DAIRY GRAZING ECONOMICS
Tom Kriegl, WI

Management Intensive Rotational Grazing (MIRG) has become a more common dairy system in the northern United States. An analysis of actual farm financial data from over one hundred graziers in the Great Lakes region provides some insight into the economics of grazing as a dairy system in the northern United States. The following conclusions are derived from a report of USDA Integrated Food and Agricultural Systems grant project #00-52501 9708. This report is available at the following web site http://cdp.wisc.edu/.

1. There is a range of profitability amongst graziers.
2. The average grazing herd with less than 100 cows had a higher unit profit per cow and hundredweight equivalent (CWT EQ) than the average grazing herd with more than 100 cows. Much of the difference was accounted for by the cost of paid labor.
3. In three years out of four, the average grazier in the data that used the seasonal calving strategy (all cows dry simultaneously each calendar year), had lower unit levels of profit per cow and per CWT EQ than the average non-seasonal herd.
4. The graziers in the study were economically competitive with confinement herds in the states that had comparable data from both groups.

Winter 2005-2006
Maximize the Use of the Spring Grass Surplus
Ed Heckman

As you keep planning and re-planning your grazing management, one thought probably bounces back repeatedly. What should I do when I have too much pasture, and what do I do when I have too little pasture? Since the feed supply is changing every day, it can be difficult to keep supply under control.

A walk through your paddocks every ten days will provide an estimate of quantity and quality. The total amount could be put on a graph. This line will "react" according to your management and the weather. Another line could be drawn on the same graph to show the total needs of your livestock for the entire year. Forward planning is your insurance policy, which will prevent a roller coaster "management ride".

Surplus grass can occur any time. The surplus that most of us is familiar with is when spring growth surpasses demand. Surplus may exist when stocking rates are too low or when too much fertilizer is applied. It is only by letting our livestock leave grass on their "plate" and matching this with observation that we can start determining a true grass surplus.

In the Midwest, a grazing rotation of fourteen days is needed to maintain control with a stocking rate of 25 to 35 lactating dairy cows per acre per 24 hours. The cows should graze one half of what is offered. When they start leaving more than half, skip the next paddock to be grazed, and graze the one following, because this one will have less feed.

If the cows then leave half the feed, you are back on the right track.

The "skipped" paddock can be break fed later, if growth slows, or it can be mowed and harvested as stored feed. The sooner the surplus is removed, the sooner the paddock is back in the rotation and the whole grazing area will be working at maximum growth levels. The sooner that grass is grazed, the less time it takes to get a return on it.
Graziers’ Comments

Ed Heckman

Cows will take a certain number of bites of grass each day. When they use up their daily quota of bites, they will stop grazing even though they are not full.
Fred Owen, OH

A highly digestible pasture produces runny manure. When forage moves through an animal’s system quickly, livestock get hungry; they eat more and produce more.
Vaughn Jones, NZ

It is common to see graziers achieving 20 to 30 percent improvement in pasture utilization in a single season with improved management. That is a rate unmatchable by genetic improvement.
Phil Evans, Australia

How much we enjoy what we have is more important than how much we have. Life is full of people who have more than they know what to do with but cannot be content. It is the capacity to enjoy life that brings contentment.
Unknown Author

I know of no pursuit in which more real and important services can be rendered to any country than by improving agriculture.
George Washington

You must do what you want to do; the money will follow.
Steve Bonney, IN

The path to happiness is to find something you really like to do and figure out ways to have people pay you to do it.
Dave Gneiser, WI

Create a fenced-out area, an area that is not grazed by livestock. See what total rest will do for the land. This becomes a key monitoring area.
Wayne Burleson, MT
MARK YOUR CALENDAR
NORTHERN INDIANA GRAZING CONFERENCE
February 3, 2006

The Northern Indiana Grazing Conference has been scheduled for February 3, 2006 at the Antique Auction Barn in Shipshewana, Indiana. The one-day conference will begin with registration at 7:30 a.m., educational sessions begin at 8:30 and the conference will end around 3:45 p.m. There will be a break from 3:30 to 6:30 p.m. with the evening program beginning at that time. The purpose of the conference is to give graziers across northern Indiana and surrounding areas an opportunity to network with professionals and local farmers about old and new technologies relating to grazing.

The one-day pre-registration fee is $25.00 for the first person in the family and $15 for additional family members. Registration deadline is January 20, 2006. Late or on-site registration is $35.00 per person. There is no charge for the evening session.

