Dear Great Lakes Grazier

The grazing season of 2013 is winding down and this one was unique. A wet spring with lots of forage to help us recover from the 2012 drought, then a cool mid-summer, followed by an Autumn that was either too dry or too wet depending upon where you live. Throw in stiff competition for all farmland if you were trying to rent more and as usual it was a challenging summer season.

If you have adequate forage left to graze in October it is probably because you either were blessed with abundant rainfall (the U.P. and Southeast regions of MI) or you had the ability to decrease stocking rates during the season. This is done either by decreasing animal units and/or increasing grazing acres.

I was fortunate to attend a conference in North Dakota this August on grass feeding & finishing beef where one of the strong themes was using cover crops to extend the fall and winter grazing season to decrease stocking rates. Farms in North Dakota in cooperation with USDA agencies have become one of the leaders in the country in using cocktail cover crop mixes to improve soil health/quality. Over an eight year period they have improved soil organic matters from 3% levels (good for Michigan) up to 11% levels in a few dramatic examples with the use of cover crops and plant materials. Their philosophy is to have a live plant root growing in the ground as many days of the year as possible. After a wheat, corn or bean crop is harvested don’t let the soil set idle and un-protected for 5 – 7 months, grow a cover crop. Cover crops protect the soil from erosion and as importantly they add organic matter to the soil via the above ground vegetative growth and the below surface root growth.

One of the host farms we visited, Gabe Brown’s near Bismarck, ND who farms over 5,000 acres of land raising corn, wheat, hairy vetch, peas, oats, winter triticale, sunflowers, alfalfa and pasture utilizes a lot of cover crops each year after the harvest of these grain crops. He says the key to maximizing the benefits of cover crops for soil health is the use of the grazing animal. He typically runs over 1,000 head of grazing beef cows, stocker cattle, and poultry on his farm. The cover crops fill the grazing holes (summer slump) in pasture growth (think Michigan this August), and they provide great fall and early winter grazing to reduce the need for hay (think hay prices last winter). Then the cream on the top he says is the cow who converts the green manure vegetative plow down material to literally, green manure, that does not need plowing - Gabe is strictly a no-till farmer.

Continued on next page...
Continued from front page...

The soil organisms including earth worms, dung beetles and others consume and pull down into the soil the decomposing rich manure. The cows trample 30% of the cover crop down to the ground to give the microorganisms in the soil surface more feed, the cows consume about 30% themselves depositing a portion of it back as manure and urine, and he lets about 30% of the plants stand to protect the soil and to trap snow in the winter. For those in the audience who get a quizzical look on their face at this point wondering where the other 10% went, he replies “Don’t sweat the details, that is as good as North Dakota farm math gets!”

This cover crop grazing impact has tremendous benefits on soil organic matter, as Gabe reminds the audience, you see the tremendous material left on top of the ground after grazing, but remember 2/3 thirds of the organic matter addition to the soil comes from the roots of the plant. Those roots of the 5 – 70 different plant species he mixes together (he says you can never have too many) all grow down to different depths and each species provides different soil benefits improving soil structure and feeding a more diverse soil microorganism population in the soil (he says his herd below the soil surface is bigger than his herd of cattle above it). Those roots going deep into the sub soil bring up nutrients from the subsoil that then decompose in the upper soil surface increasing soil fertility of macro and micro nutrients (he estimates over the last 18 years they have cut the farm’s use of chemical fertilizers by 90% and chemical herbicides by 70% and are working hard to eliminate their use all together). Also as the roots of the annual cover crops die they create channels in the soil that water can enter after large rain events so more water stays, and less runs off the field (especially if no tillage is used so the channels stay open).

We feel in Michigan we can utilize more of these cover crop/grazing concepts to improve farm profitability, soil and water quality, wildlife, the environment and the quality of life in the Great Lakes region. Watch for upcoming educational programs, some in this newsletter, to provide further info on these concepts.

