ExtensionView

News from ISU to NE Iowa Dairy and Beef Producers

Baleage May Fit in Your Forage Plan

as many producers credit forage quality and yield as the cornerstone of their success. According to research looking at forages for beef and dairy cows, good quality forage is worth producing and preserving in storage due to its added value to cattle. So, steps taken to produce and preserve high quality forage can pay big dividends.

Baleage systems use plastic wrapping to completely wrap individual round or large square bales. The machine and plastic costs are typically more than offset by less harvest and storage (yield and quality) losses. Energy loss in dry or rain-damaged forage is often much more significant than protein percent loss.

Research reveals significant yield and quality losses from both rained on and non-rained on hay relative to its yield and quality potential as a standing crop. Chopped silage systems have allowed producers to capture much of that quality. The advent of baleage systems has provided a new avenue to recapture that lost quality and yield in a large square or round bale form.

Wisconsin data suggests baleage is no more expensive than other forage systems. Costs are pegged at $60/ton for steel/glass silos, $41/ton for bunker silos, $36/ton for concrete stave silos, and $32/ton for trench silos, silo bags and wrapped baleage. Dry hay has a sizeable cost in yield and quality loss.

If considering baleage in your system, it is important to realize palatability can be drastically different depending on layers of plastic used. A study of cattle consumption showed that when harvested as dry hay, it was 44% palatable; when wrapped with two layers it was 53% palatable; when wrapped with four layers it was 84% palatable and when wrapped with six layers it was 88% palatable. So, four layers may be adequate but when wrapped for lactating dairy cattle, six layers is probably best due to increased consumption. Using only two layers increases temperature and allows continued respiration.

Cost run about $3/bale to wrap. Suggested moistures are 45%-65% but can be wrapped as low as 25%-30%. Don't delay wrapping and maximize bale density to exclude more oxygen. And lastly, consider storing bales on end rather than on side because more plastic typically is on the ends rather than on the circumference.

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Dairy Tours

are hosted by ISU Extension and the NE Iowa Community-Based Dairy Foundation. These tours assist in keeping Iowa dairying competitive with other regions.

Tour 1, April 6-9, Idaho

The Idaho tour will visit 10-12 dairy operations and a cheese plant. We will study how Idaho has been rapidly expanding their dairy industry and why they expect that expansion to continue. There will also be some sight-seeing. The cost for this tour is $265 or $355 (single room). This fee covers air fare from Twin Cities, lodging, meals, bus tours and some incidentals.

Tour 2, Vermont-New York, June 20-25, 2000

The Vermont-New York tour will feature a variety of farms—small pasture dairies, organic production, unique niche markets and larger dairies. Selected agri-business and institutional visits are planned. This tour starts in Hartford, CT and departs from Buffalo, NY after a visit to Niagara Falls. The cost for this tour is $340 or $490 (single room). This fee covers bus to Chicago, airfare to Hartford, tour bus, lodging and all meals except Saturday eve.

Dairy Tours Information:
Call Ron Orth, coordinator, at (515) 292-2667 for more information on either tour.

Establishing Kura Clover is tough but its persistance, winter-hardiness, grazing tolerance and high quality features keep producers and researchers working on better establishment methods.

Kura mixes well with all other grasses currently used for forage. Its only apparent limitation is its establishment. Kura clover seedlings germinate, emerge and develop the first three true leaves at about the same rate as other legumes, then leaf development slows and energy from photosynthesis for root and rhizome development is used. It produces few or no upright stems its first year and its short stature makes it susceptible to shading.

There are no "tricks" to establishing kura clover as the same steps recommended for other legumes apply. However, kura clover is less forgiving if the steps are not carefully followed. The basic goals are to insure good seed-soil contact, inoculation by appropriate rhizobia and control of competition after emergence.

Although stand density and forage production in the seeding year will be low, kura clover produces rhizomes and individual plants can spread from six to 12 inches per year after successful establishment. Initial thin stands have the potential to improve over time. So, time spent to maximize chances of successful establishment should be considered to be an investment providing returns for years to come.

Inoculation of Kura Clover with rhizobia can fix atmospheric nitrogen into a form useful for plant growth. This is essential for successful establishment and long-term productivity. Failure to put proper strains of rhizobia in contact with young kura clover seedlings will result in certain failure of the kura stand.

