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Beef Training Camp Program Launched



New beef industry training tools provide retailers competitive edge

by Charlene Schuster, Executive Director, Montana Beef Council

Montana beef producers are part of the launch of Beef Training Camp, the most comprehensive retail training program in the meat industry, assembled on behalf of the Beef Checkoff Program.

The Beef Training Camp will help retailers large and small enhance their meat departments through convenient training tools that provide guidance for improving beef merchandising at the meat case. Beef Training Camp is unique in that participating retailers have the opportunity to tailor training topics and activities to specifically address issues and challenges facing their meat departments.

Utilizing a sports theme throughout all materials, Beef Training Camp provides participating retailers with a detailed instructional manual, training video and interactive CD-ROM. The materials provide a variety of information on all things beef, including consumer trends, cooking methods and an overview of beef's nutritional attributes, plus consumer and retail food safety practices.

Retailers also have the opportunity to request a live training seminar to supplement the Beef Training Camp materials. Seminars, coordinated and facilitated by the key account managers from NCBA and the Montana Beef Council staff or by individual retailers, run approximately four hours and include the opportunity for hands-on cooking demonstrations if the facility permits.

Beef Training Camp is a revitalized version of the Beef College pro-

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Producer Profile: Les and Chris Arthun

By Marty Malone, Extension Agent for Park County

The Arthun Ranch in northern Park County is home to 550 black cows and also produces grain and hay to balance the operation. Les is the third generation to run cattle in this part of Montana. In 1904, Louie Arthun homesteaded on Sixteen Mile Creek near Ringling, which was named for the Ringling Brothers, who built a spur to White Sulphur Springs from the Milwaukee Railroad to provide transportation for their rodeo stock. Ringling is also famous for a Jimmy Buffett song, J.T.'s Bar and the Ringling Five. Les is a founding member of the Ringling Five, a group of singing ranchers of which the owner of Nordie's Store in downtown Wilsall said, "They still can't carry a tune, but at least they are consistent."

Les graduated from MSU with a degree in Animal Science in 1977. The Ringling Five started while Les and several other young men from the area were attending college. While singing for fun, the group became known as the Ringling Boys and later became the Ringling Five. They now appear at 30-40 concerts during the year singing and entertaining crowds throughout the Northwest. Les is on the road for nearly two months every year, and Chris and the rest of family care for the ranch in his absence. The concert dates often happen during haying and calving season. The Ringling Five now has three music CDs and a recently released DVD. Everyone in the cow business or who has an appreciation for homegrown music should have a copy. Their website is www.ringling5.com

Les and Chris love to ranch. Les's dad, Carl, taught Les to work hard and be a good steward of the land. According to Chris, "Les's dedication to ranching was evident in the fact that it took him two years to ask me for a date after getting my phone number from my mother." Chris said she

just figured that he was busy ranching. When asked if they were ever interested in selling the ranch, Chris emphatically stated that they are not interested in selling land despite the high prices being offered for land in Park County.

Leif, the oldest of the next generation, is following in Les's footsteps. Leif is a senior at MSU in animal science and a member of the MSU track team. Courtney is a sophomore at Rocky Mountain College majoring in exercise science, while Brock is majoring in football at Shields Valley High School. Leif is anxious to return to the ranch.

The headquarters of the Arthun Ranch is on the exact site of Shields, Montana. The town of Shields was, at that time, the end of the rail line. Ranch property extends from Wilsall north for 18 miles. When asked why the ranch is that long, Les replied that his dad purchased land when and where the price was right. He turned down the offer to purchase adjoining property, and instead purchased property near the northern border of Park County for 75% less.

