



Great Lakes Grazing Newsletter

MICHIGAN STATE
UNIVERSITY

Extension

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Dear Great Lakes Grazier,

Spring and green grass are finally here and with recent rainfall for many, the grazing season is off to a great start! With the beginning of the pasture season also comes some great educational opportunities for you to get out in the field and see up close and personal what is working in pasture management. From various pasture walks at new locations across the State, to a Forage Research Field Day at MSU, to a three day International Grass Fed Beef Conference in Mt. Pleasant, we have a lot to offer you this summer! Take the time from your busy schedule to attend some of these events.

Seeing what works is always more educational and enlightening than reading or hearing about it. Learning of the latest innovations in the industry from experts is always good to make sure your farm is keeping pace with the rest of the world. And meeting and sharing ideas and information with other farmers is always highly regarded by those that attend these events. The 2015 forage educational season planned by MSU will be a great one. Don't miss it!

Jerry Lindquist

MSU Extension Grazing Educator



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Grassfed Exchange International Conference on Grassfed Meat Production coming to Michigan in 2015!

Grassfed meat producers, researchers, and industry representatives will be coming from across the United States and Canada to the 2015 Grassfed Exchange Conference to be held in Mt. Pleasant, MI. Sept 16 -18th. Over 350 individuals are expected to attend this conference and " this is the first time this rapidly growing conference will be held east of the Mississippi" says Dr. Jason Rowntree of the MSU Animal Science Department and one of the key committee planning members.

The grassfed meat industry is rapidly expanding and Michigan State University has become a national leader in grassfed beef research. This is why the national committee chose Michigan as a conference site for 2015. A field tour on the 1st day will highlight the research being done on grassfed beef at the MSU AgBioResearch Center in Lake City, MI.

The next two days of the conference will be held at the Comfort Inn in Mt. Pleasant with leading speakers from the North American Continent addressing grassfed meat production and the environmental aspects of grazing. Complete agenda, registration and lodging information can be found at <http://www.grassfedexchange.com/>. You may also contact Jerry Lindquist 231-832-6139 or Kable Thurlow



MSU Extension Pasture Walk

Where: Grazeway Dairy

4240 N. Grange Rd., Pewamo, Michigan

(approximately 15 miles North West of St. Johns, MI.)

When: Tuesday, June 2, 2015, 7:00 - 9:00 P.M.



Evening Itinerary

Welcome and introductions	7:00 P.M.
Head out into the field	7:15 P.M.
Return to barn for refreshments	8:45 P.M.

A walk sponsored by the Grazeway Dairy and Michigan State University Extension to offer the latest education and research on dairy pasture management with an emphasis on lane construction to keep cows high and dry; intensive pasture management, deep bedded manure pack barns for dry cows, swing parlors, and much more. The host for the pasture walk will be the Terri and Rick Hawbaker Family. Featured speaker from MSU Extension will be Jerry Lindquist, MSU Extension Grazing Educator. There is no charge to attend – just show up.

Directions to Grazeway Dairy: from Fowler, MI. travel 3 miles west on M-21 or from Pewamo, MI. travel 2 ½ miles east on M-21 to N. Grange Rd. Turn north on N. Grange Road and travel 3 ¼ miles north on N. Grange Rd (1st farm north of West Colony Rd.). For more information contact Jerry Lindquist at 231-832-6139.

Grazing & Pasture Management Workshop

Thursday, May 28th, 2015

5:00 – 8:00 P.M.

Greener Grass Farms

Dan & Deb Marsh

10240 Youngs Rd, Quincy, MI 49082

Do you raise livestock on pasture? Do you want to learn more about pasture management? Then the **Grazing & Pasture Management Workshop** is for you! On Thursday, May 28th, experts will be at the Greener Grass Farms in Quincy to discuss these topics from 5:00pm to 8:00pm. Please pre-register with the Hillsdale Conservation District at 517-849-9890 ext. 3 or by email to: hillsdalecd@macd.org

The Workshop will be held at the Farm of Dan & Deb Marsh in Allen Township. Greener Grass Farms is an intensively grazed 50 cow-calf operation. The principally Angus herd is 100 percent forage fed, with a highly managed intensive rotational grazing system. They also raise turkeys and broilers each year and direct market the beef and poultry from their home. They are instrumental to the "Hillsdale Grazing Group" which meets monthly. Greener Grass Farms has also been MAEAP-verified since 2012. The Workshop will be set-up as a farm tour by wagon ride, with open discussion among participants and presenters along the tour.

