

March 2009

Dear Farmers & Ranchers,

With March 20<sup>th</sup> being the first day of Spring, I hope you will find the articles in this newsletter timely and helpful to you.

In this newsletter you will find a variety of articles on cattle, crops, new and revised publications, and small grain research data on wheat, durum, barley, and oats.

If you have questions or would like additional information on these or other topics, please let us know.

Patti and I want to wish all of you a very Happy Easter.

Sincerely,

David L. Bertelsen  
County Extension Agent

DLB:pag



## EXTENSION PUBLICATIONS

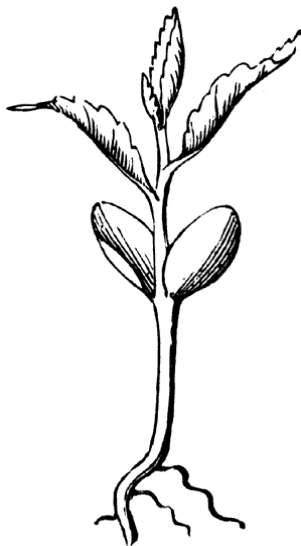
- MT200901AG From Traditional to Organic Farming: What to Expect During The Transition Years
- MT200602HR Montana's End-of-Life Registry
- MT200303HR Track'n Your Savings Goals
- MT200206HR Helping Friends Cope With Financial Crises
- MT199701HR Who Gets Grandma's Yellow Pie Plate? Transferring Non-Titled Property
- MT199324HR Talking With Aging Parents About Finances
- MT199211HR Life Insurance: An Estate Planning Tool
- MT199105HR Gifting: A Property Transfer Tool of Estate Planning
- MT199008HR What is a Personal Representative?
- MT198908HR Dying Without a Will in Montana: Who Receives Your Property
- MT198906HR Wills
- EB0186 Montana Barley Production Guide
- EB0159 Montana's Noxious Weeds (\$4.00)
- 4509 National Pesticide Applicator Certification Core Manual (\$7.00)



### GERMINATION TEST

If growers wish to use bin-run seed and have not had a germination test conducted by a competent laboratory, they can get an approximate germination test using the following procedure in their own home.

Place two paper towels in the bottom of a dish or tray, one on top of the other; wet the towels thoroughly and tilt the tray up on one end so that excess water runs off the tray. Select a random sample of 100 seeds from the seed lot and place them in between the moist paper towels. Put the tray in a plastic bag and tie the end shut to prevent the towels from drying out. Place the tray in a location of diffuse, not direct light, such as a north window. The location should be warm enough (75-80 degrees F) for good plant growth. An ideal location is with well growing house plants. After 5-7 days, open the plastic bag and count the number of germinated seeds with intact tap roots and shoots. Do not count moldy seed or diseased seedlings. Testing 400 seeds in this way will give a good indication of the germination percentage.



## **BEEF TALK: ALFALFA IS A GREAT SUPPLEMENT**

By Kris Ringwall, NDSU Extension Service Beef Specialist

There was a pleasant view as I went to the auction barn the other day. The semi-trailer truck was sitting in the parking lot with a load of alfalfa hay. Under many situations, no one would really notice, but the long, drawn-out winter has many producers checking their hay inventory as frequently as the weather forecast.

Sometime ago, the late Joe Whiteman from Oklahoma State University mentioned that livestock husbandry should be simple. He said that we tend to complicate the ins and outs and sometimes even get confused as to whether we are "in" or "out." So, Whiteman believed in alfalfa. He fed sheep alfalfa for years with very few problems.

"It was the alfalfa," he always would say. Having a rather strong sheep background and having taught many producers how to raise sheep, I adopted the same principle. If in doubt, give the ewe a cake of alfalfa hay. That cake, in terms of a herd, would be a pound per head prior to lambing.

The old saying, "A sick sheep is a dead sheep," never held true when the ration was right and that cake of alfalfa hay was available. You might be asking why in the world beef producers need to know about feeding sheep. Well, grandpa always said sheep get the hay first, cows second and the horses third. In fact, the truth be told, we generally couldn't find the horses. They were camped somewhere enjoying winter because ample roughage was available and they had good pickings.

Back to the cattle pens. Those cows need feed and, in winters like this, if production is to be maintained, Whiteman's sheep philosophy raises a point. In a round-about way, the well-being of ruminates (cows, sheep and the many other four-stomached, four-legged, four-hoofed animals) comes down to having a mix of roughages available.

Usually, summer brings abundant green grass. The winter is quite dependent on some of that green grass being preserved. The key to having good nutrition is the word "green." As cattle are confined and the availability of forage becomes physically restrictive or cost prohibitive, the green tends to disappear from the ration. More and more feed is delivered, but it is brownish, which is the color of mature, older forage. The other feed is gold, which is the color of straw and many of the grain products that are cattle supplements.

