Dear Great Lakes Grazier,

The growing season is upon us! Green grass and hay are everywhere and the day with the longest daylight period of the year is rapidly approaching. Next Wednesday, June 21, on the summer solstice, take a moment from your busy schedule to be out standing in your field and appreciate this great solar collector and carbon sequestration machine we call a forage field. This green machine really plays an important part of our life on earth and our rural economies.

So far it has been an almost typical start to the grazing season. Cool nights, some increasing day time heat, some areas with rain (some with too much), some dry as a bone, and the list goes on. Last week was a good one to bale hay but the forecast for this week appears to be quite the opposite.

Commodity prices are not good but corn and cattle have shown some moves in a more promising direction. Even hay prices may be seeing a slight move upward but it really depends on the rest of the harvest from here on out.

And with the growing season also come the pasture walk and field day season. We even have a walk coming up this week on Wednesday at long time dairy grazier and Michigan Forage Council President Tom Cooks. And we have a walk the next night at the Byelich Angus beef herd in Harrisville, MI. I will be at both. Hope to see you there. Have a great summer!

Sincerely,

Jerry Lindquist
MSU Extension Grazing Educator
Baleage Harvesting and Handling

Dr. Tim Harrigan, MSU Bio Systems & AG Engineering

Perhaps the greatest challenge Michigan forage growers face is in quickly transforming high quality standing forage in the field to a stable, storable form that is the best possible feed for livestock. Many growers are now harvesting and storing alfalfa or grass silage as baleage (50% to 60% moisture baled hay). Some advantages are: baleage does not require as much drying time as dry hay; does not require as large of an investment in machinery and storage structures as chopped silage crops; and in many cases the same baler can be used for both dry and high moisture forage. The crop can be stored and fed according to quality. But producing, storing and feeding a consistently, high-quality baled silage requires careful and timely management from field-to-feedbunk.

Field operations need to be coordinated in such a way that the wrapped bales contain a consistent forage moisture. Variation in forage yield and species mixture as well as field topography are just a few of the things that cause variation in moisture at harvest. When more hay has been cut than can be baled and wrapped in the time the crop is between 50% and 60% moisture, inconsistent feed intake, fluctuations in daily milk yield and a range of health problems can occur. Baling when forage moisture is too high can lead to low quality silage, often as a result of clostridia fermentation. Baling when the forage is too dry makes it very difficult to exclude oxygen and fermentation will be delayed resulting in higher pH, lower lactic acid production and a lower quality crop.

As an example, consider two 1200 lb bales being fed to a group of 40 cows on consecutive days. One bale is at 60% dry matter (40% moisture) and the other is at 40% dry matter (60% moisture). The first day the bale at 60% dry matter will supply each cow with 18 lb DM and 2.88 lbs crude protein (CP). The next day, the bale at 40% DM will provide each cow only with 12 lb DM and 1.92 lb CP. In addition, these wide differences in moisture can lead to poor silage fermentation, digestive upsets and loss of milk yield or productivity.

The results of a study of baleage quality and management on five dairy farms feeding grain and alfalfa bale silage was reported by Place and Heinrichs (1997). Grain made up 48-56% of the total dry matter intake. Beginning in November each of the farmers sampled every bale fed over a four month period. The average dry matter of all bales was 46.6% but individual bale DM ranged from essentially fresh cut forage (23% DM) to that suitable for dry hay (86% DM). Forage quality was also highly variable. Crude protein averaged 14.6% (DM basis) but ranged from 10.8% to 21.5%. Similar widely varying measures of NDF and NEL were reported.

Dry matter variability from farm-to-farm was also high and ranged from an average of about 39% on one farm to 57% on another. On one farm where bales were fed sequentially as they came out of storage the bale dry matter percentages were 72-65-57-37-65. The nutrient value was also highly variable. Clearly, providing a consistent ration would be a huge challenge in these conditions. In general, the farms with the most consistent baleage analysis had the higher milk production per cow, and more stable production on a day-to-day basis.
Baleage Harvesting and Handling—continue

Some management guidelines for producing high quality bale silage include:

- Strive for 50-60% moisture at the time of wrapping.
- Mow and harvest a crop area each day that can be handled in the time it will take the cut forage to dry from about 60% DM to 50% DM.
- Number and date each bale, and store the bales by field and cutting.
- Keep the fields consistent in terms of forage species and soil fertility.
- Strive for a representative, composite forage sample when balancing rations.
- Try to incorporate other forages in the ration so baleage is not the only forage.