Field and Seedbed Preparation for Kura Clover consists of adjusting soil pH and fertility levels to those of red clover. Perennial weeds should be controlled the year before sowing. In the spring, prepare a firm seedbed free of large clods and weeds. Seed size is about the same as alfalfa but because it spreads by rhizomes, a lower rate can be used. Successful stands have been obtained with 5-8 pounds seed per acre. If seedbed conditions are not ideal, use the higher rate. Shallow sowing of kura clover is important and ideal depth is ¼ to ½ inch. Cultipacker seeders or drills with presswheels can be adjusted for proper sowing depth and packing for good seed-soil contact.

Kura Clover Mixtures with grasses have advantages whether used for pasture, hay or silage. Kura clover has very high protein and very low fiber contents so bloat is a serious concern when grown in pure stands for grazing. Kura clover also contains high levels of moisture and does not stand very well so is difficult to cut and wilt or dry for silage or hay when grown in pure stands. Grass not only aids bloat reduction but also in keeping semi prostrate legumes more upright and also speeds wilting or drying.

Wisconsin researchers have successfully sown and maintained kura clover with Kentucky bluegrass, smooth bromegrass, orchardgrass, reed canarygrass, and tall fescue. The appropriate grass(es) will depend then on soil conditions, intended use of the mixture and skill in managing some of the aggressive grasses.

Use of Companion Crops with kura clover establishment can result in additional forage in the establishment year and reduced soil erosion on hilly sites. Small grains should be sown at 1 to 1.5 bushels per acre and grazed when vegetative or harvested for silage in the boot stage. Mixtures of birdsfoot trefoil (2 pounds) or red clover (1 pound) with kura clover (6 pounds) have resulted in higher forage productioin during the establishment year without significant negative effects on long term kura clover performance.

Sowing Kura Clover is best done in spring or in late summer. Early spring (April 15) takes advantage of usually abundant moisture, but annual weed pressure can be severe. Late summer (July 15-Aug 15) sowing can become riskier because of unpredictable rainfall and impending freezing temperatures, but weed competition is avoided. Because kura clover will most often be sown with a grass, options for herbicides are limited. Control of annual weeds after emergence can be usually be accomplished by strategic grazing or clipping several times. If grazing is used to control weeds, it is best to put hungry animals onto the pasture and remove immediately after they have grazed weeds to desired level. Soils should be firm to avoid excessive damage to kura clover seedlings.

No-Till Seeding of Kura Clover into suppressed or killed grass sod is an alternative method if biennial or perinnial broadleaf weeds have been controlled one to two years prior. Gromoxone Extra (paraquat) can be used to temporarily burn down existing grass in the early spring and the kura clover sown within 1 to 2 days after herbicide application. The grass will recover within 3 to 5 weeks and must then be controlled by grazing or clipping to minimize competition. This system will only work if summer rainfall is "normal" and if grass is controlled.

If the existing sod is killed with glyphosate (Roundup) then kura clover and the desired grass will need to be sown. The existing sod should be treated with glyphosate the previous fall to allow early no-till sowing. Spring treatment after vegetation has reached 6-8 inches will work, but will delay sowing. Use of a small grain companion crop in killed sod will reduce erosion. Competition from the small grain companion crop will have to be controlled by grazing or clipping.

ISU Fact Sheet 110. Prepared by Larry Tranel, ISU Extension Dairy/Beef and Forage Field Specialist based on work of Dr. Ken Albrecht, agronomist, University of Wisconsin-Madison. February, 2000.

Feeding Dairy Cows on High Quality Pasture

Many studies suggest that quality pasture reduces input costs and increases net returns. Benefits cited include: 1) increased yield and quality of forage 2) decreased purchased feed 3) decreased equipment and fuel 4) decreased manure handling and bedding 5) better animal health and 6) reduced labor to feed or harvest the forage.

Successes at maintaining good milk yield are generally due to an ability to optimize pasture yield and quality; supplement rations to meet energy requirements; and balance diets for undegradable protein.

Yields of high quality pasture forage can be similar to yields obtained on most farms that mechanically harvest forage for hay or silage. Quality pastures can achieve 4- 6 ton of dry matter per acre and can be grazed 6-9 times each season. Proper grazing management is the major factor determining yield and quality of forage.

Proper grazing management includes keeping the grass vegetative-this means leaving enough residue (6-8") after grazing to allow regrowth from photosynthesis in addition to root reserves. Grazing occurs before the reproductive stage (8-16" depending on species) so quality is high and growth fast. Proper management also includes rest after grazing. Pastures need adequate time to replenish root reserves as more continuous grazing weakens pasture plants. Thus, cows should be offered fresh forage after each milking and not be allowed to regraze areas grazed less than 3 days prior.

