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**INSIDE:**

**Producer Profile:  
Cayuse Livestock Company.....2**

**Spring Grazing Alert:  
Grass Tetany.....3**

**Montana Livestock Forum  
and Nutrition Conference  
April 19 and 20.....4**

**Ask John! Answers to your  
Nutrition Question.....6**

**Getting the Most from  
Seeded Pastures.....7**

## Fast, flavorful and heart-healthy beef recipes

### Beef Checkoff Program Helps Fund American Heart Association's Lean Beef Cookbooklet

*by Charlene Schuster, Executive Director, Montana Beef Council*



Just in time for February Heart Month and in conjunction with the American Heart Association (AHA), beef checkoff dollars funded a heart-healthy recipe "cookbooklet" that features lean beef cuts along with cooking tips and nutritional information. The AHA's "Six Simple Steps to Good Nutrition" are included, as well as tips on how to include beef as part of a heart-healthy diet. The booklet also provides useful information comparing the fatty acid content of beef to that of chicken, tuna, salmon and olive oil.

The glossy booklet, boldly branded with AHA's familiar logo, features 14 lean beef recipes with full-color photos. Recipes for such dishes as Gyros-Style Steak Pitas, Burgundy Beef and Vegetable Stew, Beef Lasagna Rolls and Italian Beef Stir-Fry are included.

This cookbooklet reminds consumers, health professionals and media that lean beef can play an important role in a heart-healthy diet.



State Beef Councils are working with AHA affiliates to promote and distribute 100,000 copies of the booklet. In Montana, the Beef Council distributed the cookbooklet at the American Heart Association sponsored Ball in Billings on March 12. A lean beef option was featured at this gourmet dining event.

Anyone interested in the cookbooklet can receive one by contacting the Montana Beef Council, PO Box 5386, Helena, MT 59604 or by calling 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 [beefcnd@mt.net](mailto:beefcnd@mt.net)



# Producer Profile: Cayuse Livestock Company

by Marc King, Extension Agent Sweetgrass County



Bill Donald of the family-owned Cayuse Livestock Company in Melville.

Cayuse Livestock Company is a true working family ranch. The ranch is based at the foot of the Crazy Mountains in Melville about 20 miles North of Big Timber.

Cayuse Livestock Company was founded in 1910 by Bill Donald's grandfather. The ranch is currently owned and operated by Bill and Betsy Donald and Paul and Eleanor Hawks. Both families have two children, who also work and

raise their families on the ranch. The ranch has grown over the past couple of years to help accommodate the additional families, but this has been a continual step toward reaching the goals of the ranch.

All the family members are involved in the daily activities of the ranch and they all developed the ranch's mission statement. Cayuse Livestock Company's Mission Statement reads,

*"Provide a successful, nurturing, multi-generational, family ranch by raising high quality Angus cattle, using sustainable resource stewardship. This requires integrity, a strong communicative team that fosters innovative leadership. As a model ranch we will be an asset to our community and educate others by sharing our unique lifestyle."*

The ranch strives daily to uphold this ambitious mission statement. Part of their commitment to the ranching industry shows in the fact that Bill has served in several leadership roles within the Montana Stockgrowers, and this past December was elected as the President of the Montana Stockgrowers Association.

Currently the ranch runs 850 cows on the Melville Ranch and 800 head on several leases in the Cody, Wyo-

ning area. The cow herd is a commercial Black Angus herd. Cattle are individually identified on the ranch with panel and electronic tags. Calves are marketed in a variety of ways according to Bill. In the recent past, calves have been weaned and back grounded, weaned and grazed as yearlings and the ranch has retained ownership.


"This past fall, steers were sold off the cow, because the prices were good and the drought was taking its toll on the resources," said Bill.

During a recent interview with Bill, I asked several questions pertaining to his outlook and philosophy on the beef industry. Asked how he became involved with the Montana Stockgrowers Association and how he rose to the leadership role that he now fills, he replied, "I got involved with the MSGA on issues that directly impacted our ranch, plus I realized early on that the MSGA held highly esteemed political clout within the State of Montana and on the National Level. Further, I have always felt that you need to give back to the industry that you make your living from."

Mr. Donald summed up the biggest challenges facing the beef industry on a regional level as the drought. On the state and national level, he said the biggest challenge is the differing visions and pathways of groups to achieve their vision of the industry. This divisiveness makes creating and implementing policy very difficult, according to Bill.

When asked about these differing views and visions of what the beef industry should look like, Bill replied, "Everyone wants to maintain the viability and integrity of the family ranch. Thus those of us in leadership roles must help provide education to these operations. We need to keep producers informed of innovative marketing strategies, help producers keep up with evolving technology, and most of all we need to communicate amongst ourselves and with those policy makers that can help shape our industry and keep us viable."