Baleage can provide a high-quality, fermented forage but careful attention to management is needed to produce a consistent, uniform feed. You can learn more about producing, managing and feeding baleage at the Ag Innovation Field Day at the MSU Lake City Research Center on August 24, 2017. For info go to http://msue.anr.msu.edu/msuaginnovationday

Click to view a video with more information on the MSU Ag Innovation Day.
Pasture Walk at Cook Dairy

Where:  Tom Cook Dairy Farm

11811 Dexter Trail, Pewamo, Michigan

When:  Wednesday, June 14, 2017,  6:30 – 8:30 P.M.

Evening Itinerary

   Welcome and introductions  6:30 P.M.
   Head out into the field    6:45 P.M.
   Return to barn for refreshments  8:15 P.M.

A walk sponsored by Cook Dairy, the Michigan Forage Council and Michigan State University Extension to offer the latest information and research on dairy pasture management; forage genetics, New Zealand & U.S. grass based dairy genetics and much more. There is no charge to attend – just show up. Event will be held rain or shine.

Directions to Cook Dairy: from Pewamo, MI. travel 2 miles south on Hubbardston Rd. to the curve where Hubbardston and Clintonia Rd. merge together. The farm is on the west side of the Clintonia Rd. located on Dexter Trail; or from Westphalia travel west of town two miles to Clintonia Rd. and travel north for three miles just before the curve and turn west onto Dexter Trail. For more information call Jerry Lindquist at MSU Extension 231-832-6139.

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Mid Michigan Cattle Network

DATE & TIME:
June 15, 2017
6:00 p.m.

LOCATION:
Byelich Farm
255 N. Poor Farm Rd.
Harrisville, MI

COST:
Free

WHO SHOULD ATTEND:
Beef Cattle Producers, persons interested in cover crops or annuals for livestock, those interested in Management Intensive Grazing and soil health.

DESCRIPTION: “In the Field”
- See the results of 40 years of intensive rotational grazing
- Little research plots
- Determining stocking rates
- Value of rest period
- To clip or not to clip pastures after grazing
- TB
- Pasture condition scoring exercise
- New hay seeding

Hosted by:
Louella and Boyd Byelich

CONTACT:
Kable Thurlow call: 989-426-7741 or email thurlowk@anr.msu.edu

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This is the Weed Responses to Herbicides in Forages page from the 2017 MSU Weed Control Guide for Field Crops. The entire 212 page guide can be explored and downloaded free at http://msuweeds.com/publications/weed-control-guide/.

### TABLE 4A – Weed Response to Herbicides in Forage Legumes*

<table>
<thead>
<tr>
<th>Seeding Legumes</th>
<th>ANNUAL BROADLEAVES</th>
<th>ANNUAL GRASSES</th>
<th>PERENNIALS</th>
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<tbody>
<tr>
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<tr>
<td>BUCTRIL/MOKY</td>
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<td>EPTAM</td>
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<td>KERB</td>
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<td>POSF/POST PLUS</td>
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<tr>
<td>PIRCON/H2O</td>
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<td>PURSUIT</td>
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<td>RAPTOR</td>
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<td>SELECT MAX SELECT/ARROW</td>
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*Table 4A – Weed Response to Herbicides in Forage Legumes*

### TABLE 4B – Weed Response to Herbicides in Established Forage Grasses*

<table>
<thead>
<tr>
<th>Glyphosate-Resistant Alfalfa</th>
<th>ANNUAL BROADLEAVES</th>
<th>ANNUAL GRASSES</th>
<th>PERENNIALS</th>
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<tr>
<td>EXTREME</td>
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<tr>
<td>GLYPHOSATE</td>
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</table>

*Table 4B – Weed Response to Herbicides in Established Forage Grasses*

Herbicide Site of Action: The site of action key is located on pages 15-16.

Herbicide Effectiveness: P = Poor; F = Fair; G = Good; E = Excellent; N = None; – = Not enough information to rank

*The above ratings are a relative comparison of herbicide effectiveness. Weather conditions greatly influence the herbicide’s effectiveness, and weed control may be better under favorable conditions or poorer under unfavorable conditions.