Selection of forages also impacts both yield and quality. Grasses and legumes grown together typically increase 10%-15% compared to monocultures. Forage intake is also increased by adding legumes to pasture. Legume-grass pastures are better than pure alfalfa pastures because of greater yields, better persistence, reduced bloat and higher milk production per acre. Cows on pasture tend to have lower grain intake which decreases total dry matter intake but does not consistently affect milk yields, body weight or cow condition. When milk per acre is calculated, the legume-grass pasture system can produce similar milk yield per acre compared to confinement feeding.

Forage utilization in grazing dairy cows may differ from forage utilization in cows fed alfalfa silage. Ruminal disappearance of dry matter is faster and more extensive for cows on fresh forage diets than for cows on alfalfa silage diets. When fresh grass is compared to ensued grass, significant water soluble carbohydrates are lost.

Lower dry matter intakes, lower rumen volumes and lower digesta weights of cows on pasture relative to cows fed alfalfa silage indicate something other than physical fill (NDF) limits intake.

The rumen environment (pH) of pastured cows, unlike cows fed alfalfa silage, is suggested to be more controlled by intake of forage than by intake of grain. Cows on pasture can have the same level of milk production and milk components as cows fed alfalfa silage but they consume less grain and forage which leads to lower rates of forage and liquid passage, lower total digesta weight and lower rumen volume. Cows on pasture also have higher rumen pH ammonia concentrations and lower total VFA concentrations.

Supplemental grain is critical if high milk output and maintenance of body condition are priorities. In general, each additional pound of grain increases milk yield between .5 and .67 pounds per day. Each pound of grain will increase total dry matter intake .4 to .6 pounds per day thus decreasing forage consumption .6 to .4 pounds per day. The break-even for grain supplementation, depicted in the following table, depends on 1) response in milk 2) cost of grain 3) value of milk and 4) value of forage not consumed because substituted for grain.

	Milk price, $/cwt			
Response*	14.00	12.00	10.00	6.00
	(Breakeven grain price cents/lb---------)			
.70	9.8	8.4	7.0	4.2
.40	5.6	4.8	4.0	2.4

*pounds of milk produced per pound of grain supplement.

Typical recommendations are 1 pound of grain supplement to 3.5 to 4 lbs. of milk produced. Early lactation rations should contain .78 to .80 Meal Nel/lb DMI. The benefits to grain supplementation on pasture include increased energy intake; stimulation of rumen bacterial protein synthesis and increased dry matter intake. Milk yield, body condition and reproduction respond to supplemental grain. Grain supplementation will also make up for reductions in forage quality. Starch utilization, which assists rumen microbial protein synthesis is anther benefit but is affected by amount, form and frequency of feeding. Finer grains can improve utilization due to rapid rumen passage.

Research with high producing dairy cattle indicates that cows under grazing conditions lose more body condition in early lactation and tend not to gain weight as rapidly in mid to late lactation compared to confinement cows. Lower rumen fills decrease apparent body weight so cattle appear thinner than actual body stores of fat indicate.

High quality pastures are relatively high in crude protein but low in by-pass protein compared to NRC guidelines. Cows fed higher by-pass protein concentrates tended to produce more milk and milk protein than controls. However, if converted to fat corrected milk no difference showed in yields. Other work indicates that the marginal returns from supplying additional by-pass protein may not always cover the added expense. By-pass potein is only a limiting factor after adequate energy needs are met.

Another limiting factor can be forage consumption. Cows typically eat 22 to 28 lb of forage dry matter per day. At 25 lbs of dry matter**,** this would be the equivalent of 28.4 lbs of hay at 88% DM; 50 lbs. of alfalfa silage at 50% DM; or 167 lbs of fresh pasture at 15% dry matter.

Time needed to consume forage depends on: 1) Bite size which ranges from .25 - 2.5 grams dry matter/bite 2) Eating rate which ranges from 50-65 bites/minute and 3) time spent eating which could range from 2-10 hours per day. If eating a TMR at 2 grams per bite x 55 bites/minute x 60 minutes/hour divided by 454 grams/lb equals 14.5 lb DM/hr. If 50 lbs. DM are consumed divided by 14.5 lbs/hour, equals 3.4 hours per day eating time using 11,220 bites per day.