About the divisive nature of groups currently working within the beef industry, Bill responded that all of the groups must communicate and keep the discussions civil and based on the issues.

"Too often we let emotion take over, and this often leads to poor decisions. We will probably never be one big happy family, but we must learn to work together. Teamwork can help us achieve more than any one person can standing alone." 

# Spring Grazing Alert:

**Grass tetany has already been reported in Montana this spring.**

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



It is the first week of March and, already, I have talked to ranchers in our state that have lost cattle to grass tetany. What is wrong with this picture—it's only early March! The combination of unseasonably warm temperatures, early green-up of coolseason grasses and the recent, lingering drought have increased the risk of grass tetany in livestock in Montana. It's not too early to brush up on what grass tetany is, what animals are prone to it, prevention measures, and possible treatment methods.

## What is grass tetany and when does it occur?

Grass tetany is a nutritional or metabolic condition in beef cattle and sheep triggered by low amounts of magnesium (Mg) in the blood serum. This disorder occurs most frequently in the spring when livestock graze young, succulent, cool season grasses. It intensifies in warm periods, five to 10 days after a cool, wet period when grass is growing rapidly. Although it is less prominent, grass tetany can also occur in the fall when regrowth of cool season grasses occurs.

## What causes grass tetany?

Factors that can increase the occurrence of grass tetany in livestock include stress, drought, diets low in Mg and phosphorous (P), diets with nutrient imbalances that interfere with Mg metabolism, high levels of nitrogen (N) or potassium (K) in feed or soils, increased Mg demand during lactation, minimal availability of standing dead forage, and forages with a "tetany ratio"  $\{K / (\text{Calcium} + \text{Mg})\}$  of greater than 2:2. Because it is a function of soils, plant species, harvested feed, environmental factors and animals, the severity of this disorder varies between states, counties, ranches and pastures.

## What are the symptoms?

Early symptoms of grass tetany include uncoordinated gait, staggering, nervousness, excitability and muscle spasms. In many cases, animal mortality is the first sign of grass tetany identified, due to a short, four- to eight-hour time interval between the onset of early symptoms and death.

## Which animals may it affect?

Female animals have been shown to be more prone to grass tetany than males. Older animals, animals that have recently given birth, those nursing young less than eight weeks of age, high milk producers and fat animals are also more susceptible to grass tetany than other classes of animals. However, it has also been seen

in young or dry cows and in growing calves in extreme conditions. Older animals have a diminished ability to absorb Mg, Mg requirements increase greatly directly post-partum and during heavy lactation periods, and fat cows have less Mg available for absorption in their body fluids than lean cows.

## Grass tetany prevention

The following measures can be taken to decrease the likelihood of grass tetany in your herd or flock:

- Graze animals that are less susceptible to grass tetany on tetany-prone pastures (i.e., steers, heifers, stocker calves, cows with calves older than four months).
- Delay spring grazing until grass is 4 to 6 inches tall.
- Graze pastures that have residual standing dead forage present before grazing pastures without.
- Feed animals roughage for 10 to 14 days at the beginning of the grazing season before turning them out on lush, green pastures.
- Feed legumes, which are higher in Mg than grasses, or graze legume pastures first in the spring.
- Do not fertilize pastures with nitrogen (N) or potassium (K) before spring grazing.
- Check animals grazing lush, succulent pastures periodically throughout the day for symptoms of grass tetany.
- Supplement animals with a legume hay.
- Supplement animals with a mineral or protein-energy supplement, using a form that will ensure that every animal will receive 1 to 2 ounces of magnesium oxide per day, for 30 days before spring grazing and for 30 days after the initiation of spring grazing.
- Supplement animals by treating controlled water sources with soluble Mg salt.
- Cull or develop alternative management strategies for animals that develop grass tetany because they will be prone to develop it in the future.

## Treatment

The window of opportunity for treatment is generally small once grass tetany symptoms are identified. However, treatment options do exist. Remember that animals suffering from early stages of grass tetany are highly excitable and must be handled gently.

*continued on p.7*

# Montana Livestock Forum & Nutrition Conference

April 19-20, 2005 • GranTree Inn, Bozeman, MT

## Industry Market Issues

### Understanding the Industry's Challenges

The markets for American beef continue to be influenced by animal diseases, labeling, and complex trade issues. Plans for a national animal identification system to address, control, and eradicate animal diseases are progressing, while country of origin labeling laws are still being debated. Multifaceted trade negotiations, influenced by animal diseases, are determining the export and import markets for cattle and beef.