The ranch consists of irrigated and dryland property. It is well balanced and produces all the hay necessary for the cow herd plus grain for a cash crop. Carl saw the need for irrigation and was very instrumental in establishing the Shields River Canal and Cottonwood Reservoir to ensure a stable water supply. The first pivot sprinkler in the Shields Valley was purchased by the ranch in 1979—the same year that Les told his Dad he wanted to be a part of the ranch. While attending MSU, Les had been on several ranch tours where ranchers were making the best use of the water and labor available. Since that time, additional pivots and wheellines have been placed on the property to expand the irrigated acres and reduce labor costs.

Cooperative marketing and buying

The extended Arthun Family has always marketed their calves as one lot. According to Les, buyers are very interested in purchasing large lots of quality calves that are raised in the same area. Late calves are put into the yearling herd. One of the more interesting aspects of cooperation is purchasing land together. The second generation purchased several large ranches together and then divided them later after the sale. One ranch that was purchased was originally owned by Will and Sally Jordon, a couple that has two Montana towns named after them: Wilsall and Jordon.


Challenges to the ranch

Calving and concentration of livestock are major challenges for the ranch. All of the cows are calved at the headquarters. Vaccination is a high priority. They haul pairs away from the calving area as soon as possible to prevent disease from spreading. Les would like to have more land near the headquarters to allow cattle room to spread out in late winter after calving.

Beef Training Camp, cont.

gram. While nearly 5,000 retail meat managers and staff participated in Beef College, Beef Training Camp is expected to reach a larger audience by providing retailers with the convenience of attending a live seminar and/or utilizing interactive print, video and computer training materials.

Those interested in learning more about Beef Training Camp should visit the beef industry's retail Web site, www.BeefRetail.org or contact the Montana Beef Council at 406-442-5111.

Beef: Questions & Answers is a joint project between MSU Extension and the Montana Beef Council. This column informs producers about current consumer education, promotion and research projects funded through the \$1 per head checkoff. For more information, contact the Montana Beef Council at (406) 442-5111 or at beefcncl@mt.net 

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New Tools for an Old Problem:

Mechanical renovation of dense clubmoss-infested rangeland

by Tracy Brewer, Research Assistant Professor of Range Science, Joe Skeen Institute for Rangeland Restoration, Dept. of Animal and Range Sciences, Montana State University



Dense clubmoss (*Selaginella densa* Rydb.) is a low (usually < 1 inch in height), mat-forming, native, perennial forb that behaves as a thin layer of sponge across many acres of rangeland in the United States. It is distributed throughout the Great Plains, Great Basin, and Rocky Mountain region and is most common on mixed-prairie rangeland of Montana, Alberta, Saskatchewan, and North Dakota. Dense clubmoss has no grazing value to cattle and low forage value to wildlife and other livestock. Heavy infestations create dense mats on the soil surface that decrease water infiltration, forage yield, and biological diversity.

Because it impedes the establishment of other plants, dense clubmoss inhibits plant succession and is largely unaffected by changes in the timing, intensity, or frequency of grazing. Prescribed livestock trampling is an effective tool for small, localized infestations, but chiseling (i.e., chisel plowing) has been the most common method for treating large infestations of dense clubmoss.

Some landowners and resource managers, however, consider the high degree of soil disturbance caused by chiseling unacceptable. After chiseling, the ground surface is too rough to traverse by horseback or in a vehicle, and the physical appearance of recently chis-

eled rangeland is aesthetically displeasing to many people.

The Tar King Plant-O-Vator and the Lawson Aerator are two alternative implements currently endorsed by some Montana landowners. These new mechanical treatment options purportedly cause less soil disturbance than chiseling, but the efficacy of these new methods has not been evaluated experimentally. In response, researchers at Montana State University in Bozeman have implemented a study to evaluate both the Tar King Plant-O-Vator and Lawson Aerator for rehabilitating dense clubmoss-infested rangeland. The study is being conducted on dense clubmoss-infested, mixed-prairie rangeland on the American Fork Ranch, a working cattle ranch located approximately 17 miles south of Two Dot. The study is comparing the effectiveness of the Tar King Plant-O-Vator, Lawson Aerator positioned at a 5 degree angle, and Lawson Aerator positioned at a 10 degree angle. Spring versus fall treatments are also being compared. Fall treatments were applied in October 2003 and spring treatments were applied in April 2004.