A cow on pasture eating 25 lbs DM forage and 20 lbs of supplement can be challenged in DM intake even when optimizing sward density, height and area offered. A cow consuming .5 g DM/bite x 5 5 bites/min x 60 min/hr) divided by 454 grams/lb = 3.6 lb DM per hour. Thus, 25 lb DM on pasture/ 3.6 lb DM/hour needs 7 hours per day eating time on pasture alone. Then, add in the supplement at 2 g DM/bite x 55 bites/min x 60 min/hr)/454 g/lb which is 14.5 lb DM per hour. This 20 lb DM/14.5 lbs DM/hour equals another 1.4 hours /day eating. So, total bites/day = 55 x 60 x (7 + 1.4) equals 27,720 total bites eaten by the dairy cow on pasture.

This time function of grazing relative to dry matter intake on pasture can also be related to season and /or seasonal dry matter production as depicted below:

	Spring	Summer	Fall
Grazing time minutes/day	490	540	570
Rate of biting, bites/min	59	65	65
Intake per bite, g DM	0.50	0.32	0.28
Pasture intake, lb DM/day	32	24.6	22.9

Many cows are limited on intake due to quantity of quality pasture offered which contributes to overgrazing. Overgrazing is defined as allowing or forcing cows to leave less than 35-40 percent DM residue in the pasture. This overgrazing contributes not only to lower DM yield from the pasture but also can lower milk yield per cow and acre. Leaving ample DM residue (6-8') is an integral part of balancing high milk and pasture production--an aspect often overlooked in grazing.

Another often overlooked aspect is the negative impact of grain feeding when pasture intake is less than expected. If balancing a ration for 70 lbs of milk and pasture intake is 10 lbs of dry matter lower than formulated ration, the loss in dry matter intake could result in shortage of 5 Mcal of energy and 4.7 pounds of NDF. This scenario can and does severely affect rumen pH and cause sub-acute nunen acidosis.

Heat stress is another often overlooked area of management in high producing dairy cows on pasture. Heat stress needs to be managed so cows maintain adequate dry matter intakes. Early morning pasturing (between 6-10 am) should be encouraged on hot days and evening pasturing coupled with a mid afternoon supplemental TMR or com silage feeding. A shaded feedbunk equipped with a misting system or a misted holding area equipped with a wind tunnel ventilation system can effectively cool cows on most hot days.

So, feeding high producing dairy cows on quality pasture has its challenges in optimizing pasture yield and quality; meeting cow energy requirements; and balancing diets for undegradable protein. Producers also need to concern the time function of dry matter intake relative to pasture sward density, height and area offered. In addition, an awareness of the negative dry matter intake impacts of overgrazing is as important as the yield of dry matter lost in subsequent grazings.

It is the author's perspective, that many of the difficulties in pasturing dairy cows is due to inadequate sward densities of high quality forage and feeding schedules which inhibit higher dry matter intakes due to environmental factors, especially heat.

ISU Fact Sheet LT-106 prepared by Larry Tranel, ISU Extension Dairy/Beef and Forage Specialist.
Co-authored by Dr. David Combs, Dairy Scientist, UW-Madison.

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Nitrogen Fertilizer on Grass Pastures is one of the two biggest factors limiting growth. The other is moisture. Nitrogen deficiency in pastures is commonly indicated by lush, dark green growth surrounding manure and urine spots. It is important to consider nitrogen (N) fertilization and decide if, when, where, what source and how much N to use.

Is N fertilization necessary? If current forage production meets grazing or haying needs, then N may not be necessary. If production is less than desired, N might be useful. First, get a soil test for fertility recommendations for area soils and climate. If soils are lacking in phosphorus (P) or potassium (K), the pastures will not be as responsive to N. So, overall fertility is important.

When to apply N is just as critical. Spring applied N is helpful to increase production if harvested. However, if grazed and forage is already abundant, added growth at this time may not be efficiently used by animals. If so, then a mid-late June application may be the best return to increase mid-summer forage production when it may be more needed. N research in Minnesota showed that applying N in June increased forage production in July and August 0.3 – 0.7 tons/acre.

Since many pastures are under-used in the spring and over-used in summer, one application of 50-75 lbs N/acre in mid-June may be the most profitable in pasture systems. Above 75 lbs N/acre, split applications are a good choice. If applying 100 lbs N/acre, consider applying 50 lb in mid-June and 50 in mid-July. The mid-July application would be to stimulate growth for stockpiled grazing in the fall. If applying 150 lbs N/acre consider three separate applications with 1/3 (or less) in spring, 1/3 (or more) in mid-June and 1/3 in mid-July. At all N rates, efficient use of extra forage is important.