Jerry Lindquist

MSU Extension Grazing Educator

Cattle grazing native pasture in North Dakota
Making Cover Crops Work in Crop Rotation

Jerry Lindquist, Michigan State University Extension

It sounds wonderful in theory but can these concepts of improving soil health and overall farm productivity with cover crops really work in practice? It did help for our Michigan group that traveled to North Dakota to see the farms for ourselves and to gain a better understanding of how they incorporate cover crops into their rotations while still maintaining enough pasture land to feed the cattle. Do remember many of these farms in North Dakota have been doing this for over ten years and they have made soil improvements so that the rotations are more successful. They admit in the beginning they made mistakes and the plantings were not as successful, but then each year got better and better.

Here are some of practices that are working for them:

- they no till as much as possible because tillage destroys organic matter and they are trying to increase organic matter, not destroy it, so they avoid tillage

- for weed control they still use herbicides but are trying to discover, with the use of cover crops, ways to use less or even eliminate herbicides

- after wheat harvest in August they will no till in a mix of hairy vetch, winter triticale, turnips, and mammoth red clover (volunteer wheat seedlings are welcome too) grazing it 1 – 2 times from Oct – Jan. and 1 or 2 more times from April – June, they like to calve on these fields in June with no snow, no mud, long sunny days with a lot less calving problems and human labor than when they use to calve in March; then in July they move the cows to grass pastures that have waist high growth, while back in the grazed cover crop fields they spray a herbicide to kill the remaining clover and vetch and in late July no till in a warm season cover crop mix of brown mid rib corn, brown mid rib sorghum/Sudan grass, hybrid millet, soybean, sunflower, tillage radish, and hairy vetch and graze the cows on it 1 – 2 times from October – January; the following spring this land has increased soil tilth, organic matter and fertility and can be planted to grain crops

- if a permanent pasture seeding is desired they will mix in the pasture grass and legume seeds with the warm season cover crop mix above, no till it all in July, and the next spring the perennial pasture plants will be established after the annuals were grazed and have died out (again the more years these practices are done the more successful they can become)

- when no till drilling these mixes into a field set the seed opener gauge for the largest seed in the mix, plant at approximately ¾ - 1 inch in depth depending upon soil moisture and do not worry about planting too deep as the small seedlings will follow the big seedlings out of the ground.

To learn more about cover crops and the proper mixes for Michigan go to the Great Lakes Cover Crop Initiative’s Cover Crop Decision Tool at http://mcccdev.anr.msu.edu/.
Mid-Michigan Cover Crop Farm Tour

October 30th, 2013, 9 am to 4 p.m.

Meeting Place:

Reed City Boy Scout Building
225 E. 5th Ave.
(Sign Reads Coats Ave.)
Reed City, MI

Tour includes lunch and transportation to each site
And will run regardless of RAIN-SLEET-SNOW-OR-SHINE

RSVP to:
MSU Extension
Lake County Office
PO Box 274
Baldwin, MI 49304
Phone: 231-745-2732
Email: tapplewh@anr.msu.edu

If you require special accommodations please call the Lake County MSU Extension office no later than October 20th, 2013

This tour will include five stops at farms near Reed City, Chase, LeRoy and Marion looking at over twenty-one different cover crop trials.

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See agenda on back side.
Mid-Michigan Cover Crop Field Tour

October 30, 2013

9:00-9:15
Meet and Depart from the Boy Scout Building in Reed City
Introduction to MAEAP

9:45-10:40
Dan Blackledge Field Marion- Dr. Dean Baas, MSU
Extension Cover Crops
Terry Stiles, Cisco Seeds
Introduction to Cover Crops
Cover Crop Selection
Cover Crops to Reduce Soil Compaction

11:15-12:15
Gingrich Meadows Fields LeRoy- John Durling, NRCS Rose Lake Plant Materials Center
How to put cover crops into a rotation
Cover Crops and Manure Application