All rations need balance. The correct supplements must be added under the advice of a good nutritionist. These rations will work, but, if push comes to shove and you have more low-quality feed, there is a very real possibility there will be detrimental effects to the late-pregnancy or early-lactating cows. Therefore, that semi-trailer load of alfalfa certainly reminded me of what Whiteman would say, "Feed some alfalfa."

Often, the price seems high, but one is not going to feed alfalfa to beef cows at an all-you-can-eat rate. Just like the ewe, a pound of alfalfa a day really helps and a cow is no different. To start calculating a ration, 5 to 7 pounds of alfalfa a day would be a great starting point for any nutritionist. Unfortunately, the alfalfa is not always available, but the feed dealer may have some alfalfa-based supplements or cubes that certainly would help a cow.

The point is relatively simple. The world is better off with a mix of things and so are cows. Having some variety helps cover up things one type of feed may be lacking.

In the cow business, we tend to start feeding a stack of hay, which is unlike the feedlot calf that gets a balanced ration every day. The cow may be stuck eating out of one haystack. If that stack is brown or golden, with no evidence of well-preserved green plants, look for a supplement.

The next time you see a load of alfalfa hay, don't be so quick to dismiss the hay as dairy feed. Maybe, think twice about it and have some alfalfa delivered to your place.

## **BEEF TALK: COW SIZE – EFFECTS OF COW SIZE ON PASTURE MANAGEMENT**

By Kris Ringwall, NDSU Extension Service Beef Specialist

The effect of cow size and expected production from pasture management directly impacts expected outcomes that translate into income.

A drought, at least in western North Dakota, initiated the discussion. The Dickinson Research Extension Center established two different groups of cattle based on body weight, calculating inputs and potential outcomes.

The two groups (herds) of cattle were weighed. The first herd had 52 cows that averaged 1,216 pounds (856-1,395 pounds), and the second herd was 50 cows that averaged 1,571 pounds (1,350-1,935 pounds).

Since not all of these cows had mature records in the center's data system, data from all the cows was added. Mature cow records were allotted to 100-pound increments.

The production potential based on "percentage of cow weight weaned" was calculated for the mature cows. Lee Manske, DREC range scientist, calculated the expected nutritional pasture needs and expected outcomes from these cows based on production estimates by 100-pound increments of cow weight.

For cows that were less than 1,300 pounds, the monthly forage dry-matter intake was calculated at 933 pounds. This required 10.75 acres per cow per grazing season in western North Dakota, with a predicted calf weaning weight of 617 pounds.

For cows that weighed from 1,301 to 1,400 pounds, the monthly forage dry-matter intake was calculated at 997 pounds. This required 11.49 acres per cow in western North Dakota, with a predicted calf weaning weight of 611 pounds.

For cows that weighed from 1,401 to 1,500 pounds, the monthly forage dry-matter intake was calculated at 1,051 pounds. This required 12.11 acres per cow in western North Dakota, with a predicted calf weaning weight of 589 pounds.

For cows that weighed from 1,501 to 1,600 pounds, the monthly forage dry-matter intake was calculated at 1,101 pounds, requiring 12.68 acres per cow in western North Dakota, with a predicted calf weaning weight of 598 pounds.

For cows that were greater than 1,600 pounds, the monthly forage dry-matter intake was calculated at 1,188 pounds, requiring 13.68 acres in western North Dakota, with a predicted calf weaning weight of 572 pounds.

With that data, I already can hear the e-mails coming. The data does not appear logical.

*BeefTalk continued on next page* **Λ**

The data means calf gain on pasture weaning weight, minus birth weight, and then divided by age, and then multiplied by grazing days, is decreasing as the cow size increases. The larger cows are weaning less percentage of their body weight and producing a smaller calf.

Cows less than 1,300 pounds had a pasture gain estimated at 336 pounds. The 1,301-1,400-pound cows, gain was estimated at 332 pounds; the 1,401-1,500-pound cows, gain was estimated at 318 pounds; the 1,501-1,600-pound cows, gain was estimated at 323 pounds; and for cows weighing more than 1,600 pounds, the gain was estimated at 307 pounds.

Translated even further, seasonal calf weight gain (pounds) per acre for each cow group would be 31.21, 28.88, 26.23, 25.49, and 22.41 pounds, respectively. Associated individual costs could be calculated as well as the value of calf gain on a per-acre and/or per-cow basis to fine-tune the added value of the smaller cow.

