. The flying WV allows for quick identification of the calf as a product of the QA program and helps to distinguish these animals from the many other calves wearing yellow and white eartags. The flying WV is a patented trademark of West Virginia University, and WVU has granted the program permission to use it.

The color of the eartags indicate the QA health program followed. The yellow tags represent the Gold Program of vaccinated and weaned calves. The white tags represent the Silver Program prevaccinated calves.

The WV Quality Assurance eartag provides the buyer with some specific information. First, the animal can be traced to a specific pool and individual owner. The color of the tag identifies the health management program utilized. Each buyer can learn what vaccination products were used and when. Some pools are beginning to gather Expected Progeny Difference data on the sire of the calves.

Some feedlots are beginning to collect individual carcass data and are sharing this information with the producers in the pool. The data would have little value without a good ID and source verification system.

Other programs around the country are utilizing source verification systems as a means of exchanging information. The American Red Angus program is one of the first to have a certification program approved by the U.S. Department of Agriculture. Virginia Cattlemen's, as well as many other states programs, use special tags for program accountability and promotion. Dave Nichols, a seedstock producer who sponsors the Nichols Genetics Feeder Sale, uses a bar-coded eartag. The National Cattlemen's Association even has appointed a group to study the possibility of a national cattle identification system.

The value of source verification is clear. As these programs develop, West Virginia beef producers should get ready to take advantage of this component of value based marketing. ■

Quality Assurance Sales appeal to risk-weary buyers, sellers

By **PHIL OSBORNE**

Livestock Specialist, WVU Extension Service

Discriminating feeder calf buyers are looking forward to the upcoming West Virginia Quality Assurance Sales Sept. 29 in Buckhannon and Oct. 9 in Franklin.

Each year, these statewide QA sales feature some of the finest cattle genetics coupled with an industry accepted and proven health program. The QA calves have proven to be a valuable risk management product for buyers and producers.

Quality Assurance Sales evolved from the early prevaccinated feeder calf sales held at Jackson's Mill in the mid 80s. Several producers prevaccinated and pooled their calves together into load lots and offered them each year on a board sale. The initial reason for pooling was producers' inability to physically deliver all their calves to the barn due to distance and the long waits in line they faced to get unloaded.

The first sale in 1985 featured about 300 head of calves in five lots. The 1997 sales at Buckhannon and South Branch stockyards featured 3,000 head of calves.

In post-sale follow-ups conducted each year, calves sold on the board sale receive higher marks over the prevaccinated calves sold in the barn. Fewer of the board sale calves were treated for respiratory problems and shipping fever than calves sold in the barn. Since all calves were vaccinated the same, the only explanation for the difference, was that the stress of hauling and assembling the barn sale calves challenged their immune system. The calves sold on the board sales were gathered and delivered to the destination in the same or less time than it took to prepare for an in-barn sale.

The QA sales use a two-tier health program. Calves in the Gold Program undergo a complete prevaccination regime 14 to 21 days before weaning. The calves get a booster vaccination for the respiratory complex and are weaned at least 30 days before delivery.

Some producer pools have adopted the Gold Program for the convenience of being able to gather and assemble calves from a number of producers or from a larger market area. It can be quite a challenge to assemble three loads of calves with 48 hours notice from 18 producers with cattle spread over 2,200 acres. Still, the real plus of the Gold Program is the success the buyers have had with the calves from an animal health and performance perspective.

The Silver Program is limited to the prevaccination component of the Gold Program, and administration is required 14 to 21 days before delivery. The prevaccination health programs for the Silver and Gold tiers are identical. This allows buyers to choose calves from both tiers and co-mingle them in the lots. Because all calves have been treated the same, the booster programs administered at the feedlot will be more compatible. The expense of the vaccination program is minimal, usually \$6 to \$7.50 per head.

QA a win-win

When preparing for sale, a little management goes a long way toward reducing the risk of shipping fever and protecting the reputation of your calves. A review of last year's feedlot closeouts shows that calves requiring treatment cost the feedlot \$20 to \$30 per head.

Sometimes a real wreck occurs when calves have not been properly vaccinated and lack the immunity to ward off the challenges of respiratory infection. If weather and other stress-related conditions work against you, it is not uncommon for 30

West Virginia Quality Assurance GOLD PROGRAM

IBR, PI 3, BVD
7-Way Clostridium
BRSV
H.somnus
Lepto 5
Pasteurella
Internal\External parasite

Boostered and weaned 30 days prior to pickup

West Virginia Quality Assurance SILVER PROGRAM

IBR, PI 3, BVD
7-Way Clostridium
BRSV
H. somnus
Lepto 5
Pasteurella
Internal\External parasite

Pre-vaccinated 21 days prior to pickup

percent or more of the calves to require treatment. You could even incur some death loss.

Granted, QA calves command a little higher price, but it's a win-win situation for both buyer and seller. Buyers get what they pay for. All calves eventually have to be vaccinated and weaned. The cost will be absorbed either before or after purchase. If vaccination and weaning takes place before the sale and before shipping, the return on the dollar and risk reduction will be realized in improved performance and minimal health-related problems. All calves in the QA sale are vaccinated in the neck region, subcutaneously if possible to avoid carcass blemishes.

An objective of the QA sale is to offer genetically superior calves with predictable performance. The term "Performance Advantage" is used to describe those calves sired by performance tested bulls. The young sire evaluation programs, such as the Wardensville or the Southern Bull Test, are good sources of advantage sires. A few of the pools offering calves on the QA sale have set requirements that all calves be sired by performance advantage bulls.

Minimum level of yearling weight Expected Progeny Differences (EPD) for qualifying sires that have not originated in the test program has been set at the breed average for all breeds except Charolais, Gelbvieh, and Simmental. These three breeds inherently have greater potential for growth and the minimum is set at the top 70 percent of the breed. (*See accompanying table for the EPD averages of some of the more popular breeds.*)

As with any new program, early adoption requires the "payment of dues" and the challenges of a new learning curve before success is achieved. Some of the earlier marketing pools are beginning to benefit as quality and uniformity of their calves improve.

A 12-year summary of receipts from the Morgantown calf pool has shown a \$77.00 per head advantage over the state graded feeder calf price. It is likely that most of the calves would have brought more than the average price without participating since many of the calves would have been above average anyway. However, when the group marketed its first calves there was very little difference from the average in price and pounds of calves marketed. With some established goals

EPD Breed Minimums for Bulls Born During 1996 & 1997

(Most recently available data for '97 born bulls)

Breed	Yearling Weight	Weaning Weight
Angus	51.0	28.5
Charolais	-1.5	-1.3
Gelbvieh	5.0	2.0
Hereford	50.2	29.2
Limousin	17.0	9.0
Red Angus	36.7	23.4
Salers	14.6	8.9
Shorthorn	24.8	15.5
Simmental	42.2	26.5

If a yearling weight EPD is not available for a particular bull, then the bull's weaning weight EPD must meet minimum established levels.

and objectives, the uniformity of the cattle has improved over time with respect to confirmation and performance. The average weight marketed is now nearly 100 pounds above the state average, and producers still realize a price advantage above the state average of the graded sales.

Producers participating in marketing pools are beginning to realize savings in other areas, such as supplies, feed, vaccines, transportation and even sharing a trading of bulls. The feeder calf marketing pools allow small producers to function with the advantages of the large producer.

If you are interested in participating in a feeder calf pool, contact your county's West Virginia University Extension agent, your local livestock market, or a state Department of Agriculture cattle for contacts in your area. ■

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.

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