Box Lunch Provided on Bus by Mid-Michigan Idlewilders

1:00-2:30
Jason Gawne Field Chase - John Leif, NRCS Rose Lake Plant Materials Center
Cover Crop Seeding Rates
Jack Thornton Field Chase
Using Cover Crops for Soil Health

3:00-4:00
Chris Harrington Field Paris- Jerry Lindquist, MSU
Extension Forage Educator, Dr. Kevin Todd, DVM,
Gerry Davis, Byron Seeds
Using Cover Crops as feed
Using Cover Crops to extend grazing

4:30
Return to Boy Scout Building in Reed City

Pesticide Recertification Credits have been requested for this event

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Extending The Grazing Season With Forage Crops

W.K. Kellogg Biological Station, Pasture Dairy Center, 10461 N. 40th St., Hickory Corners, MI 49060
Friday, October 18, 2013
1-5 p.m.

Interested in improving your forage management plans? Then attend KBS “Forage Crops” field day. This free event is open to all farmers, consultants and industry professionals with a desire to learn, discuss or exchange ideas about efficient planning, management and use of forage crops and cover crop mixtures in pasture-based farms.

The grazing value and agronomic role of different forage crops and cover crop mixtures will be discussed with an emphasis on research being conducted at the KBS Pasture Dairy Center and MSU South Campus Farm.

Topics will include:

- Agronomic value of Forage Brassicas (Dr. Kim Cassida, MSU)
- Use of Forage Rape as single or double crop in pasture-based systems (Dr. Santiago Utsumi, MSU-KBS)
- Opportunities for Sorghum Sudan in pasture-based farms (Richard Ehrhardt, MSU)
- Strip grazing of Forage Crops and Cover Crop Mixtures (Jerry Lindquist, MSUE)
- Forage Crops: the industry perspective (John Snider, PGG Seeds; Gerry Davis, Byron Seeds LLC)

Pre-registration is required by Wednesday, October 16th, 2013: There is no fee to attend.

Contact Misty Klotz at: klotzmi@msu.edu or 269-671-2402
Learn about the KBS Pasture Dairy at: http://pasturedairy.kbs.msu.edu/
Increasing Risk of Liver Flukes in Cattle—Should you be Concerned?

Jerry Lindquist, Michigan State University Extension

As the demand for cropland increases the higher cost of land to purchase or rent may push grazing cattle to more non-tillable acres. Fields too wet for grain crops are one source of low cost forage growth that may be utilized more in the future in many areas of the Mid-West. These lowland pastures have some inherent risks that come with them, namely liver flukes. In the Great Lakes area the major one of concern is the deer fluke, Fasciola magna that requires standing water for a portion of the year to complete its lifecycle.

Should cattle producers be concerned if they are grazing cattle in these wet areas? “Maybe not overly concerned” says Dr. Dan Groom, DVM at Michigan State University’s College of Veterinary Medicine, “but they do need to be aware of the risk and mindful of its impact” he adds.

According to Dr. Grooms there are two liver flukes that commonly infect cattle in the United States: Fasciola hepatica and Fasciola magna. F. hepatica is the most common liver fluke of cattle. It is found mainly in the Gulf States, California and the Pacific Northwest. It is not considered a problem in cattle raised in Michigan. F. magna is found throughout North America primarily in the deer population which is its natural host. It is the most common liver fluke found in cattle raised in the Great Lakes region. Based on slaughter plant surveys, the areas in Michigan where F. magna appear to be most prevalent include portions of the Upper Peninsula and Northern Lower Michigan, especially northeast of the Saginaw Bay. The following discussion will focus on F. magna as this is the most common liver fluke found in Michigan.