The method in which pastures are harvested will also affect N fertilization strategy. Three tons of grass hay containing 12.5% crude protein will remove about 120 lbs N/acre. If grazed, over 80% of N consumed by livestock is returned to pastures as urine and feces. N fertilization in grazed pastures can be an effective way to increase total N in pastures. However, N is often not evenly distributed by grazing animals. Grazing with higher stocking rates for shorter periods can assist distribution. Shading and watering locations can greatly inhibit N distribution unless well managed.

Nitrogen fertilization effects on grass pastures enhance plant tops (leaves) which means more forage production per acre and thicker stands. However, it may not lead to better animal performance if not efficiently utilized. N can also affect botanical composition since it will favor more productive grasses. For example, smooth bromegrass and quackgrass will tend to increase over bluegrass with N pasture fertilization.

Nitrogen can impact grass-legume mixtures as it tends to favor grass growth, especially when harvested for hay. P and K tend to favor legume growth. However, under grazing, legumes can generally compete with grasses, even under relatively high N rates. Also, it's important to realize that grass-legume mixtures tend to increase production about 15% over either grown alone. The grass-legume mixture tends to also be a higher quality mix over straight grass mixtures.

Nitrogen sources to pasture by growing legumes or animal manure can be an excellent option. Legumes can provide 80-100 lb N/acre to grasses in a pasture. Manure and urine can return 80% of the N produced by the grazed pasture legumes. Legumes are not only an excellent source for N but research shows that even 200 lb N/acre on cool-season grass pastures (primarily bromegrass) was not as competitive as a grass/legume pasture. The fertilized grass stand produced 20% less forage. It may be easier to manage grass pasture with N than to manage legumes in a grass-legume stand.

Identify and Focus N inputs on more productive areas which contain more fertile soils and more productive species to get the most bang for the bucks. Urea is generally the first and cheapest source if straight N is the concern. If urea is the choice, then try to apply timely before a rain as up to 20% of effective N can be lost to volatilization according to Wisconsin researchers. Compare cost differences along with volatilization potential.

Trials in Michigan using N costs at $0.185/lb plus $3.75 application cost/acre show that added yields of 0.7 tons/acre for each additional 50 lbs N produced forage value twice that of the N application costs. Forage was valued at $50/ton of hay. If forage was only 60% utilized, returns to each 50 lb additional N on bromegrass pasture were $8-$9 per acre. Thus, if utilized, N response to grass pastures is an investment to consider.

ISU Fact Sheet Lt-107. Prepared by Larry Tranel, ISU Extension Dairy/Beef and Forage Specialist partially based on work of Greg Cuomo, Univ. of Minnesota. February, 2000.

Free Stalls – Through the Eyes of Cows

By Dale Thoreson, ISUE Field Specialist, Dairy/Beef/Forages

I do my best for you when I'm comfortable. You see, I would prefer to lie down about 14 hours out of every 24-hour period. Your research folks out in California have shown that I have nearly twice as much blood flow through my udder when I'm lying down versus standing up! Allow me to review your free stalls as I would approach them.

What's this? A step up of 14 inches! You expect me to get into that stall without hitting my udder? I'm not a tight-uddered two-year-old any more. You've pulled three lactations of milk from me, and my udder has a bit more depth now. Not below my hocks, mind you, but 14 inches! If you would build those curbs from 10 to 12 inches tall (shorter if you are going to use mattresses), I could step briskly into the stall; and yet you would have some storage space when the weather gets cold and all the manure isn't able to be removed.

Well, we made it over the curb. Now let's see. I wonder if I lie down, will I be able to get back up? Your relatives in Europe call these stalls "cubicles." That sounds like a small box to me. Sure hope I can get back up. Let's see, what's this bar in front of my nose for? Sure hope I can get up without banging my neck. Bet if it were placed 42 inches off the bed and straight up from the brisket board it would fit me really well. You know if these "stalls" are new to me, maybe if this bar was pushed all the way forward, it wouldn't scare me. I like friendly places.

Aha, this board in front of my front hooves! That's going to force me to lie down in the "bed." Boy, I hope you set that brisket board 66 inches from the back of the curb. That will fit my Holstein body about right. For my cousin, the Jersey, she fits nicely into a 62-inch space.

