



U.P. Ag Connections Newsletter

February 2017

Agricultural News from MSU Extension and AgBioResearch

Volume 21 Issue 2

In this issue:

- Page 2
Paper mill residuals
- Page 3
Field Crop Webinar Series
- Page 4
Beginning Farmer Webinar Series
Pesticide Applicator Trainings
- Page 5
U.P. Crop Nutrient Management Programs
- Page 6
Options for managing winter manure
- Page 7
Market Report
- Page 8
Calendar of events

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Upper Peninsula Meat Processing Feasibility Study Results Released

The demand for local food products continues to increase but sourcing local products continues to be a challenge in some regions. In Michigan's Upper Peninsula there has been much feedback regarding access to processing for meat products. As a result of input received from producers and buyers, a group of stakeholders applied for and received a Michigan Department of Agriculture and Rural Development Strategic Growth Initiative grant in the fall of 2015 to be able to conduct a feasibility study to determine if more processing is needed and what type of facility might be feasible. The study was completed in December 2016 and the executive summary and full report are now available at www.upfoodexchange.com under the resources tab. The consultants and advisory committee will host a webinar on February 22nd at 7:00 pm to share more detail on the study and the recommendations. Registration information can be found at <https://events.anr.msu.edu/UPMeatProcessing/>.

The Upper Peninsula Multi-species Processing Feasibility Study Project was a cooperative venture between several stakeholders including [Marquette County](#), [MSU Extension](#), [Upper Peninsula Food Exchange](#), Farm Bureau, and regional planning organizations, and hired [Karen Karp & Partners](#) along with John-Mark Hack of [Marksbury Farm](#) to conduct a feasibility study. The study was designed to understand the needs of livestock producers relating to harvest and processing and what additional resources are needed to support livestock producers in the UP.

The study was initiated to assess the feasibility of a new multi-species processing facility in the U.P. Based on a general finding of insufficient volumes to support a new facility, the project team concluded that such a facility would not be feasible at this time. The team did, however, find a clear need for increased slaughter and processing capacity in the region. The research team concluded that targeted initiatives could increase the region's capacity and throughput by nurturing incremental growth in production, processing and demand.

Four primary recommendations with connected strategies were developed and focus on the following: increased communication and coordination, cultivate and tapping into the greater demand for UP-produced meat, increase access to tools and guidance for farmers and processors, and expand processing capacity in the UP.

For additional information about the project, contact Michelle Walk, MSU Extension, at walkmich@msu.edu or 906-635-6368 or Thyra Karlstrom, Marquette County, at tkarlstrom@mqtco.org or 906-225-8192.

Michelle Walk—MSU Extension Educator

Michigan State University

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Paper mill residuals: Free soil amendment available to Upper Peninsula farmers

Paper mill residuals, or “sludge,” are a soil amendment available to farmers in Michigan’s Upper Peninsula. Paper mills are located in Dickinson, Delta and Menominee counties.

By Monica Jean, MSU Extension Field Crop Educator

Paper mill residuals, commonly referred to as mill sludge, are a product of a recycling process that occurs from the treatment of wastewater or while producing pulp. The residuals available to Michigan’s Upper Peninsula farmers are produced at three different mills: Resolute Forest Products in Menominee County, and Verso in Delta and Dickinson counties. Resolute Forest Products recycles waste paper to produce pulp that is sold to other mills to manufacture paper products. Both Verso mills produce pulp from trees and utilize the pulp to manufacture coated and uncoated paper.

Wastewater from the pulping and paper-making processes is purified in the mill’s wastewater treatment plants. Solids captured from the water purification process are dewatered and referred to as residuals. The residual can have an odor, but this is directly related to how fresh the product is. Each mill does have a unique product depending on the fiber source and processing type, affecting the pH and calcium to nitrogen (C:N) ratio. Paper mill residuals do have a liming property, composed of fine-grained calcium carbonate. The average calcium carbonate content from the three mills range from 25 to 38 percent. The residuals from the Resolute Forest Products mill and the Verso mill in Dickinson County generally contain more calcium than the residuals from the Verso mill in Delta County. If over-applied, they can push soil pH higher than the optimal range for crop development. It is important to monitor your pH level. [Michigan State University Extension](#) suggests applying a fertilizer containing sulfur or element sulfur to counteract the effects of high pH.

The residual also provides the soil with an abundance of carbon, roughly 60 percent of it being organic matter, effecting the C: N ratio. This ratio may vary from about 20:1 to 30:1 in residuals from the Verso mills to about 40:1 to 50:1 in residuals from the Resolute Forest Products mill. This ratio directly effects the amount of available N, causing nitrogen to be tied up when large amounts of carbon are applied. This is especially true when the residue is incorporated versus topdressing, intensifying immobilization. The N recommendation to assist with the breakdown of residuals are different depending on the mill, but Resolute Forest Products does compensate 6 pounds of

N per dry ton acre applied. Application type, timing and amount need to be considered when planning your nutrient management strategy.