The natural host for F. magna is the white-tailed deer. F. magna can infect cattle, sheep and goats while grazing areas shared with deer. Since snails are needed as intermediate hosts during their development, liver flukes are most commonly found in areas with abundant moisture such as swampy or poorly drained pastures. The life cycle of liver flukes begins when eggs are shed in feces of the natural host (white-tailed deer in the case of F. magna). When deposited into warm, moist environments, the eggs develop into free-swimming organisms called miracidium. These are able to penetrate snails which serve as intermediate hosts and are necessary for further development of the fluke. Snails shed a tadpole like form of the liver fluke called a cercaria which migrates onto the leaves of green plants where they form a cyst and are eventually ingested by grazing animals. In the small intestines, young liver flukes penetrate the gut wall and migrate to the liver. Once in the liver, young flukes migrate throughout the liver tissue. Eventually they become encysted within the liver. In the natural host (deer), they mature and produce eggs. Since cattle are an abnormal host, they react more intensely to the parasite, forming an impermeable cyst around the flukes which effectively prevents the release of eggs. Thus, cattle are a dead end host for F. magna. This creates a problem in detecting cattle with F. magna as most parasitic diseases are diagnosed by identifying eggs in the feces of infected animals. Interestingly, in sheep, F. magna does not become encysted. This allows flukes to migrate through the liver unabated causing severe damage and eventual death of the infected sheep.

Besides liver condemnation, F. magna it appears to cause few, if any, signs of disease in cattle. However, little is known about the effects that this parasite may have on production efficiency. In contrast, F. magna infection is highly fatal in sheep and limits sheep-raising in areas heavily infested with this parasite. Cattle infected with F. hepatica typically show signs of chronic parasitism including weight loss, anemia and edema due to low serum protein. Production losses from reduced feed efficiency and daily weight gain, have been reported in cattle chronically infected with F. hepatica. Bacillary hemoglobinuria and Black disease, two highly fatal diseases cause by clostridial bacterium, may be a secondary complication of liver flukes migrating through the liver.

Specific recommendations on the control of F. magna infections are difficult to make because of the lack of effective drugs and the potential for constant exposure to the parasite during the grazing season. Because of a lack of knowledge on the production and health effects that F. magna have on cattle, the costs/benefits of fluke control is unknown. Two drugs are available in the United States for the treatment of liver flukes: Clorsulon (CuratremR and Ivomec PlusR) and Albendazole (ValbazenR). These drugs are approved only for the treatment of F. hepatica. Albendazole is effective only against adult liver flukes. Clorsulon is very effective against adult flukes and somewhat effective against later stages of immature migrating flukes. In limited studies, both albendazole and clorsulon appear to be less effective at eliminating F. magna infections. Although there is no specific supporting evidence, treatment of pastured calves or yearlings when entering the feedlot may be of benefit in reducing liver condemnation and improving performance. The benefit of treating adult animals is unknown. As with most internal parasites, it is likely that adults develop some degree of age related resistance to infection with F. magna, thus decreasing the benefit of treatment. Unlike control programs for other parasites, strategic treatment of cattle aimed at reducing pasture contamination are of no value for F. magna since deer are the major source of contamination. Another approach to controlling infection with F. magna is to prevent exposure to snails. This can be done in several ways including fencing off areas which might be natural habitats of snails, draining swamps or wet pastures, or treating snail habitats with molluscicides. Unfortunately, these measures are often impractical and uneconomical. Control of white-tailed deer grazing cattle pastures could also serve to reduce exposure to F. magna. Given the estimated two million free ranging deer in Michigan, this also seems impractical, especially in the northern regions of the state.
Grazing Crop Residues can help Lower the Costs of Feeding your Herd

Kable Thurlow, Michigan State University Extension

It is no secret that feed costs are the number one expense in the cow-calf beef operation. Knowing your costs and finding ways to lower them can provide a great opportunity to increase profits. If producers want to have more money left over at the end of the year and feed costs are consuming the biggest portion of the budget, then lowering feed costs will help generate higher profits.

Grazing is cheaper than feeding stored or mechanically harvested feeds, thus extending the grazing season is a great way to reduce feed costs. In the Midwest, there are a significant amount of row crop acres that leave behind a residue that can be utilized as livestock feed once the perennial forage grazing season has come to a halt.