The 2005 Livestock Forum and Nutrition Conference will focus on marketing issues that are impacting the beef cattle industry in the United States. Dynamic speakers will present the latest information on trade, identification, and traceability. The Forum will also address current nutritional challenges for the livestock industry in Montana, such as, drought, water quality, and mineral nutrition.

### Speakers

*Dr. Ray Ansotegui, Professor, MSU Animal and Range Sciences*

*Dr. Gary Brester, Professor, MSU Agricultural Economics and Economics*

*Mr. Taylor Brown, Northern Ag Network*

#### **The Honorable Conrad Burns, U.S. Senator, State of Montana (invited)**

*Mr. Bill Donald, President, Montana Stockgrowers Association*

*Mr. Jed Evjene, Ranch Manager, American Fork Ranch, Two Dot*

*Dr. Geoffrey Gamble, President, Montana State University (invited)*

*Dr. Kim Hager, Nutritionist, CHS, Inc. and Montana Feed Association*

*Dr. Jeff Jacobsen, Dean and Director, MSU College of Agriculture (invited)*

*Dr. Jim Killen, Nutritionist, Nutra-Lix, Inc. and Montana Feed Association*

*Ms. Shari Lee Kroon, North American Salt and Scholarship Committee Chair, Montana Feed Association*

*Ms. Linda Nielsen, Owner, Glasgow Stockyards and Montana Association of Livestock Auction Markets*

*Dr. John Paterson, Extension Beef Specialist, MSU Animal and Range Sciences*

*Dr. H. H. "Trey" Patterson, Extension Beef Specialist, South Dakota State University*

*Ms. Nancy Peterson, Director, Montana Department of Agriculture (invited)*

*Dr. Valerie Ragan, Assistant Deputy Administrator, Veterinary Service, APHIS-USDA (invited)*

*Dr. Jim Robb, Livestock Market Information Center*

*Mr. Tim Schiefelbein, Swift Packing, Greeley, CO*

*Mr. Don Seifert, Nutritionist, Silent Herder Minerals and President, Montana Feed Association*

*Mr. Steve Siegelin, West Regional Department Head, MSU Extension Service (invited)*

*Dr. Charles Stoltenow, Extension Veterinarian, North Dakota State University*

*Dr. Mike Tess, Department Head, MSU Animal and Range Sciences*

### Sponsors

*Montana State University ~ Montana Beef Network ~ Montana Feed Association*

*AgInfoLink ~ Allflex ~ Alpharma ~ Cargill Nutrena ~ Central Feeds ~ CHS ~ Diamond V Mills ~ Elanco*

*eMerge ~ Fort Dodge Animal Health ~ Hubbard Feeds ~ MIN-Ad ~ Montana Stockgrowers Association*

*New Generation ~ North American Salt ~ Nutra-Lix ~ Pfizer ~ Silent Herder ~ West Feeds ~ Y-Tex ~ Zinpro*

## **Montana Livestock Forum & Nutrition Conference Agenda**

### **Tuesday, April 19, 2005 – Market Issues: Trade, Animal ID, COOL**

*Chair: Kim Hager*

12:00 – Registration

1:00 – 1:10 – Welcome, *Geoff Gamble & Don Seifert*

1:10 – 2:00 – Industry Market Issues: Trade, Animal ID, and More, *Jim Robb*

2:00 – 2:30 – Country of Origin Labeling, *Conrad Burns (via satellite)*

2:30 – 3:00 – The Government's Plan, *Valerie Ragan (invited)*

3:00 – 3:30 – Break

3:30 – 4:00 – Why the Packer's a @\*#, *Tim Schiefelbein*

4:00 – 4:20 – Firewalls in the Feed Industry, *Don Seifert*

4:20 – 5:45 – Panel Discussion: Marketing in a Changing Industry – Moderator: *Gary Brester*

Participants (Tentative):

Packer: *Tim Schiefelbein*

Feed Industry: *Kim Hager*

Producer: *Jed Eujene*

Association: *Bill Donald*

Market: *Linda Nielsen*

5:45 – 6:00 – Scholarship Awards Presentation, *Shari Lee Kroon & Don Seifert*

6:00 – Social and Cash Bar

6:30 – 8:00 – Dinner

Welcome, *Jeff Jacobsen (invited)*

Keynote Address – Opportunities in Animal Agriculture, *Taylor Brown*

### **Wednesday, April 20, 2005 – Current Nutritional Challenges**

*Chair: Jim Killen*

Continental Breakfast

7:00 – 8:30 – Competitive Poster Session

8:30 – Welcome, *Steve Siegelin (invited)*

8:35 – 9:00 – A New Day for Montana Agriculture, *Nancy Peterson (invited)*

9:00 – 9:30 – Water Quality, *Trey Patterson*

9:30 – 10:00 – Animal Health through Vaccinations, *Charles Stoltenow*

10:00 – 10:30 – Break

10:30 – 11:00 – Mineral Nutrition, *Ray Ansotegui*

11:00 – 11:30 – Long term effects of drought, *John Paterson*

11:30 – 11:40 – ARNR Department Update & Outstanding Graduate Student Poster Award, *Mike Tess*