Topics will include soil health, planting mixtures, grazing plans, pasture management, forage and weed Id. Also conservation practices, fencing, watering systems, composting, cover crops and livestock species/mixes. Michigan Right to Farm (RTF), Generally Accepted Agricultural Management Practices (GAAMP's) and the Michigan Agriculture Environmental Assurance Program (MAEAP) will also be included in the discussion. Many other topics will be discussed as well, and questions are welcome and appreciated.

Presenters will include Dan Marsh, Owner-Operator - Greener Grass Farms, Jerry Lindquist, Grazing Educator - Michigan State University Extension; Shelby Burlew, Livestock Environmental Educator - Michigan State University Extension; Allison Dauer, MAEAP Technician - Hillsdale Conservation District; Lucas Gabbard, WLEB MAEAP Technician - Hillsdale Conservation District; & Natural Resources Conservation Service Staff.

Please contact the Hillsdale Conservation District for more information at: 588 Olds St., Building #2, Jonesville, MI 49250 ~ 517-849-9890 ext. 3 ~ hillsdalecd@macd.org



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MSUE Pasture Walk

Woodland Farm



Woodland Farm currently has 50 head of cattle, 60 acres rotationally grazed, and 100 acres, mostly rented, dedicated to hay production. There are 600 feet of underground water line, 3200 feet of above ground water line, permanent, seasonal, and portable water systems. There are also stream and ditch crossings developed for equipment and cattle.

MSU is an affirmative-action, equal-opportunity employer. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status or veteran status.

Accommodations for persons with disabilities may be requested by contacting Amy Pfenninger at MSUE Gladwin County, (989) 426-7741 or pfen20@anr.msu.edu by June, 2015 to make arrangements. Requests received after this date will be fulfilled when possible.

1st Location-Yearling Calves

9720 S. Cornwell Ave
Clare, MI 48617

2nd Location-Cows and Calves

5061 E. Herrick Rd
Clare, MI 48617

**Date: Monday
June 22, 2015**

**Time:
6:00pm-8:30pm**

**Small/Light meal
will be
provided.**

Contact Kable Thurlow for more information:

Office :(989) 426-7741

Cell :(989) 802-3384

Email: thurlowk@anr.msu.edu

**RSVP : By calling the
Gladwin County MSUE
Office by June 2015 (989)
426-7741**

Pasture Research & News Updates

Here are some recent research trial, demonstration reports, and bits of new that maybe interesting to the grassland producer. For more complete details contact the researchers or search the title on-line.

Properly Managed Forage Supplies Have The Potential to Increase Ribeye Area in Grass Steers by 25 Percent. Dickinson Research Extension Center, North Dakota State University.

Researchers Senturklu and Ringwall grazed 144 large-framed yearling steers in three different groups in 2012: (1) feedlot only after weaning; (2) background on low quality winter forage and then native pasture for the summer and fall; (3) native pasture with the late summer grazing of a field pea & barley annual mix followed by grazing an unharvested, grain present corn field. All cattle were sent to a feedlot and finished to a common market weight on a diet that included grain. Dr. Kris Ringwall



noted that though not a 100% grass-based diet there were strong indicators in this trial for grass finishing cattle as they reach maturity the 2nd fall. At the end of the grazing season in Mid-October ribeye measurements of the grazing steers were scanned. Average ribeye measurements on the steers ran just on native pasture the 2nd summer were 8.7 sq. inches vs. 10.9 sq. inches for those provided more nutritious diets in that August to finish period. The researchers measured the pasture feed quality throughout the grazing season and found the native grass went from 13% crude protein in June to 7% in early August. The field pea/barley mix was 27% in mid-July to 13.5% in early Sept. The standing corn was 10% in mid-Sept. and 7% in Oct. The steers on the pea/barley and standing corn diets were ready to be harvested 25 days earlier in feedlot as well. Thus the researcher felt these measurements show a strong indication for backgrounders and for grass fed beef producers that the quality of the diet leading up to the finishing period is important to final yield and gross pay amounts. The researchers will continue to refine and evaluate the economics of these systems in future years.