Common reasons that corn stalk or crop residue grazing does not occur:
- No fence
- No water source
- Worried about soil compaction
- Snow and ice may cover the field

If a producer can overcome the issues of fence and water, corn stalks offer a great opportunity for grazing season extension. The University of Nebraska has a decision tool that can help producers determine the optimum stocking rate when making a decision on whether to graze corn stalks. Cover crops also offer a great opportunity for both livestock and crop farmers by providing grazing, and helping to increase soil fertility through added manure by the grazing livestock. The livestock also help break down crop residues, which can make for easier planting next season. Some crop farmers are concerned that grazing livestock can create compaction issues, however studies have shown that there is very little yield differences in grazed versus non-grazed fields when proper management is followed.

For more information on grazing season extension, or crop residue grazing, contact Michigan State University Extension educators Kable Thurlow, Gerald Lindquist, or Frank Wardynski.

This article was published by Michigan State University Extension. For more information, visit http://www.msue.msu.edu. To contact an expert in your area, visit http://expert.msue.msu.edu, or call 888-MSUE4MI (888-678-3464).
Calf Weaning Time—Preparing for the Celebration

Weaning Beef Calf Strategies
Kevin Gould, Michigan State University Extension

It’s that time of year when most spring calving herds are planning their weaning schedules. Cow-calf producers contemplate weaning strategies like fence-line or dry-lot weaning, etc. Feed inventories, vaccine ordering, vaccination scheduling and other tasks accompany the annual celebration. By celebration, I mean the vocalization you enjoy along with your neighbors if they are in earshot of your cow herd.

One question I generally receive is “how long should I have my calves weaned before the sale?” That’s an excellent question. Some like to wean in the trailer on the way to the sale barn, others like 30 days to get “ball out” and others swear on the 45+ day target. Each strategy may have producer advantages but as a Michigan State University Extension beef educator, I have found that the 45+ day weaning protocol has significant advantages for the calf.

Most of the “Value-Added” calf sales require that the calves be weaned at least 45 days prior to sale the date. Data from Iowa from over a nine year period compared the health status of calves weaned less than 30 days to calves weaned longer than 30 days. Data from over 2,000 calves were summarized. Calves that had been sent to a feedlot at a time less than 30 days had a higher incidence of bovine respiratory disease (28 percent) compared to calves weaned longer than 30 days (13 percent). The percentage of calves that required 3 or more treatments also was significantly different (6 percent versus 1 percent) in favor of calves that had been weaned more than 30 days. In fact, the calves weaned less than 30 days were not different in health attributes than calves that were weaned on the way to the market.

Calves properly vaccinated and weaned 45+ days have a real advantage in terms of health compared to calves weaned for less than a month or those weaned on the way to the livestock market. Certainly, part of the value in value-added calves can be attributed to a properly administered vaccination protocol. However, there is little doubt that a portion of the improved health is due to the length of time between weaning and the movement of calves to the next owner.

Calf prices are at near record levels. A quality vaccination protocol like the Michigan Cattlemen’s Stamp Pogram - Gold Vac 45 will cost about $7.50/head and is a great investment for calves regardless of your marketing plan. For more information on the MCA program, visit http://www.micattlemen.org/. To discuss a weaning management program for your operation, contact me at gouldk@msu.edu

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Selling Grass Finished Freezer Beef

Consideration for Producers Pricing Grass Finished Beef
Jeannine Schweihofer, Michigan State University Extension

Grass-finished beef is in high demand. Many farmers are selling grass-fed beef as freezer beef. Grass finished freeze beef will typically have a lower dressing percentage than grain finished beef and producers should consider that and other factors when setting a price.

In a group of 54 cattle finished on grass through Michigan State University Extension research, there was an average live weight of 1,224 pounds with carcass weights averaging 668 pounds. This equates to an average dressing percentage of 55 percent. Typically grass-finished beef will range in dressing percentage from 53 to 58 percent depending mainly on the amount of fat cover, muscling and carcass size.