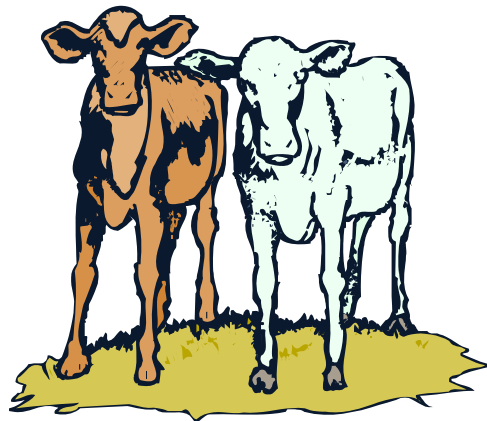
As was noted in previous discussions, what is offered here is food for thought. Previous and future managerial decisions can and will determine production potential.

There is little we can do to change nutritional requirements, stocking rates, and plant biology. How cattle perform given individual production scenarios will vary, but one thing is for sure, do not assume what you see fits.

The actual collection of data is essential to guide local changes in management. The application of assumed principles may or may not apply locally.

It never hurts to have “more food for thought” for supper.

For more information, contact the NDBCIA Office, 1041 State Avenue, Dickinson, ND 58601, or go to <http://www.CHAPS2000.com> on the Internet.



***May you find all your ear tags!***

## MANURE GOOD FOR CROPS, SOIL

Manure can be substituted successfully for commercial fertilizer, according to research at North Dakota State University's Carrington Research Extension Center.

The research also shows long-term manure use has a positive impact on soil chemical properties, says center nutrient management specialist Ron Wiederholt.

Center researchers have been conducting a cropping systems trial since 1987 to compare crop rotations, tillage and fertility treatments. The fertility treatments include an annual supply of 40 and 80 pounds of commercial nitrogen per acre and beef feedlot manure at 40 pounds of nitrogen per acre. The tillage treatments include no till, minimum till and conventional till.

Since the inception of the trials, a lot of data has been gathered and some trends are starting to materialize. Using data from 1999 through 2006, the behavior of the manure-treated crops versus those fertilized with commercial fertilizer is very interesting.

During that eight-year period, the yield of nonleguminous crops, including barley, corn, sunflowers and hard red spring wheat, grown under the manure treatment were at least equal to and in some instances out-yielded crops grown with commercial nitrogen treatments.

This fact is not too surprising until you realize that the manure applied at a rate of 40 pounds of nitrogen per acre behaved similarly to or better than the 80 pounds per acre commercial nitrogen treatment. In only one time period (1999-2002) and for one crop (barley), yields obtained from the manure treatments were less than for the 80 pounds of commercial nitrogen per acre treatments.

Wiederholt says what is even more interesting is the impact manure had on soil chemical properties during the same time. One result that may help explain why the crop yields from the manure plots were competitive with crops with a higher rate of commercial nitrogen is that soil organic matter levels in the manure-treated plots were significantly higher than levels in commercially fertilized plots.

"When you throw tillage into the mix, the soil organic matter levels also are significantly higher for no till and manure than any of the other treatments," he says.

The soil nitrate levels at all depths sampled were significantly lower for the manure plots versus the 90 or 45 pounds per acre commercial nitrogen treatments, showing a more efficient use of nitrogen by the crops fertilized with manure. Soil pH (alkalinity or acidity) for the manure plots also was significantly higher than in the commercially fertilized plots.



## SOIL PHOSPHORUS LEVELS CAN CONCENTRATE NEAR SOIL SURFACE

Available phosphorus levels are somewhat more stratified in no-till than tilled systems, according to Montana State University researchers.

“The increasing adoption and use of no-till dryland cropping systems in Montana has resulted in different patterns of soil phosphorus distribution compared to conventional till systems,” said Clain Jones, Extension soil fertility specialist in the Department of Land Resources and Environmental Sciences.

In a study conducted on clay loam soil at the Central Agricultural Research Center near Moccasin, Chengci Chen and Jones found that available phosphorus was most concentrated near the depth that phosphorus was applied in all tillage systems. However, the degree of phosphorus stratification was more pronounced in long-term no-till systems. Consequently, phosphorus uptake and fertilizer needs may be different between no-till and conventional till systems.

According to this study, however, above-ground phosphorus uptake by winter wheat was not significantly different between tillage treatments at optimum nitrogen levels. Therefore, phosphorus rates likely do not need to be adjusted between tillage systems, yet phosphorus placement is likely more important in reduced till systems.

“Broadcast phosphorus is more prone to losses from wind and water erosion, and is less likely to be taken up by the crop if not tilled in,” Jones said. Unlike nitrogen, phosphorus binds tightly to the soil and will not move very far from where it is placed. “Therefore, phosphorus fertilizer should be placed with the seed, or a couple inches below the seed, especially in reduced till systems.”

For copies of the Fertilizer Fact Sheet, please refer to the Web at:

<http://landresources.montana.edu/fertilizerfacts> (#47). Contact your local MSU Extension agent at:

<http://extn.msu.montana.edu/localoffices.asp> or crop advisor for help with specific fertilizer decisions.



# MARCH 20th!