Short-term results indicate that spring treatment reduced dense clubmoss ground cover more and fostered more grass production than fall treat-

ment. Spring treatment reduced dense clubmoss ground cover from 48% before treatment to 24% in July 2004, while fall treatment reduced dense clubmoss ground cover from 48% to 31%. Grass production in July 2004 was 405 lbs/acre following spring treatment, compared to 341 lbs/acre following fall treatment.

Dense clubmoss ground cover was reduced from 48% to 25% and 23% following treatments with the Tar King Plant-O-Vator and Lawson Aerator positioned at 10 degrees, respectively, while dense clubmoss ground cover declined from 48% to 34% following treatment with the Lawson Aerator positioned at 5 degrees. In the short-term, grass produc-

Table 1. Vegetation response to mechanical treatments

	Pre-Treatment	Fall Treatment	Spring Treatment
Clubmoss Ground Cover (%)	48	31	24
	Untreated	Fall Treatment	Spring Treatment
Grass Production (lbs/acre)	607	341	405
	Plant-O-Vator	Aerator at 5°	Aerator at 10°
Clubmoss Ground Cover (%)	25	34	23
Grass Production (lbs/acre)	395	402	323

National Animal Identification: Background and basics for cattle producers

by John D. Lawrence, Iowa State University Extension Economist and Director, Iowa Beef Center, and Rachel E. Martin, Communications Specialist, Iowa Beef Center

The National Animal Identification System (NAIS) is a system to identify animals and the premises where they have been, in order to provide the potential to identify and isolate threatening diseases. The cattle system is expected to use individual identification with information of the animal's current and previous locations and dates of transfer, sent to a central database. The details of a national plan are still being developed and debated, and changes may occur before finalized. This article is an attempt to help producers understand the NAIS as proposed and interpreted.

Background and current status

A national animal identification (ID) system that provides the potential to trace animals diagnosed with a threatening disease is fundamental to protecting the economically important livestock and poultry industry in the U.S. While national ID will not prevent a disease from infecting animals, it provides a mechanism to quickly identify, isolate, and monitor potentially infected animals to control an outbreak and instill confidence in domestic and export customers. Although discussions on a framework for a functional ID system have been ongoing for a number of years, the discovery of one cow with BSE in Washington has made a national animal identification system a priority. The NAIS was announced in April 2004 and is a work in progress. It builds upon the U.S. Animal Identification Plan (USAIP), which was presented in October 2003 to the U.S. Animal Health Association. The USAIP was developed by the National Institute for Animal Agriculture (NIAA) Committee beginning in 2002. This public-private partnership led by USDA-APHIS (Animal and Plant Health Inspection Service) included over 70 organizations representing the livestock sector and technology suppliers. The motivation for the plan was to enhance disease control and containment to protect U.S. animal health, mitigate threats to biosecurity of the food supply, and maintain and build access to global markets. Its goal is to have a traceback system that can identify all animals and premises potentially exposed to a foreign animal disease within 48 hours of discovery.

The timeline in Table 1 was proposed by the USAIP Cattle Working Group. It recommends phasing into NAIS over the 2004-2007 period. Premise identification is expected to begin in late 2004 as will several USDA-funded pilot projects evaluating different implementation strategies.