North America Forage Maturity Matrix and Index Rating System Is a "late maturing" orchard grass about the same, maturity wise, as a "late maturing timothy"? Forage experts say no, they are not even close and for that reason the American Forage and Grassland Council working with the forage seed industry is formulating a standard forage maturity rating system. If the target is to match grass maturity with alfalfa at 1/10 blossom the "late maturing" meadow fescues, annual ryegrasses, and Kentucky bluegrasses match up the best according to the Matrix. "Late maturing" orchard grasses, and the forage tall fescue still mature in advance of alfalfa. Early maturing Reed Canarygrass and early maturing timothy actually mature much later than alfalfa.

The experts hope the matrix will help everyone better understand the maturity differences between forage species. They also hope it will help to standardize the maturity rankings between companies so farmers can make better informed decisions when planting forage mixes for hay or for pasture. This process is just in its infancy. Stay tuned!

Pasture Research & News Updates

Nitrogen Fertilization Economics on Grass Forage Michigan State University, Teasar, 1968-1977; Leep & Dietz 2003-2005; Lindquist 2012-2014. MSU has sixteen years of research measuring the response of topdressing nitrogen fertilizer onto grass hay fields and pasture. The research shows that farms needing more forage production of hay and/or pasture carrying capacity can benefit from nitrogen application. These researchers have found the increase can be from 0.61 tons/a of dry matter forage to as much as 3.3 tons/a of dry matter per acre when applying nitrogen. The range in extra yield is a result of a number of factors including rainfall amounts, nitrogen amounts applied, timing of application, geographic location (East Lansing or Lake City) and form of nitrogen used. In applying rates from no fertilizer, to 50, 60, 100 & 200 lbs. of N/acre they found a yield response range of 19 lbs. to 45 lbs. of forage dry matter for each pound of nitrogen applied. The range being a result of factors mentioned above (three drought years are included in these results). Economically this response ratio means if we use the average of 32 lbs of DM for every 1 lb of N we get \$2.64 of forage value (\$140/ton equivalent hay adjusted to 100% DM) for every \$0.57 of N applied (using 46-0-0 at \$515/ton plus \$10/acre for spreading). A \$2.64 return for every \$0.57 of nitrogen invested. At Lake City over the last three years Lindquist has found the rate of 110 lbs./a of nitrogen applied in the spring (240 lbs/acre of 46-0-0) to be the most economical rate returning an average of \$67/a of forage value less the cost of application. The use of nitrogen protected, slow release products applied in the spring and/or the summer at Lake City have been less beneficial generating at best, a net of \$17/acre more. These results are based on grass pastures with little to no legume populations in them. If alfalfa, clover, or trefoil are present the application rates and amounts should be changed. Also split applications are advised for animal safety reasons any time the rates go over 100 lbs./a of N.

Soil Testing Depth Really Matters for Pasturelands

Soil testing is a common practice for cropland grain fields as it still is the best method to determine soil fertilizer and lime requirements. It is less commonly used on pasturelands, but still is highly recommended if farmers and ranchers are considering nutrient amendments to those fields to increase forage yields and/or stocking rates, or when pastures just are not growing well. Long term research at Michigan State University has found that pasture fertility improvements such as lime and fertilizers can increase forage dry matter yields from 25% - 75% on an annual basis. These additions can be economical, even at today's fertilizer prices, if the farm or ranch needs more pasture growth to graze in the summer and fall grazing season. But when these costs can reach \$50 - \$100 per acre or more, accurate soil testing is of utmost importance.