Well, let's try lying down. Ouch! Do you realize I have to drop my entire front body onto my knees--free fall! You try it. See how it feels. If it hurts you, it hurts me; and remember I make more milk lying down.

I could see sand, rubber-filled mattresses, heavy use of straw or corn stalks for my bed--soft, just like yours in the house.

Now I'm going to see if my rear side will fall into place. Sure hope you got those stall dividers 46 to 48 inches apart. That will allow me to lie down and rise without hurting my hips or hook bones.

Well, it's time to get up and eat again. I'm going to have to lunge forward just like a teeter-totter. Yup, I can stretch my head way out! There's no wall or another cow to interfere with my lunge. If you're short of room for 7 1/2- to 8-foot long stalls, then be sure to use a wide bar free stall so I can thrust my head to the side as I lunge to get up.

Wow! These free stalls are pretty nice! They give me a nice soft bed and plenty of room to get up in. They slope about 3 inches from front to rear (just like the hill I lie down on in the pasture), and I can stand comfortably in them before I leave the stall.

Now if we could get this air cleaned up! I don't mind cold weather. My coat is long and thick and stays dry if we could just get rid of some of this humidity. I really would like a curtain-sided wall--just enough to stop the wind. Yet you can open them just enough to allow that moist air to rise up to the ceiling and move out through the slot. Make that slot in the ceiling 2 inches wide for every 10 feet of barn width, and I'll have much less problems with pneumonia.

Dry, soft, and spacious are key words for my bed. Sure hope you can help me out.

"Bossie"

The Basics of Getting Cows Bred has important financial implications.

Optimizing the time cows spend in the most productive portion of lactation increases profits. Thus, producers should strive to enhance pregnancy rates in dairy cows which is essential for reducing days open and calving intervals.

Pregnancy rate is determined by both the AI service rate and conception rate per AI. Cow fertility, bull fertility, accuracy of heat detection and AI timing/technique influence the conception rate. Of these factors, accuracy of heat detection and AI timing/technique can be best managed.

Increase Your Service Rate is the most important aspect of increasing pregnancy rate.

Less than 50% of all heats are accurately detected on an average dairy farm greatly reducing service rate. Economics of improving service rate 20-30% can profit over $60 per cow/year which in a 60 cow herd is $3,600. Many dairy managers focus on increasing pregnancy rate by trying to improve the conception rate. However, more than three times the variation in days open among farms is due to differences in service rate compared to conception rate per AI. The point is, producers should focus on increasing service rate.

Expression of estrus behavior by lactating dairy cows is poor making it difficult to detect estrus by using visual observation alone.

Cows stand to mount an average of 7.2 times during a 7 hour estrus period (some have zero mounts). Cows are also in estrus an average of 7.3 hours per day, give or take about 7 hours (some are only in estrus for less than one hour). Thus, it is important to observe estrus during 3-4 evenly spaced 20 minute intervals per day to improve estrus detection.

Various strategies have been developed to improve and enhance visual estrus detection with tail chalk or paint and pressure activated heat mount detectors being the most common. These aids improve visual detection of estrus and also identify cows are not cycling and those possibly pregnant. Pay particular attention 18-25 days after AI using the heat detection aids. Improvement in service rate to second and later AI is critical to reducing days open as one heat is usually missed.

Synchronization of estrus using prostaglandin should be used with sound estrus detection and detection aids to improve service rate.

Ovsynch Increases Service Rate

Ovsynch, developed in 1995 by dairy scientists at UW- Madison synchronizes ovulation rather than estrus meaning managers no longer need to rely on estrus detection for AI. Cows are bred by appointment while maintaining a pregnancy rate similar to that of cows bred to estrus. One research reveals an economic advantage of $29.14 per pregnancy using the Ovsynch program over using a prostaglandin program and estrus detection aids (hormones, semen and labor costs also included). This advantage came in applying the cost over significantly more pregnancies.

The Ovsynch protocol involves two hormones available through a veterinarian. The first injection of GNRH induces ovulation in 65% of cows and causes emergence of a new follicular wave in 100% of cows. The PGF injection 7 days later regresses the corpora lutea, and the second GNRH injection 36-48 hours later synchronizes the time of ovulation. The following protocol for maximizing reproductive efficiency in lactating dairy cows using Ovsynch is recommended:

- Generate a list of cows > 60-70 days in milk.
- Breed any cows showing estrus during program and take off program.
- AI cows 12-18 hours after the 2nd GNRH injection without regard to estrus.
- Check heat intensively 18-24 days after AI and rebreed any cows showing estrus.
- Conduct pregnancy diagnosis 40 days after AI.
- Resynchronize non-pregnant cows using Ovsynch.