11:40 – 12:00 – Summary, *John Paterson*

12:00 – Adjourn, *John Paterson & Don Seifert*

#### **Don't Forget...**

#### **MSU Collegiate Cattlewomen Annual Educational Forum**

Ranching through the Generations (Ron Hanson)

Tuesday, April 19, 2005, 10:00 a.m.

GranTree Inn — No charge

#### **ARPAS Professional Animal Scientist Exam**

Tuesday, April 19, 2005, 8:30 a.m., \$25 fee

#### **For registration and lodging information contact**

Anita Gray  
119 Linfield Hall, MSU  
Bozeman, MT 59717  
or phone 994-3414  
anitag@montana.edu

This conference has been approved by ARPAS for 5 CEU credits.



# ASK JOHN A NUTRITION QUESTION: Barley Test Weight and Feedlot Cattle Performance

Work from the University of Idaho has indicated that there is not always a consistent relationship between barley test weight (bulk density) and beef cattle performance. Generally, it has been reported that while daily gains may not be reduced, feed conversions are poorer with light test weight barley compared to heavier test weight barley. Table 1 shows results of one finishing experiment from Idaho. As the test weight of the barley increased, *daily gains improved* and feed conversions were improved. When Dr. Hinman calculated the NEg values for the different barleys based on cattle performance, the heavy barley (51 lb/bu) was worth \$15.70 more per ton than the lightest barley (42 lb/bu).

However, Grimson and others found that on an 85% barley based ration, there *was no effect on daily gain*, but feed conversions *were poorer* for the lightest barley (5.80) compared to the heaviest barley (5.26). (See Table 2, right.)

Both of these studies show that feed efficiency was the poorest for the lightest test weight barley. Based on the results from these two experiments, the question then becomes, "How much would you discount light test weight barley?" The following table may be of assistance in helping you to discount light test weight barley. (See Table 3, right.) 🐄

**Table 1. Influence of barley test weight on the performance of finishing beef cattle** (Hinman, 1978)

	Barley weight (lbs/bu)			
	42	45	49	51
No. head	16	16	16	16
Daily gain, lbs	2.52 <sup>b</sup>	2.75 <sup>ab</sup>	2.73 <sup>ab</sup>	2.84 <sup>a</sup>
Feed intake, lbs	19.5	20.2	19.8	20.1
Feed:gain	7.74	7.35	7.25	7.08

<sup>a,b</sup> Means with without a common superscript differ. (P<0.05)

**Table 2. Effect of barley bushel weight on daily gain and feed conversions** (Grimson et al.)

Barley bushel weight, lb/bu	Average daily gain	Feed:Gain ratio
38	3.57	5.80
44	3.79	5.32
53	3.73	5.26

**Table 3. Discount estimates for barley grain**

**Discount light test weight barley by 1% of the value for every pound less than 47 lbs bushel weight.**

Barley test weight, lb/bu	Discount, %
47	0
46	1
45	2
44	3
36	11

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

## Reader's comments from last month's article on processing of corn grain:

JP—

Hope things well in your camp! Numerous interactions affect grain processing response for rolled vs. whole corn for finishing feedlot cattle. Corn hybrid, kernel trait(s), starch content and type, animal age, days on feed, roughage type, level and particle size, corn particle size of the rolled product, grain mixtures, fat, ionophores, frequency of feeding and bunk management affect processing response - to mention a few.

I have come to realize that all No. 2 corn is not the same. I think one of the most overlooked factors, however, affecting the processing response for corn (whole vs. coarse roll) is moisture content of the grain. Whole corn when it has 12 to 13% moisture (and drier) responds very nicely (2 to 3% improved net energy and feed value, conservatively) to coarse rolling. The 2 to 3% improvement,

along with the above mentioned factors, helps to determine if the cost of dry rolling is worth it.