Speakers for the day include:

- Tom Weaver, Weaver Feeding & Management, Wisconsin – “Raising Healthy Replacement Heifers”
- Vance Haugen, University of Wisconsin Agriculture Extension Agent – “Dairy Parlors”
- Otto Knottnerus, direct marketer from St. Joe, Indiana – “Grazing Beef”
- Jason Karszes, Cornell University – “Financial Recordkeeping for Graziers”
- Mike Martin, Waukarusa, Indiana – “How Rotational Grazing Helped Turn His Farming Operation Around”
- David Zartman – Department of Animal Sciences at Ohio State University – “What Advantage do We Have as Graziers?”
- Farmer Panel – “Maximizing Tonnage with Annuals” – Participants Bob Clapper, Ohio, Perry Yoder, Indiana and Tom Weaver, Wisconsin
- Evening Session – Tilak Dhiman, Utah State University – “Benefits of Grass Fed” & Alan Yegerlehner, Clay City, Indiana – Marketing On-Farm Products (including what he sells, packaging, etc.)

Throughout the day participants will be able to visit with trade show exhibitors ready to supply information and products to assist with daily farming operations.

The conference is being planned with input from local farmers serving on a planning committee with assistance from Purdue Cooperative Extension Service, LaGrange Co. Soil and Water Conservation District, and USDA Natural Resources Conservation Service. For more information about the conference and to be placed on the mailing list for registration flyers, contact LaGrange Co. Soil and Water Conservation District at 260-463-3471 ext 3.

Remember to get your registration in early to avoid paying the late registration fee.

Highway Fabric Keeps Cows Drier and Protects Environment

A high-strength fabric designed to keep rock in highways from sinking into mud can be used to keep cows dry around the barn, in lanes and around watering areas.

“When it rains, the porous filter fabric allows water to drain through, while preventing crushed rock from sinking into the mud. These filter fabric pads provide suitable surfaces for feeding areas, stable stream access, vehicle traffic areas, gateways and travel lanes,” said Mason Howell, extension agent for water quality with the University of Kentucky College of Agriculture.

In addition, the use of the fabric cuts down on the amount of rock needed in the traffic surface, cutting down on future maintenance. The fabric filters also improve herd health and increase performance, compared with those in muddy lots. Nursing cows are not exposed to as many pathogens when such pads are used.

Cows and backgrounding calves also increase feed intake because they are not expending as much energy walking to the feed bunk. The fabric comes in two types: geotextile porous filter-type materials, and polyethylene-type plastic grid materials, he said.

The installation of the highway fabric is relatively easy. First, the area is graded or excavated six to eight inches deep and the fabric put in the area. Then #4 crushed limestone rock is placed on top of the fabric to a depth of four to six inches. Finally, a layer of 2-3 inches of fine material such as lime or fine crushed rock, sometimes called “dense grade” or “crusher run”, tops the area. “The fine material on top of the filter allows the cattle farmer to scrape manure as it accumulates on top. It also is easier on the animals’ hooves. Water moves throughout the layers maintaining a dry, stable surface,” Howell said.

“Several feeding pads and loafing areas have been developed using the filter fabric on Kentucky farms. To increase pad longevity and maintain good conservation practices, the pads should be placed on deep well-drained soils away from sinkholes, streams and other water sources,” Howell said.

For more information about filter fabric pads and their design, contact the Department of Agricultural Engineering, 109 Agricultural Engineering Building, University of Kentucky, Lexington, KY 40546.

SWCD/NRCS offices also may have information about filter fabrics.
Indiana Forage Council’s Annual Meeting and Seminar

Plans are coming together for the Indiana Forage Council’s Annual Meeting and Seminar. The cost to attend is not known at press time. Information will be posted to the web by January 9. See:

www.agry.purdue.edu/forages or www.agry.purdue.edu/ext/forages/ifc/

February 16, 2006
Cornerstone Hall at Salem, IN www.cornerstonehall.com
4:30 p.m. EST Annual meeting

6:00 Supper – Pre-registration is required and a cost will be advertised on the flier and website (Will be less than $15.) Pre-registration will be done through Keith Johnson’s secretary, Lisa Metts (lmetts1@purdue.edu).

7:00 Seminar topic of “Money-Making Annual Forages”
Speakers will be Cliff Schuette, a producer from Breese, IL, and Mike Northcutt, a seedsman with Production Plus Seeds, Plainview, TX
Discussion topics will be how different annual crops can be used to make the total pasture system more cost-effective.