Table 1. Proposed implementation timeline for NAIS

Introduction 2004-2005	Infrastructure 2005-2006	Implementation 2007
Establish premises ID system	Establish IT infrastructure	Test analysis and validation of overall program
Education and outreach	Establish RFID reader infrastructure	Determine critical mass to achieve goal
Conduct test strategies	Implement tag distribution system	Required participation with government funding
	ID cattle/report movements	

The proposed system

The NAIS includes beef and dairy cattle, hogs, poultry, sheep, goats, horses, cervids, camelids, and aquaculture. Cattle will likely use individual animal ID with radio frequency (RFID) ear tags. The tags only have an electronic number that is used with a database to store other data. NAIS calls for standardized technology to eliminate the need for multiple tags and readers. Hogs and poultry that are handled in groups are identified as a group. Breeding animals treated as individuals will be identified as such. All premises will have a unique premise number assigned by the state veterinarian. A premise is an identifiable location of production or where animals are located (building site, farmstead, auction market, packing plant, etc). Extensive grazing operations will probably use headquarters as the premise.

The proposed system for cattle

Animals will be tagged before they leave the farm of origin, the initial premise. The tag will be read every time animals change premise. For example, calves sold at an auction market to a feedlot will have the tag read entering and exiting the auction facilities. Four pieces of data will be forwarded to the national database each time the animal changes premise:

1. Animal ID number
2. Premise number that the animal is leaving (the cowherd farm in this example)
3. Premise number that the animal is entering (the auction market)
4. Date and time of transfer (when it arrives at the auction).

When the cattle leave the auction to go to the buyer's premise, the tag will be read again with the animal leaving the auction premise and assigned to the feedlot premise at the time the cattle are moved. This will allow the animal to be traced to every premise it entered and when, and can

identify other animals that were at the same premise at the same time. The system will also know where animals are at any point in time including if they have been slaughtered, if an animal disease traceback is needed. Private sectors firms will sell and service the tags, hardware, and software and will send the four pieces of data to the national database. Only approved federal and state veterinarians conducting an approved traceback will have access to the NAIS database. The database will not be available to the general public or producers, even if they own the animal.

Producer responsibility

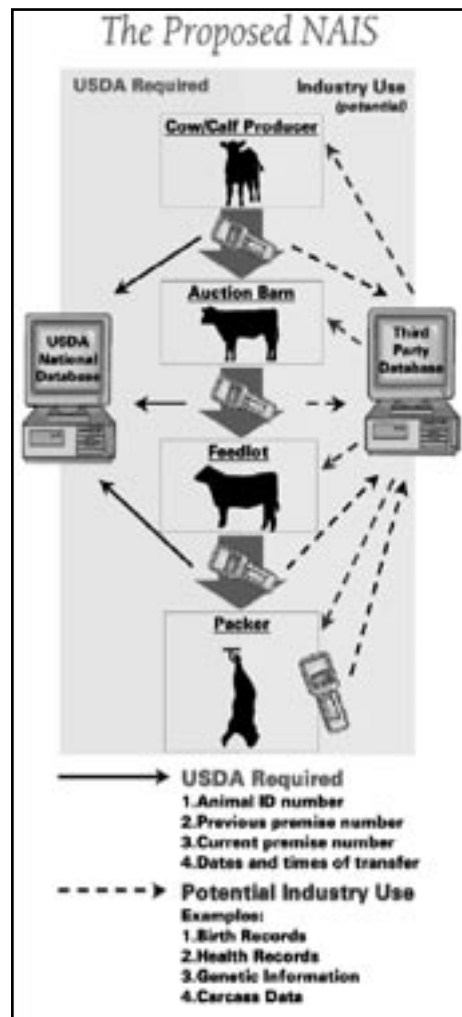
Individuals will be responsible for premise registration, tagging the animals with NAIS approved tags, and seeing that the data are sent to the national database. However, auction markets and other initial collection points may be designated tagging locations and can apply the ear tag and read the data for producers that do not have the head gate or reading equipment. Exceptions for lost tags will be made within normal limits.

Issues and concerns

How will NAIS keep the data confidential and protected from the Freedom of Information Act (FOIA)?

It is proposed to designate Agriculture a critical infrastructure to protect information from public disclosure.