Heat detection aids such as tail chalking are a must as is good record-keeping of days-in-milk, AI and expected return dates.

All of these will assist in increasing service rate--again the foremost priority to increasing reproductive success. About 5% of cows will show standing heat during pregnancy. Normal pregnancy loss from 28-56 days post- AI is 14-16% but can be greater than 25% due to summer heat stress.

Early accurate pregnancy diagnosis by rectal palpation or other method is extremely critical for cows for reducing the days open in cows expected to have long calving intervals.

ISU Fact Sheet 109 by Larry Tranel, ISU Dairy Field Specialist and Dr. Paul Fricke, Reproductive Specialist, Dairy Science Dept. UW-Madison and University of Wisconsin-Extension. Feb., 2000

Organic Dairying is

an often touted way of adding value to dairying. Careful cost/benefit analysis is important for those considering the organic route. The additional pay price is not without additional costs.

Cows on an organic dairy generally need to be fed certified organic feed for one year prior to certification. Replacements must be fed feed which is non-medicated, including milk replacer up to one year prior to certification.

Milk equipment sanitizers and udder washes need to be approved materials unless local regulations do not permit. SCC should not exceed 400,000. Dairy animals must drink water with nitrate levels below 10 mg nitrate nitrogen/liter and satisfy state requirements concerning bacteria and microlife.

Antibiotics are prohibited in all animals over one year of age. All hormones (rBST, growth, production, breeding, oxytocin) are prohibited. Probiotics and homeopathic remedies are allowed as are all vaccinations. Systemic parasiticides are prohibited for one year prior to certification. Some "organic" parasiticides are allowed.

Organic Dairy Meeting March 6th

Find out more about organic dairying from 11 am-3 pm at the Garnavillo Community Center, 106 Niagara St. The meeting is sponsored by Organic Valley and featuring certification issues, transition process and discussion with organic producers. For more information call 319-538-4181.

NE Iowa Dairy/Beef and Forages Calender

March
6 Organic Valley Meeting, Garnavillo, 11-3, 319-538-4181
7 ISU Feedlot Monitoring Workshop, 10-3, Marion, 319-398-1272
7 Pesticide Training, People's State Bank, Elkader
8 Grazing Conference, Peosta rescheduled to March 15th
9 Pesticide Training, Middle School, Independence, 7 pm
13 Pesticide Training, NICC Peosta, 1:30 pm
14-16 Hawkeye Farm Show, Cedar Falls
15 Tri-State Grazing Conference, Midway, Dubuque, 10-3:30pm
16 Manure Certification, Extension Office, Elkader, 7 pm
22 Dairy Transition Cow Meeting, Country Junction, Dyersville
23 Dairy Transition Cow Meeting, People's State Bank
23-25 Dairy Heifer Growers Conference, St. Louis, 877-434-3377
28 Pesticide Training, F&M Bank, Manchester, 1:30 pm

April
6-9 ISU Idaho Dairy Tour, see front page, 515-292-2667
26 Pasture Walk, Dan/Bonnie Beard, 2954 Sattre Rd, Decorah

May
24 Pasture Walk, Larry Lamborn, 224 Franklin Rd, Luana

June
21 Pasture Walk, Kevin Amundson, Crystal Road, West Union
20-25 ISU Vermont-New York Dairy Tour, 515-292-2667

July
5 Pasture Walk, Dale Gaul, 16227 N. Cascade Rd, Dubuque
11-12 4-State Dairy Management Seminar, Dubuque, 319-583-6496
19 Pasture Walk, Brian/Heidi Lantzky, X Ave., Waucoma

August
9 Pasture Walk, Pat Freiburger, 2846 205th Ave, Delhi
22 Pasture Walk, Kevin Bergan, 29782 Dove Ave, Elkader
25-26 Dairying For the Future Conference, Holiday Inn, Dubuque

NE Iowa Dairy Farm Families Conference

Plans are underway for dairy producers and dairy farm families to prepare your farm and family to experience the future of dairying in Northeast Iowa. The conference will discuss dairy production and marketing along with the personal and family issues associated with dairying. So plan on joining us August 25th and 26th in Dubuque.