9:00 Adjournment

It is not necessary to attend the annual meeting of the Forage Council to attend the supper and the seminar.

Contact Keith Johnson, Forage Crops Specialist, Purdue University, 765-494-4800, for more information.

Feeding Hay Wisely Can Save Money

Feeding hay more efficiently this winter can save producers up to 5% of their supply, says Bruce Anderson, University of Nebraska forage specialist.

“Believe it or not, cattle trample, over-consume, foul and use for bedding 25 to 45 percent of your hay, when it is fed with no restrictions,” Anderson says. “Since hay is expensive, don’t let the long hours of harvesting, storing and feeding go to waste.”

Feeding just one day’s supply at a time or only when cattle have cleaned up a meal can reduce overeating. Anderson says research shows that when cows are fed a four-day supply, they will overeat and waste 20-30% more hay than when they are fed one day at a time.

“That adds up to $35 or more per cow over a four-month feeding period,” he adds.

Some other tips:

Restrict hay access by using bale racks or rings to keep animals off the hay.

Racks with barriers around the bottom prevent livestock from pulling hay loose with their feet and dragging it out to be stepped on.

If you unroll bales or grind and feed on the ground, position an electric fence alongside or above the hay to keep cows from trampling or bedding down on the hay.

Anderson also stresses the importance of providing sufficient feeding space to allow all animals to eat at once. Otherwise, boss cows may keep timid cows from getting their fair share.

He also recommends feeding a balanced ration that provides sufficient energy and protein, but not too much. Animals that eat too much protein will excrete it as extra nitrogen in their urine. This is as wasteful as directly trampling hay into the ground, he says.

Michigan State researchers found a range of 3.5 to 14.6 percent dry matter waste when feeding large round bales. They concluded that a cone-type feeder had the least wastage, followed by a ring feeder, then trailer feeders. The use of a cradle-type feeder resulted in the most wastage. The best hay utilization occurred when cows were fed in a cone or ring-type feeder with a hay saver.

If there are inaccuracies in your address label or if your circumstances have changed and you no longer want to receive this newsletter, please notify Ed Heckman by using one of these methods: 765 557-0401; btrefoil@yahoo.com, or 29183 N. Duck Creek Ave., Atlanta, IN 46031. In addition, if you would like to receive this newsletter electronically or if you want to add someone to the mailing list, use the same methods to contact Ed.
How To Know When To Move To Fresh Pasture

The right time to rotate pastures depends on many factors. Making the following six observations can help with the decision:

Look down. Has the present paddock been used as much as desired, or is there too much forage left? In general there is a tendency to overgraze a pasture. Leave a little more forage than seems necessary. That necessitates moving the livestock sooner.

Look ahead. Is the next paddock ready for grazing? How fast is the pasture growing? Fast growth may indicate the need to speed up the rotation or harvest some paddocks for hay. Slow growth signals the need to lighten the stocking rate, add acres to the grazing system, or feed hay.

Look at the animals. Do they appear hungry? Are they in good condition? Livestock can let a manager know when they want to move, but their desire to move may be too soon for high utilization. High-performing animals should be moved more frequently.

Look behind. How fast is the last paddock regrowing? Periods of slow growth may signal the need to slow the rotation, reduce the stocking rate, or feed hay. The stocking rate can be reduced by adding grazing acres, or by selling animals or by moving animals to other pastures. Slowing the rotation (more days per paddock) increases days per paddock and makes animals graze closer and gain less. Future regrowth from these “overgrazed” paddocks will be slower.

Look at the weather. Approaching rain can signal the need to move from pure legume to grass-based pastures to prevent pugging of the soil and damage to the legume stand. Animals should be removed from Johnsongrass and sorghum-sudan type pastures prior to frost.

Finally, look at the calendar. During the active growing season, April to October, residual forage height should be managed to all for fast regrowth. On fall and winter stockpiled pasture, graze longer and closer on each paddock to use the forage that otherwise would be lost during the winter.

Frost-Seed Pastures

Late winter’s warm daytime temperatures and freezing nights are perfect for frost-seeding legumes in pastures or hay fields, according to Ohio Grazing Program Leader, Ed Vollborn, retired.

The freeze-and-thaw cycle helps broadcast seeds get into the soil. Frost seeding saves time and money. A broadcast seeder can cover twice the ground of a drill. Research also shows frost seeding yields and stands are comparable to those that are conventionally planted. Legume forage yields can rise by up to two tons per acre.