Who will pay for the national ID system? A public-private partnership has been discussed. It is expected that producers, markets, processors, and the federal government will all contribute. USDA announced \$33 million initially for national ID program, and the bills introduced in



Congress included funding. The infrastructure that will be required for the national system will provide opportunities for greater transfer and analysis of production and carcass data.

Where does the producer's responsibility end? It is currently unclear where the identification to the farm ends. In Canada, the farmer's responsibility ends at the federal inspector. This will have to be clearly defined to assure producer confidence.

Who is responsible for capturing the data and sending it to the database? At this time, it is unclear if it will be the buyer's or seller's responsibility.

Summary

The development of a national identification system is a significant change from the way we do business today, and will take considerable time and resources to develop and implement. The process is beginning. The NAIS provides a framework for national ID, but the details are still evolving. Pilot projects are underway to evaluate the proposed system. The logistics and details may change as more is learned about the capabilities and costs involved in such a system. A transition period will likely begin in the coming months to

move the U.S. towards full implementation. This article is intended to help you better understand the concept and to be prepared for national ID as it is phased in.

For more information, visit www.iowabeefcenter.org or www.usaip.info.

Editorial Note: Issues related to National ID continue to change. This article was written in August of 2004.



Clubmoss, continued from p. 3

tion was reduced by all three treatments when compared to untreated areas. Untreated areas produced 606 lbs/acre of grass, while treatments with the Tar King Plant-O-Vator, Lawson Aerator positioned at a 5 degree angle, and Lawson Aerator positioned at a 10 degree angle resulted in 395, 402, and 323 lbs/acre of grass, respectively.

In general, spring treatment may benefit dense clubmoss-infested rangeland more than fall treatment the first summer following application. Although the Lawson Aerator positioned at 10 degrees reduced dense clubmoss ground cover relatively well, it caused the most disturbance to the ground surface, result-

ing in reduced grass production. Treatment with the Tar King Plant-O-Vator appeared to provide the best balance by reducing ground cover of dense clubmoss relatively well and producing similar grass yield as the Lawson Aerator positioned at 5 degrees. Data will be collected on this site again in July 2005 to evaluate responses two growing seasons after treatments are applied, which will ultimately be more informative for evaluating the efficacy of these techniques.

This information is for educational purposes only. Reference to commercial products or trade names does not imply discrimination or endorsement by the Montana State University Extension Service.



Ask JOHN A NUTRITION QUESTION:



I have been asked several questions about feeding wheat this winter to calves and cows. The following recommendations come from the beef nutritionists at Kansas State University.

What is the value of wheat in beef cattle rations?

Wheat is an excellent feed grain when priced competitively with corn and milo. Typically, Kansas red wheats are 3 to 4 percentage units higher in protein and similar in energy to corn. In addition, mill run wheat is usually drier and cleaner than other feed grains. Wheat is particularly useful in growing rations because of its higher protein content. Pound for pound, wheat is generally worth 103 to 108 percent of the value of corn in beef cattle rations. Blending wheat with other grains in growing and finishing diets also has shown excellent benefits.

How much wheat can be fed in the ration?

Because wheat is very rapidly digested and tends to produce excessive fines when dry processed, it is usually blended with other feedstuffs to prevent the possibility of digestive upsets. Conservatively, beef cow supplements and creep feeds can contain 30 to 50 percent wheat. In growing programs, wheat can be the sole source of grain in silage-based diets, and it can constitute up to 50 percent of the grain in dry, hay-based rations. In finishing rations, dry rolled wheat can account for 50 to 60 percent of the grain fed.

How should wheat be processed?

Wheat must be processed to improve digestibility by cattle. Steam rolling (not flaking) wheat to a 36 to 39 lb/bushel density is optimal for feedlots. The resulting product is thick and durable and has a crimped appearance. In addition to minimizing ration fines, K-State research shows that steam rolling reduces the rate of wheat starch digestion in the rumen compared to dry rolling. This results in higher intakes, more rapid and efficient gains, and less likelihood of digestive upsets. For farmer-feeders without steam rolling capabilities, coarse dry rolling or grinding of wheat results in a very acceptable product.