Dairy Transition Cow Workshops

The Dairy Transition Cow workshops will be held on March 22nd at the Country Junction in Dyersville and March 23rd at People's State Bank in Elkader from 10 am-2:30 pm. The afternoon program will be on a farm looking at transition facilities and management. Program is free. Cost of Transition Cow CD ROM or handout is $30. Lunch is $5-$7.

NE Iowa Dairy Farm Poll

Many of you received the NE Iowa Dairy Farm Poll to assist in future Extension programming for NE Iowa Dairy producers and farm families. Please take the few minutes needed to fill out and return. Thank you for your cooperation from the ISU Dairy Team.

Four State Dairy Management

Dubuque will again be the site for the Four State Dairy Management Conference on July 11-12, 2000 at the Holiday Inn/Five Flags Center.

The tentative schedule includes an 8:30 am registration. The morning session on the 11th will focus on "Meeting the Energy Demand of Dairy Cows" with prominent university dairy nutritionists. The afternoon program will focus on "Forages—From Seed to Feed" with topics on forage selection, silage storage management, plant processing/particle size and forage analysis.

July 12th will emphasize "Improving Dairy Profitability" with sessions dealing with long-day lighting, nutrition for heat stress, cost-effective facilities and dairy financial benchmarks. The afternoon program will focus on the 4-State University Research Updates and the program will conclude at 3:30 pm.

For information on the program and to obtain a registration brochure when they are printed, please call ISU Extension in Dubuque at 319-583-6496.

Inside This Issue:

Extension View *is edited by:*

Larry Tranel and Dale Thoreson
ISU Extension, Dairy/Beef and Forages

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IOWA STATE UNIVERSITY
AMES, IA 50011

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Tri-State Grazing Conference, 2000

March 15, 2000 Dubuque, IA

Producers, NRCS & Extension in NE Iowa, SW Wisconsin and NW Illinois have joined forces with ISU Leopold Center for Sustainable Ag to present the 1st Annual Tri-State Grazing Conference from 9:45 – 3:30.

Grazers and those interested in grazing are invited to take part in the conference to be held at the Midway Hotel.

In the past decade much progress has been made in the arena of Management Intensive Grazing (MIG). Much of the progress has happened due to the networking of producer grazing groups. It is our hope that the annual Tri-State Grazing Conference will provide a forum to present and discuss "what's up" in the grazing world.

Afternoon breakout sessions will entertain both dairy and beef enterprises while the morning will focus on forage varieties and species coupled with a producer panel's favorite forage varieties.

Please join us if you can! If you have any questions call:

Larry Tranel, ISU Extension
Dubuque, IA
319-583-6496

Dave Wachter, UWEX
Grant County, WI
608-723-2125

Wes Winters, Ill Extension
Stephenson County, IL
815-235-4125

Morning Program

9:45 am Registration

10:00 am Forage Program

"***What's New in Forages"***
Larry Tranel, ISU Specialist Dairy/Beef and Forages

"My Favorite Forages:"
Panel of Pasture Producers

Alan Glenn, Beef Producer
Elkader, Iowa

Russ Thompson, Dairy
Muscoda, Wisconsin

Dave Lubben, Beef
Monticello, IA

Scott Weinberg, Beef, Dairy Heifers and Sheep
Plainfield, IA

Each producer will share pasture forage favorites followed by discussion.

12 noon Lunch

The Midway Hotel is located at 3100 Dodge Street, Dubuque, IA. Dodge Street is US Hwy 20 going through Dubuque.

Please pre-register. Cost is $8 per person in advance, $10 at the door. Lunch and handouts are included.

Make checks payable to ISU Extension & send to:

Larry Tranel, ISU Extension
14742 Hwy 20 West
Dubuque, IA 52003
319-583-6496

Afternoon Program

1 pm ***Dairy Breakout***

Starting from Scratch -- Making it Grazing
Russ Thompson, Dairy Grazer

Dairy Grazing Benchmarks
Larry Tranel, ISU Extension

Feeding Dairy Cows on High Quality Pasture
Dr. Dave Combs, Dairy Scientist, UW-Madison

1 pm ***Livestock Breakout***

Tools in the Hayshed
Dave Lubben, Beef Producer
Monticello, IA

UW Lancaster Grazing Trials
Dave Wachter, Dairy/Livestock
UW-Extension, Grant County

What I Wish Somebody Would Have Told Me…
Scott Weinberg, Beef, Sheep and Dairy Heifer Producer
Plainfield, IA

3:30 pm Q & A, Adjournment

Have a Safe Trip Home!

Registration Form

Name

Address

City, State, Zip

Phone