The leanness of grass-finished beef may attract some customers but it is still advantageous to aim for 0.3 to 0.4 inches of backfat opposite the 12th rib. This will allow for a carcass that has enough cover to stay in the cooler for 14 days of aging without drying out too much. It will also allow for enough fat for the ground beef. Depending on the genetics, type and size of the animal, decent marbling can be achieved in grass-finished beef if enough high quality forages are available.

The Grass-Finished Freezer Beef Pricing Worksheet on the Michigan State University Extension Beef Team website takes into account the lower dressing percentage and goes step-by-step through calculations to determine the live weight price comparison and average final packaged price. The worksheet gives current averages as of Aug. 2013 but producers are encouraged to determine their own production costs and marketing margin before setting a carcass price.

Using the average of four grass-finished beef carcass prices obtained recently from different meat processors, the average carcass price (typically hot carcass weight but sometimes cold carcass weight is used) for grass-finished beef is $2.88. On a 1,200 pound steer that has a dressing percentage of 55 percent, that equates to $1.58 per pound on a live weight basis. Current wholesale grass-finished beef is worth $2.50 per pound on a carcass weight basis or $1.375 on a live weight basis. Current grain-finished cattle are bringing $1.25 to $1.30 per pound on a live weight basis.

Using the $2.88 per pound carcass weight price and a 70 percent yield of the carcass weight makes the final packaged price around $4.88 per pound. The average retail price of all Choice beef cuts in July 2013 was $5.35. Additional value can often be captured if individual cuts of grass-finished beef or smaller bundles of beef are sold.

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Beef Produces Should Strive to Maintain Proper Levels of Legumes in their Forage Stands

Legumes are highly beneficial in beef cattle diets. They provide high quality feed for cattle and nitrogen for companion grasses.

Frank Wardynski, Michigan State University Extension

Maintaining grass and legume pastures as well as hay fields are important management factors for feeding beef cattle. Many beef producers plant a mixture of grass and legumes during hayfield establishment – but over time legumes can die out and become a lower percentage of the forage stand.

Legumes generally contain lower fiber content with slightly higher energy and protein values than grasses. Consequently, cattle must consume more grass forage to attain the same quantities of energy and protein as compared to legume forages. Unfortunately, cattle cannot consume grass forages at the same rate as legumes due to fiber content differences.

Another benefit of maintaining legumes in a mixed forage stand comes from their ability to fix nitrogen. Rhizobia bacteria nodulate the roots of legumes and convert atmospheric nitrogen into ammonia nitrogen for fertilization of the legume plant. Nitrogen becomes available to the grasses as root and aerial portions of the legume plants die and decompose into the soil. In pasture situations, animals consuming the legume plants will release nitrogen in urine and manure to feed the grass plants.

Legumes should make up 40-60 percent of the forage stand. During hay production, the top portion of the plant is removed from the field along with the contained nitrogen. Hay fields should contain legume percentages closer to 60 percent to compensate for the lost nitrogen. Pasture systems allow for more recycling of nutrients as nitrogen is excreted back onto the fields in the form of manure and urine. Maintaining legume stand near 40 percent is the desired target for pasture.

Frost seeding legumes is a common and economical method of maintaining or increasing legume stand. Management of the forage stand during the summer and fall before frost seeding is important to ensure there is little forage mat to allow seeds to obtain soil contact. Late season grazing or cutting will prevent forage mat formation. This generally reduces the vigor of the existing plants allowing new seedlings to better compete next spring. For more information on the incorporating legumes into the forage stand, contact Jerry Lindquist, Michigan State University Extension grazing extension educator at Lindquist@anr.msu.edu or 231-832-6139 or Frank Wardynski, ruminant extension educator at wardynsk@anr.msu.edu or 906-884-4386.

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