According to Jerry Lindquist, Michigan State University Extension Grazing Educator, many farms are sampling pasture fields too deep, resulting in test results that sometimes over apply fertilizer. MSU soil testing guidelines recommend the sampling depth should be the depth to which tillage will mix the fertilizer and lime into the soil. For most of today's tillage equipment this is a range of 6 – 9 inches. But a major exception in these guidelines is when there is little or no mixing with tillage of the soil surface. Many pastures have never been tilled, and most at least have not seen tillage in the last ten years or more. These fertilizer and lime additions are only being applied to the sod surface and are only able to naturally peculate down into the sub surface of the soil with rainfall and soil organism movement. This movement is highly variable depending upon soil type and seasonal rainfall amounts, but realistically we should expect the movement to be only 1 - 4 inches into the soil. Thus in pasture fields where tillage is not planned, MSU recommends the soil sampling depth be a maximum of 4 inches.

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Pasture Research & News Updates

Soil Testing Depth Really Matters for Pasturelands continued...

A common scenario in many county Extension offices is for a well intending farmer to bring in a soil test for pastureland and when filling out the paperwork state that they sampled it on average eight inches deep. When advised this is too deep for pastureland, they reply “that’s OK, I want to test the entire root zone to make sure things are good”. When the test results come back the fertility is low and the recommended fertilizer rate is high sometimes costing over \$100/acre. The farmer may realize such a high rate will not be profitable and will hopefully apply only what the farm budget allows. Others that have fertilized and/or manured the ground in the past feel the test results should be higher and thus question the accuracy of the test and may become disillusioned with soil testing. Others may faithfully follow the soil test fertilizer recommendations, thus over-applying nutrients, wasting dollars and potentially adding unnecessary nutrients to the environment.

Phosphorus (P) nutrients from fertilizer and manure bind tightly with soil particles and stay put where they are deposited. They move very little into the deeper soil profile. Potassium (K) is slightly more mobile than phosphorus, but without tillage inversion, will take years to move down over 4 inches in depth. There is plenty of opportunity for the grass and legume feeder roots to find these nutrients in the soil and utilize them for growth even though they are held closer to the soil surface. Nitrogen is mobile in the soil once moisture moves it below the soil surface, but since regular soil tests are not measuring soil nitrogen levels anyway, there is no concern about depth of sampling pertaining to pasture nitrogen.

Thus, it is critical for pasture P & K soil testing that we only sample to a depth of 3-4” if no tillage is planned. In one recent evaluation by the author on a long-running pasture fertility trial, soil test P_2O_5 was 66 ppm in a sample taken to 4 inch depth vs 29 ppm in a sample taken to 7 inch depth. P_2O_5 was 228% higher in the 4 inch zone vs the 7 inch zone. K_2O was 180% higher at the 4” depth with 155 ppm vs only 86 ppm at the 7” depth. The soil pH was 6.6 vs 6.4, respectively, and soil calcium levels were 1,390 ppm at 4” vs 1245 ppm at 7”. The MSU soil test was recommending P and K fertilizer in addition to nitrogen when sampled at the 7” depth. At the 4” depth only nitrogen fertilizer was recommended. Same field, same soil testing lab – the only difference was the sampling depth. This was a cost savings of over \$60/acre in fertilizer that was not really needed, just by sampling the pasture at the proper depth.

A review of University and industry soil testing recommendations across the country finds that they are generally in agreement that long term pasture fields should be sampled at a depth ranging from 2 -4”. Some are still recommending a range of 4-7” so there is not complete unity in the industry.

Pasture fertilization can at times be necessary and beneficial to improve pasture growth and carrying capacity. Proper soil testing techniques including sampling to the proper depth is especially important on pastures and other non-tilled fields to help assure the test is accurate to enhance profitability and to protect the environment.

For more information contact MSU Extension forage team members Dr. Kim Cassida at 517-355-0271 or at cassida@msu.edu; or Jerry Lindquist at 231-832-6139 or at lindquis@anr.msu.edu.