All three programs are strictly operated under management plans, comply with [Michigan Department of Environmental Quality \(MDEQ\)](#) rules and are tested for a comprehensive list of metals and organic compounds. The Resolute Forest Products mill and Verso mill in Delta County apply their residuals as soil conditions registered by the [Michigan Department of Agriculture and Rural Development \(MDARD\)](#) and are subject to the Generally Accepted Agricultural and Management Practices (GAAMPS) standards. The Verso mill in Dickinson County has designated their residuals as inert through MDEQ.

At the 2017 [MSU Extension Agriculture for Tomorrow Conference](#), Steven Shimek, soil scientist and paper industry consultant, will be presenting on paper mill residuals and how they could impact your cropping system. This event takes place March 7, 2016, in Escanaba, Michigan. Registration for this event can be found at [Agriculture for Tomorrow Conference](#).

For questions and inquires, email me at atkinmon@anr.msu.edu.

Sludge applied to a farmer’s field in the Upper Peninsula (photo by M. Jean)



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Field Crop Webinar Series starting in February!

There is a convenient new way to access the latest in field crops information from Michigan State University Extension. MSUE will offer a series of seven online programs highlighting field crop production and pest management on Monday evenings from February 13th through March 27th, 2017.

Participants will learn how to enhance their corn, soybean, small grain, forage and potato production systems in the coming season, and have an opportunity to ask questions of MSU agriculture experts. The live webinar presentations will run 7:00-8:00 PM EST each Monday evening.

One MDARD Pesticide Recertification Credit will be available through each webinar for application to one of the following categories: Private Core, Commercial Core or Field Crops. Participants can view the programs independently online. However, pre-registration is required for all participants at a cost of \$15.00 for the full series of six webinars or \$5.00 per individual webinar session.

Visit events.anr.msu.edu/FieldCropsWebinarSeries2017 to register and access connection information. Contact James DeDecker at (989) 734-2168 or dedecke5@msu.edu for more information, or by February 6th, 2017 to request accommodations for persons with disabilities. Requests received after this date will be fulfilled when possible.



Save the Date!
Ag For Tomorrow Conference
March 7, 2017
Bay College Escanaba

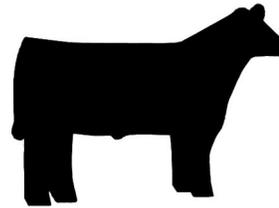
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Beginning Farmer Webinar Series

If soil calcium and magnesium levels are adequate and soil pH is acceptable, variations in the Ca:Mg ratio between 2 and 8 have been shown to have no influence on crop yield.

By Jim Isleib, Extension Educator

The following evening "Getting started with..." webinars will provide valuable start-up information on nine general and more specific farming topics, including:

- ♦ [Jan. 30](#), Small vegetable farm systems
- ♦ [Feb. 13](#), Hoophouse management
- ♦ [Feb. 27](#), Maple syrup
- ♦ [March 13](#), Fencing and watering systems for livestock
- ♦ [March 27](#), Blueberries
- ♦ [April 3](#), Crop nutrient management
- ♦ [April 10](#), Aquaculture (fish farming)
- ♦ [April 24](#), Planning and operating a mixed fruit orchard
- ♦ [May 8](#), Producing and selling eggs

A fee of \$10 per webinar is required, or you can register for the entire series at half price for \$45. Webinar recordings will be provided to all registered participants. Participate from the comfort and convenience of your own home or office.

Registration, a brochure containing details on each individual program and online or mailed payment options can be found at [Beginning Farmer Webinar Series 2017](#). You may register for all or some of the courses at any time, even if the session has already taken place. In that case, you will get a link to the recorded program.

Review sessions and exams for state certified pesticide applicators

MSU Extension is offering [pre-exam study sessions](#) for those seeking state pesticide applicator certification.

Menominee County MSU Extension Office

904 South US Hwy 41, Stephenson, MI 49887
Wednesday, February 8, 2017, 9am-1pm central time
State exams offered at 1:15 pm central

State Office Building

305 Ludington St, 2nd Floor Conference Room
Escanaba, MI 49829
Tuesday, March 21, 2017, 9am-1pm eastern time
State exams offered at 1:15 pm eastern

For more information, contact Jim Isleib, MSU Extension, at 906-387-2530 or isleibj@anr.msu.edu.