—Take care,

Dr. Abe Turgeon  
Independent Feedlot Consulting Nutritionist  
Amarillo, Texas (806) 622-7720 (office)

### The 5 "R"s of Good Feedbunk Management

1. Right Feed
2. Right Pen
3. Right Amount
4. Right TIME
5. Right Way

# Getting the most from seeded pastures

by Dr. Jeff Mosley, Professor of Range Science and Extension Range Management Specialist, Department of Animal and Range Sciences, Montana State University—Bozeman



Here it is March and we're still waiting for winter moisture. Like everyone else, I'm hoping and praying for a wet spring and summer with timely rains that will somehow carry us through another year. Until the rains arrive, I know many people are making contingency plans for early weaning, just in case. It's also a good time to be thinking about how to use seeded pastures this spring and early summer.

Most seeded pastures, especially sub-irrigated or irrigated ones, can tolerate heavy grazing—more so than native rangeland. Therefore, when grass is in short supply, it makes sense to allocate more of the grazing load to seeded pastures. The more time you can allow for native rangeland pastures to grow this spring before they are grazed, the better it will be for the long-term health of your range and your ranch business.

## Are your seeded pastures fenced separately?

Seeded pastures should be fenced separately from native rangeland. Also, seedings of different species or mixtures of seeded pastures should be fenced separately from each other. This is advisable because of the differences in growth rates, palatability and grazing tolerance among plant species. Separate pastures enable you to use the plants when they are the most palatable and nutritious, or when their use best complements your other forage sources. Maybe this spring it's time to consider using temporary electric fence to separate some isolated parcels of seeded grass in order to make better use of them.

## How soon to begin grazing this spring?

Plant height is a good indicator of when a seeded pasture is ready for grazing. Most species that are commonly seeded for dryland pasture in Montana are ready for grazing when plants are 6 to 8 inches high, and grazing should cease when 3 to 4 inches of stubble remains. Crested wheatgrass or Russian wildrye pastures are ready to graze four to five weeks earlier than native rangeland.

Livestock will perform better if grazing is delayed until the amount of forage standing in the pasture (new

growth plus any carryover grass still standing from previous years) reaches 200 to 300 lbs/acre. Another guideline is to delay grazing at least until individual plants have grown three leaves and each of these leaves have reached at least 2-1/2 inches in length. These guidelines also will help reduce the incidence of grass tetany (see related article, p. 3).


## What is a reasonable stocking rate?

In the 10 to 14-inch annual precipitation zone, 0.5 to 0.7 AUM/acre (1.4 to 2.0 acres/AUM) are good ballpark figures. For pastures in the 15 to 18-inch zone, consider stocking rates of 1.0 to 1.25 AUM/acre (0.8 to 1.0 acres/AUM).

## Is rotational grazing necessary for seeded pastures in spring?

Seeded pastures that are only grazed in spring for brief periods (i.e., three weeks or less) do not benefit much from rotational grazing. If more grazing time is needed in spring, it is a good idea to divide a seeded pasture into two or three smaller ones so that each pasture is not grazed for more than three consecutive weeks. Also, dryland pastures in spring usually need about a three-week minimum recovery period before they can be regrazed.


## What if it doesn't rain?

My dad has always been fond of reminding me that "you can't get blood out of a turnip." Once again, Dad's wisdom rings true — 'nuff said. But as you keep your eye on the rain gauge and your grass supply this spring and summer, remember that by July 1, your rangeland will have produced about 90 percent of its forage growth for Spring/Summer 2005. Any rains that come after July 1 will help stream flow and groundwater recharge, but that moisture will have little effect on forage growth. Here's hoping for some plentiful and timely moisture, but it just makes good sense to have a back-up plan that you can put into motion, if necessary, in early July. 

## Spring grazing alert, from p. 3

- A sterile solution containing Mg and Ca (e.g., 200-500 ml calcium magnesium gluconate) can be given to the animal intravenously. This solution should be administered carefully and slowly to avoid a toxic reaction to the minerals.
- Magnesium enemas have been used successfully, are less expensive, and are less dangerous than an I.V. This enema consists of 60 grams of magnesium chloride dissolved in 200 ml of water, placed in a collapsible,

plastic bottle. The solution is administered through a plastic tube attached to the bottle.

The effects of grass tetany move very rapidly. Therefore, taking preventative measures is the most effective method for keeping your livestock alive this spring where tetany conditions exist. Watch for identifiable symptoms and contact your local veterinarian immediately if you suspect grass tetany in your herd or flock. 



MSU Extension Agents listen to presenter Lisa Duffey at a seminar on the proposed National Animal ID Program on the MSU campus held in March.

# Montana Livestock Forum & Nutrition Conference

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*See agenda, pages 4 and 5*



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