Frost-seeding works best with a management-intensive grazing system. When cattle trample seeds, they improve seed-to-soil contact, especially in late seedings, or when seeds are exposed. Fall and winter grazing before seeding cuts forage growth and also opens the sod, allowing better soil-to-seed contact. Keeping plant growth down is important because broadcasted seeds can become lodged or stuck in tall forages and never reach the soil.

Grazing the prior year’s growth also reduces competition between established plants and new ones that require plenty of sun.

Red clover, which establishes rapidly, is winter-hardy and disease-resistant, is good for frost-seeding. Birdsfoot trefoil and ladino clover are slower to establish, but viable.

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Red clover mixed with ladino clover aids quick establishment. Four pounds of red clover and 0.5 to 1 pound of ladino clover per acre works. If planting legumes alone where clovers are absent, plant these species at the following rates per acre: red clover, 6-8 pounds; ladino clover, 2 pounds; birdsfoot trefoil, 6 pounds; lespedeza, 8 pounds.

Producers should avoid grasses. Lightweight grass seeds will not fly as far as legumes do, resulting in an uneven stand. Grass seeds also get stuck in existing plants more than legume seeds.

Soil tests are needed to match legumes with the soils. Soil acidity, drainage, and fertility all affect legume choice. For example, when soil pH is 6 or less, consider clover, birdsfoot trefoil or Marion lespedeza. These legumes also do well in poorly-drained soils.

Rotational grazing can help in managing the newly-seeded stand. Grazing removes top growth, which helps new plants regrow during rest periods. This also opens plants to sunlight.

Frost-seeding can be done every year. Re-seeding is crucial if stand productivity drops in the fall. Knowing the cause of the decline is key. However, before deciding to reseed, producers should find out the cause of the decline, in case it was due to improper seeding, poor establishment, disease or poor legume selection.
A key part of any grazing system is a clean, reliable water source. It is preferable to have water available within a walking distance of no more than 600 - 800 feet. Keeping the animals from entering the water source is important in minimizing disease related problems and keeping everyone happy. The management system that most of us develop is a process of “fixing” the weakest link. The first step for a grazing system was to control the animals. Once the “control” is in place, often water becomes the weakest link or limiting nutrient.

Improved forage utilization is one of the main benefits of a good water source plan. In one University of Missouri study with non-uniform grazing of a 160-acre grazing cell, a theoretical yield loss of almost 19% was reported, when cattle had to travel more than 900 feet to water. Studies have also shown that gains can improve by 20% with easy access to fresh water. Increased water consumption does have a positive impact on milk production.

Several pieces are important in putting together a sustainable water system. A source, a delivery system, and easy access are all important links in a water system for grazing cattle. In most parts of our region, spring developments provide an excellent source of water. These usually involve a tile to a collection basin and a gravity line to a concrete water tank. If the spring water vein is high enough up the elevation, a series of gravity flow tanks can be developed from the overflow of the higher elevation tank. Given a dependable spring near to an electrical source, the collection basin can be a large container (septic tank type) equipped with a submersible pump to provide a pressure system. Ponds provide a good water source, if the animal access is from a tank below the pond. Solar pumps offer another option in areas where no electric power is available and water needs to be pumped. Water can be pumped from a “sump” or “collection tile” near a stream, keeping animals excluded from the stream, to a water tank in the grazing area. There are still a lot of unknowns about this system, such as life of the pump. Pasture pumps, hydraulic rams and sling pumps are other options, but they may require more attention than most of us are willing to exert.

Portable water systems add a new level of flexibility to the grazing system. Burst-proof pipe, small tanks with full-flow valves and quick couplers make these systems farmer-friendly. Much of this technology is borrowed from the trickle irrigation industry. Many producers are surprised at how small a water tank can be used with these systems. Like the fencing system, nothing should be permanent the first year or two, until an optimum design is attained.

What can you spend on a water system? Every operation is unique with no two plans exactly alike. A very general rule of thumb is that the water system may cost about twice the cost of fencing per acre. Ben Bartlett, Michigan State Extension Service, says that cost of materials for a simple, potable distribution system could be as little as a two-year payback on a 40-acre, 8-paddock system in a worst case scenario. A word of caution again is that each operation is different. Payback will be determined by how the “weak link” really impacts the end results. A good water source 500 feet from stocker cattle, replacing a mud hole one-half mile away, will likely have a bigger financial impact than replacing a clean source 1,000 feet from a cow herd with a closer source. Always “pencil out” a payback plan before investing in an improved water source and access system.