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The Agriculture for Tomorrow Conference is offering free registration to three U.P. veterans

The breadth and depth of Michigan State University Extension resources make it a unique and exceptional organization. Offering resources to Veterans and their families are included, but what about veterans interested in agriculture? MSUE and the Veterans in Agriculture Network are cooperating to offer support and job opportunities to veterans interested in agriculture as a career. The Vets in Ag Network offers farmer veterans access to resources, education, mentorship, and advocacy throughout Michigan and the nation. Their vet to vet approach provides a community for Michigan’s farmer veterans who work together to ensure the long-term success of one another.

The Agriculture for Tomorrow Conference, March 7th at Bay College in Escanaba, will be offering free registration to three U.P. veterans interested in farming as a career. A simple letter detailing interests, location and contact information can be sent to Monica Jean, MSUE Field Crops educator, at atkinmon@anr.msu.edu. Dylan Thomas, Owner of Two Pines Farm and Co-Director of the Veterans in Agriculture Network, will be presenting about how he uses his personal story to make connections between veterans and farming. Registration for the event is below.

<https://events.anr.msu.edu/2017AgforTomorrow/>

Further questions and inquires, please contact me Monica Jean- Field Crop Educator atkinmon@anr.msu.edu. (906) 786-3032

2017 Beef Cow-Calf Management Seminar

By Frank Wardynski, MSU Beef Extension Educator

The Michigan State University Beef Team will be conduct a two session Cow-calf Management Seminar at Bay College in Escanaba. Dates of the programs will be February 14 and 28. Each session will start sign-in at 6:30 with the program to start at 7:00 and ending at 9:15.

During the first session, guest speaker, Brenda Boetel, Professor and Department Chair of Ag Economics, University of Wisconsin Riverfalls will be present by webinar to discuss “Riding through the Ups and Downs of the Beef Industry.” Beef cattle prices have seen a great rise and fall over the past few years. She will discuss the factors creating the price changes and offer suggestions to ride out the broncs while maintaining a plan for the future. Two other presentations

will cover approaches to “Improve Profits by Increasing Revenue” and “Improve Profits by Decreasing Cost of Production.”

In the second session topics will include: Beef Cattle Selection -Select Bulls and Keep Heifers to Increase Income/Decrease Cost of Production, Culling Beef Cows-How and when should you make that decision, Calf Shelter and Care, Impacts of the MAEAP Program on Michigan Beef Farms.

The cost of the program is \$10 per session. Participants can register on-line at:

<https://events.anr.msu.edu/2017beefcowcalfworkshop/> or registration can be mailed to MSUE, 725 Greenland Rd, Ontonagon, MI 49953. Checks should be made out to Michigan State University. For more information, contact Frank Wardynski 906-884-4386, wardynsk@anr.msu.edu.

U.P. Crop Nutrient Management program—Registration still open!

MSU Extension is offering a 2-session crop nutrient management educational program in five Upper Peninsula locations. All farmers and interested people are welcome to attend these free programs.

Register by phoning or emailing your name, address, phone number and email information to Jim Isleib at 906-387-2530 or isleibj@anr.msu.edu or to Monica Jean at 906-786-3032 or atkinmon@anr.msu.edu. On-line registration is also available through the MSU Extension website at <http://msue.anr.msu.edu/> under ‘events’.

County	Location	Session 1 Date	Session 2 Date
Mackinac	Garfield Twp Hall N6760 M-117, Engadine	Wed, Feb 22, 2017	Wed, March 1, 2017
Chippewa	Rudyard Twp Hall 18725 S. Mackinac Trail, Rudyard	Wed, March 15, 2017	Wed, March 22, 2017

**All meetings
6:30-8:00 pm
local time**

Options for managing winter manure nutrients on Michigan beef farms

By Jim Isleib and Frank Wardynski, MSU Extension Educators

Depending on weather, available equipment and labor, beef farmers can choose the system that fits best.

An over-wintering cow-calf beef herd produces manure...quite a lot of it. In one day, the average 1,250-pound beef cow produces 75 pounds of manure and urine. This manure has approximately 0.31 pounds of nitrogen (not all of this is retained), 0.19 pounds of phosphate and 0.26 pounds of potassium. How beef farmers deal with this nutrient resource can have a positive impact on their forage and other crop production system.