When rolling or grinding, process as coarsely as possible. Moisture tempering of the dry grain prior to rolling, or adding water or molasses on the feed truck or mixer wagon, particularly when dry roughages are used, may help bind fines to roughage particles and aid in ration conditioning. Whatever processing method is used, the goal is to maximize particle size and minimize fines.

Do you have a question for this column? Give John Paterson a call: 406-994-5562 or email at johnp@montana.edu



Producer profile, continued from p. 2

People pressure is another major concern. With the ranch spread out like it is, cattle spend a fair number of days being herded up and down Highway 89. Les says he has seen his share of road rage, even on the sparsely traveled road between Wilsall and Ringling. A loaded gravel truck went through the herd, injuring several cows and killing one. Another time, a motorist in a foreign sports car thought he was tougher than the cowboys, till he stepped out of the car.

Challenges to the industry

Les says that a rancher faces challenges every day with weather, fluctuations in the markets, environmental and wildlife concerns and increased land values—which are helpful if you sell, but detrimental if you own land and watch taxes increase. Weather is a take-what-you-get-and-do-the-best-with-it matter of fact.

Markets are somewhat more manageable, but dealing with them on an individual basis is overwhelming, says Les. That is where being involved in agricultural organizations and those organizations' cooperation are of extreme importance. He also said finding a niche for marketing products we already have or developing other opportunities of income with resources that are available with be a challenge.

Environmental concerns have become more of a focus in the last several years, influenced largely by media attention. The Arthun Ranch has tried to be as proactive as possible by implementing off-stream watering, fencing off stream banks, cross fencing for range management, monitoring the ranch, and guarded use of fertilizer and chemical application.

In most cases, ranchers have been good stewards of the land and managers of wildlife by leaving excess grass for those animals to eat. That's one of the reasons why large waves of people are moving to Montana. Out of state people buying into Montana increase land value, which increase our asset value, said Les, but hinder or even halt our ability as production-based agriculture to expand through buying for leasing. He said this will be a major hurdle for family operations and their future success.

Les added that managing around wolves and other predators will be a major challenge for agriculturalists in the future. Other wildlife such as deer and elk increase the exposure to several diseases that can devastate a cow heard.

Less concluded, as much as some of us complain about our situation in agriculture in the United States, one does not have to look very far to realize how blessed we are to be in this business in this place.



Winter Feeding Tips (Don't Waste Your Hay)



by Dennis Cash, MSU Extension Service 994-5688, dcash@montana.edu

Winter range conditions were bare and dry through mid-December across most of Montana. Since your winter feeding program is likely your single largest ranch expense, reducing hay waste can save you money. Hay losses at feeding on most ranches averages about one fourth, but can easily approach half. So that \$70 per ton hay you bought now costs you \$140; or your cost of haying of \$28 per ton last summer becomes \$56! By the time you read this newsletter, you may be deep into your winter hay feeding operation. However, there are some steps you can take to limit hay waste.

During good haying conditions and with proper storage, most losses to alfalfa or alfalfa-grass hays can be minimized. Dense large round or rectangular bales are widely used, but significant losses occur when these are stacked in the open (Table 1). Hay sheds and tarps are not widely popular in Montana due to their expense or nuisance, except for a few cash hay pro-

Table 2. Hay wasted by cows when amount fed was controlled in racks. (From W.H. Smith et al. 1974. ID-97. Purdue Univ. Coop. Ext. Serv. W. Lafayette, IN., as cited by Anderson and Mader).

Feeding system	Hay per cow per feeding, lb.	Hay refused or wasted, %	Hay required over rack feeding, %
Rack feeding on pasture	---	5	---
No-rack feeding on pasture			
1-day supply per feeding	20	11	12
2-day supply per feeding	40	25	33

ducers not willing to sacrifice 20% of their hay crop or risk spoilage.