**Crop Tolerance: 1 = Minimal risk of crop injury; 2 = Crop injury can occur under certain conditions (cold, wet); 3 = Severe crop injury can occur. Follow precautions under Remarks and Limitations and on the label; 4 = Risk of severe crop injury is high.
Michigan Veterinarians Who Provide Bull Breeding Soundness Examination Services

<table>
<thead>
<tr>
<th>Clinic</th>
<th>Address</th>
<th>Phone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stermor Veterinary Clinic</td>
<td>821 N. Jefferson St., Ionia, MI</td>
<td>616-527-3320</td>
</tr>
<tr>
<td>Airport Animal Clinic</td>
<td>7749 E 34 Rd., Cadillac, MI</td>
<td>231-775-1378</td>
</tr>
<tr>
<td>Bull Creek Veterinary Services</td>
<td>3700 NM-43 Hwy., Hastings, MI</td>
<td>269-948-2222</td>
</tr>
<tr>
<td>South Kent Veterinary Hospital</td>
<td>9030 N. Rodgers Dr. SE, Caledonia, MI</td>
<td>616-891-9070</td>
</tr>
<tr>
<td>Country Veterinary Services</td>
<td>11770 East U.S. Highway 10, Reed City, MI</td>
<td>231-832-3680</td>
</tr>
<tr>
<td>Thumb Veterinary Services</td>
<td>60 E. Miller Rd, Sandusky, MI</td>
<td>810-648-8230</td>
</tr>
<tr>
<td>GGS Genetics</td>
<td>11349 Chandler Rd, Dewitt, MI</td>
<td>517-641-7453</td>
</tr>
<tr>
<td>Clinton Veterinary Services</td>
<td>4553 E. Centerline Rd., St. Johns, MI</td>
<td>989-224-1410</td>
</tr>
<tr>
<td>Thompson Veterinary Clinic</td>
<td>440 Chippewa Ave, Manistique, MI</td>
<td>906-341-2813</td>
</tr>
<tr>
<td>Animal Health Associates</td>
<td>2039 E. Pickard Rd., Mt. Pleasant, MI</td>
<td>989-773-3434</td>
</tr>
<tr>
<td>MSU College of Veterinary Medicine</td>
<td>MSU CVM VTH, East Lansing, MI</td>
<td>517-353-9710</td>
</tr>
</tbody>
</table>

1On Farm Testing
2At MSU CVM Only
MSU Small Ruminant Management Series:
Forages and Grazing

DATE & TIME:
Monday, June 26 (8am-6pm) and Tuesday, June 27 (8am-5pm)

LOCATION:
Anthony Hall, 474 S. Shaw Ln, East Lansing 48824 and Sheep Teaching & Research Center, 5525 Bennett Road, Okemos, 48864

COST:
$150 per person
Additional members of the same farm/family may attend for $100.
Meals and materials provided.

REGISTRATION:
Registration closes on June 15.

CONTACT:
Carla McLachlan at MCLACHL2@msu.edu

SPEAKERS:
Dr. Richard Ehrhardt,
Dr. Kim Cassida, Dr. Erin Recktenwald, Mr. Mike Metzger, Mr. Joe Leszcz, Mr. Rob West, Mr. Isaac Matchett

Efficient forage use is essential for farm profitability. As part of MSU Extension’s Small Ruminant Management Series, this two-day event will focus on improving forage use through grazing as well as efficient machine harvest. Tips for selecting an optimal forage system for your farm will be discussed, in addition to discussing a variety of grazing management considerations, forage planning, and developing practical skills relating to making forage decisions for your farm.

A mixture of seminars and farm workshops will allow participants to combine classroom learning with hands-on activities.

Topics to be covered also include:
- Establishing forage budgets and forecasting seasonal availability
- Forage species selection and pasture identification
- Managing your soil and soil sampling
- Practice grazing management and examine grazing residuals for different types of pastures
- Estimate pasture for forage mass and allocate herbage mass according to grazing goals
- Pasture and hayfield establishment and renovation
- Use of annual forages and other methods to extend the grazing season
- Sustainable management of internal parasites in small ruminant grazing systems and health concerns
- Total mixed ration feeding system fundamentals
- Management of diverse types of silage crops and systems

Sponsored by Michigan Alliance for Animal Agriculture

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