There are four basic approaches to feeding the cow-calf herd over the Michigan winter:

1. Dry lot feed yard – Confining and feeding cattle in a dry lot pen from October through April, or later. Cows are fed daily and nutrients accumulate in manure/straw pack over the winter.
2. In-field bale feeders – Bale feeders are placed in a field, with frequent relocation of the feeders to better distribute manure and waste feed nutrients and avoid sod damage.
3. Bale processing - Unrolling, or grinding and spreading one large round bale at a time in a windrow on the ground, or packed snow, out in a field. The feeding site is moved each time to allow waste feed and manure to be evenly distributed across an area.
4. Bale grazing – Bales are set in place in a field in the fall. They can be pre-arranged by forage quality. Cattle are allowed gradual access to the bales on a planned schedule by moving temporary electric fencing.

What becomes of the nutrients from cattle manure and wasted feed under each of these systems? According to University of Wisconsin Extension's publication ["Guidelines for applying manure on cropland and pasture"](#), as much as 50% of the total N and P and 40% of the K may be lost from manure on an open lot through volatilization, runoff or leaching. Up to 40% of the N and from 5 to 15% of the P and K may be lost during daily hauling and spreading. Much less of the nutrients are lost when cattle are winter fed in-field. Dr. Bart Lardner from the Canadian [Western Beef Development Center](#) conducted research on this issue in 2003-2005. His paper entitled ["Winter Feeding Beef Cows – Managing Manure Nutrients"](#) states that there was a definite difference in capture and utilization of manure nutrients between beef winter feeding systems. His conclusions include:

"Significant benefits can result from winter feeding beef cows on preselected sites due to increased capture and utilization of manure nutrients. Deposition of nutrients with cows versus machinery indicates more efficient cycling of nitrogen for subsequent pasture growth. In this study, economic calculations favored infield feeding. Cow cost per day was lower for field feeding than wintering cows in dry lot pens. Feed costs were similar between the systems, but field feeding had savings in machinery use

and manure handling costs. Results also indicate that benefits from wintering cows on feeding sites can be managed to reduce daily costs with minimal impacts on cow performance. "

In effect, the most desirable winter feeding systems with regard to manure nutrient retention and recycling (in order of efficiency):

1. Bale grazing
2. Bale processing
3. Dry lot feeding

In-field bale feeders were not included in Dr. Lardner's study as a separate feeding system type. It is reasonable to assume that the effect on manure nutrient retention would be better than the dry lot feeding system if the bale feeder was moved frequently over a large field area.

There are certainly some Michigan cow-calf farmers who feed their herds over the winter in dry lot settings and do not scrape, haul and spread the accumulated manure in spring. This practice results in waste of manure nutrient resources and may present a situation posing risk to nearby surface and groundwater resources. Investment in machinery (ie manure spreader, bucket loader) to facilitate scraping, hauling and spreading dry lot manure should be considered.



Cone-type round bale feeder (photo D. Buskirk)



Winter field feeding site using bale unrolling (MSU UPREC)

Market Report

Choice Steers	\$95—\$120 per 100 lbs.
Holstein Steers	\$75—\$100 per 100 lbs.
Hogs	\$58—\$64 per 100 lbs.
Lambs	\$140—\$175 per 100 lbs.
Cull cows	\$45—\$58 per 100 lbs.
Calves	\$75—\$120 per 100 lbs.
Goats	\$150—\$190 per 100 lbs.

Breeding and Feeder Animals

Grade Holstein cows	\$1100—\$1800/head
Grade Holstein bred heifers	\$1600—\$2200/head

Feed Prices across the U.P.

	Avg. \$/cwt	Avg. \$/ton	Price Range
Corn	\$9.36	\$187.25	\$145-244
Soymeal	\$22.34	\$446.75	\$379-552
Oats	\$8.90	\$178.05	\$160-200
Barley	\$9.13	\$182.50	\$140-240

Average price/100 wt. for 1 ton lots



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If you do not wish to receive this publication, please contact Michelle at colema98@msu.edu or (906) 439-5114

Calendar of Events

February 22 Meat Processing Feasibility Study Results Webinar (7 pm)

U.P. Crop Nutrient Management Programs—each meeting runs from 6:30-8 pm (local time)

February 22 & March 1 Garfield Twp Hall, Engadine, MI

March 15 & March 22 Rudyard Twp Hall, 18725 S. Mackinac Trail, Rudyard

Pesticide Applicator Core Manual Review sessions/MDARD exam—each meeting runs 9 am—1 pm (local time)

February 8 Menominee Co MSUE Office, Stephenson

March 21 State Office Building, 305 Ludington St, Escanaba

February 14 & 28—2017 Cow-calf Seminar at Bay College (7:00-9:15 pm)

March 7—Ag for Tomorrow Conference at Bay College, Escanaba

March 15—Midwest Cover Crop Council Conference—Crowne Plaza, Grand Rapids, Michigan

March 18—2017 MCA/MSU Bull Evaluation Program Sale, 12:30 p.m. ET (Open House March 4)