Hay losses can be very costly when unrolling and feeding round bales on the ground—up to 45% due to trampling, overconsumption, and fouling with manure or urine. Aside from dry matter losses, the loss in nutrient value of alfalfa hay can be even more severe because of leaf shatter. Bale feeders or racks can usually be cost effective if you have the equipment and patience to use them.

Significant losses occur when cows have 24/7 access to hay. Dry, pregnant mature cows will eat 20 to 30% more hay than their daily needs if they are unrestricted, plus waste increases. Daily (Table 2) or twice-daily feeding of proper amounts of hay can reduce these losses.

Regardless of how hay is fed, these losses will be minimized if you can limit the amount of hay that is accessible to trampling. Racks and round bale feeders can effectively limit hay consumption and waste. In a recent study at the NDSU Dickinson Research & Extension Center, feeding cost per cow with round bales was least expensive for a tapered-cone bale feeder, followed by unrolling bales on the ground, then by using a PTO-driven shredder to feed on the ground.

Reference: "Management to Minimize Hay Waste" by Bruce Anderson and Terry Mader (University of Nebraska Extension Specialists) available in Great Plains Extension Beef Cow-Calf Handbook MT1328, CL328) or on-line at: <http://ianrpubs.unl.edu/range/g738.htm>

Table 1. Dry matter losses of hay from field to feeding (from Anderson and Mader)¹ and economic losses.

	Range %DM loss	Average %DM loss	Average \$ losses for a 200-cow operation feeding one ton of hay per cow during winter (\$65 hay)
Swathing with conditioner	1-10	5	\$650
Raking	5-20	10	\$1300
Plant respiration	2-16	5	\$650
Baling, % of windrow	1-15	5	\$650
Outside Storing, % of stack	5-30	15	\$1950
Inside Storing, % of stack	2-12	5	\$650
Transporting hay	1-5	3	\$390
Fed in feed rack, % of stack or bale	1-10	5	\$650
Fed on ground, % of stack or bale	2-45	15	\$1950
Total, % of original standing crop	10-80	35	\$4550

¹Without rain damage. Rainfall can reduce DM yields as much as 20 percent.



Steer of Merit winners announced at MSGA annual convention

Winners of the Montana Steer of Merit Program were announced at the Montana Stockgrowers Association annual convention in Billings. This contest was initiated in 1967 as a joint effort between the Montana Stockgrowers Association and Montana State University, and was designed to measure, record and improve carcass characteristics in beef cattle.

The Montana Steer of Merit program is conducted through county fairs and livestock shows that are accompanied by carcass contests. Market cattle, also known as finished steers, entered in live animal shows are slaughtered and entered in the Steer of Merit program. Experienced qualified carcass judges take carcass measurements on characteristics of importance to both eating quality and yield of lean beef.

Michelle Passmore of **Flathead County** took home top honors for her entry: a steer weighing 1275 pounds, with a carcass weight of 796, a 0.20 inch backfat measurement, a rib-eye area of 16.6 inches, and a quality grade of Choice minus.

Second place went to Ken Nelson of **Flathead County**; third place went to Nathan McMillen of **Richland County**; fourth place was Kelsie Udem of **McCone County**; and fifth place went to Jett Anderson of **Phillips County**.

All top five steers had a quality grade of Choice minus, a yield grade of 1, and cutability ranging from 53.2 to 53.9 percent. Since its inception, Montana Steer of Merit characteristics have been evaluated on a total of over 20,000 head. The program's purpose is to assist in the production of high quality beef, meet the beef quality desires of consumers and educate young people about economically important carcass traits. Exhibitors and breeders of high quality steers are recognized on a county and state basis.

John Paterson, MSU Extension beef specialist, said, "This program is designed not only to reward youth who raise and finish a quality beef animal, but also to increase the understanding of the characteristics—such as ribeye area and marbling—that impact the final grade of an animal and contribute to its carcass value."



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