



U.P. Ag Connections Newsletter

March 2022

Agricultural News from MSU Extension and AgBioResearch

Volume 26 Issue 3

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Risk Management in Risky times

By Frank Wardynski

I recently wrote an article for the Michigan Cattleman's Association Magazine. I wish I had pushed even harder on the importance of downward price protection. I spoke of the cattle industry outlook for cattle prices to remain strong and get better over the next few years.

From the magazine article, (The CattleFax Outlook Seminar presented at the 2022 Cattle Industry Convention indicated that cattle prices are expected to be strong this coming year. They reported that national cow herd numbers are getting smaller and domestic beef production to be 2% lower than last year. They expect weather to be an important factor regarding feed prices. They also predict China to be a strong buyer of US grain. Harlan Hughes, North Dakota State University professor emeritus, predicted in Beef Magazine February 2022 that prices will continue to be strong and increase into 2025.)

Since the Cattlefax report in January, fall feeder cattle futures prices have dropped about \$10 per hundred weight. Now we still have strong cattle prices, but my simple point is that the markets are always going to be in the middle of opportunity to go up or go down. Even when everybody is bull (thinking prices are going to get better) on the market, prices are just as likely to go down. That's why the market is high, because everybody thinks it is going to be a strong market. The market only has factors built into it based on what it knows. It is the unforeseen factors that are not built in. For example, nobody knew about the fire in a western beef packing plant that significantly decreased the country's slaughter capacity. Nobody knew that covid would cause a shortage of meat in the grocery store because illness shut down packing plants, that caused farmers to have more slaughter ready animals than the market could take. The same thing happened with milk.

So, what happened in the last month to drive feeder prices lower. Higher corn prices, due to higher fuel and fertilizer prices and a war in Europe. How high can grain prices go? About as far as they can fall. What I mean is, everybody thinks corn is going higher, but it could just as easily go down from an unexpected event. Maybe, a bumper crop here in the US or in Brazil.

My real point is that I do not know what is going to happen to prices. I do think producers should be looking to get feed prices locked in somehow. Producers should get price protection from potential of commodity price decrease. And look at all the opportunities there are for risk on the farm beyond prices. Do you have fertilizer secured? There are reports that there will not be enough fertilizer. Or are these false reports trying to drive prices higher. Well, it certainly is higher. Same for fuel, herbicide, etc.

I cannot remember a time that there has been so much uncertainty and you need to look at how you are going to manage risk. Finding management practices that require less inputs will be important. My best advice, get ready for a wild ride, it's just getting started.

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Upper Peninsula project monitors water conditions on clay soils

By Jim Isleib, MSUE retiree

Using high-tech monitoring equipment, MSU Extension worked with local farmers in 2021 to explore effectiveness of innovative approaches to improving soil drainage on challenging clay soils.

Farmers in the western and eastern clay soil areas of the Upper Peninsula identified field drainage as a highly important issue during round-table discussions with Michigan State University educators in 2014 and 2018. Improvement of soil drainage has potential for significant impact on local agriculture based on ability to graze or plant earlier in spring and graze or harvest later into the fall. Possibilities also include a wider selection of potential crop choices and expanding from the current one-cut hay system to a two-cut system.

An initial effort to monitor soil moisture on farms in these areas was made in 2019 with financial support from the MSU Extension AABI Program Grant Fund. Extension educators Jim Isleib and Frank Wardynski managed the project, with assistance from MSU Extension specialist Steve Miller. The five farmers recruited to participate were using various methods to improve soil drainage on their fields, including surface drains, subsurface tile drains, deep tillage, and soil aeration using an Aerway implement. Soil drainage conditions were monitored using vacuum meter soil tensiometers, comparing fields under the farmer improvement method to an adjacent field not under the method. These tools required on-site reading and frequent maintenance. For these reasons, and in combination with drought conditions in the western UP, data collection was incomplete. An article summarizing the 2019 effort can be reviewed at <https://www.canr.msu.edu/news/clay-soil-moisture-monitoring-project-explores-farmer-s-efforts-to-improve-drainage>.

The effort was continued in 2021 with a new MSU Extension AABI Project GREEN grant. Four of the original cooperating farmers hosted soil water monitoring sites. Dr. Younsuk Dong, MSU assistant professor and irrigation specialist, constructed improved volumetric soil measurement systems for the project. Dr. Dong visited each field on May 26-27, 2021 along with the local MSU Extension team member to accomplish equipment installation. The improved units include a solar panel to power data collection and transmittal to local cell phone service, along with a mini-SD card for data back-up. Sensors were installed at three depths under each unit. Volumetric soil water measurements were collected and transmitted at intervals of 1 hour. Dr. Dong used LOCOMOS software to collect and interpret the data. At least two of the units experienced problems with data transmission during the growing season. Backup data from the mini-SD cards was collected and included in the data set. One unit in Rudyard was knocked down and damaged, with the mini-SD card ruined by water infiltration into the unit.

Results

First field is located in Rudyard, MI. We installed two LOCOMOS (low-cost sensor monitoring system) stations in two management areas. One treatment area was deep-tilled before establishment in 2008 and another treatment area was deep-tilled in 2019. Each LOCOMOS station monitored soil moisture levels at 6, 12, and 24-inch soil depths. Figure 1 shows the top 30-inch composite water availability from each area. The data indicates that the field tilled in 2019 seems to have better drainage than the field tilled in 2008.

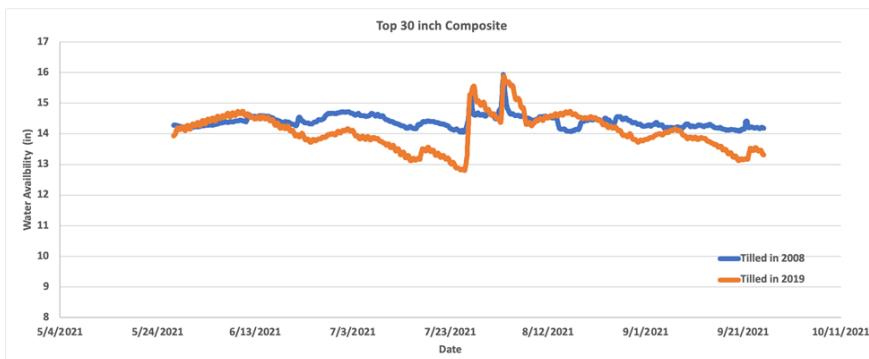


Figure 1. Top 30-inch composition water availability from two areas (deep-tilled in 2008 and deep-tilled in 2019) in Rudyard, MI.

The second field is located in Dafter, MI. We monitored soil moisture levels in control and drainage tile-installed areas. Figure 2 shows the top 30-inch composite water availability from each area. This graph shows that the area where drainage tile is installed has better drainage than the control area.

Composite - Top 30 inch

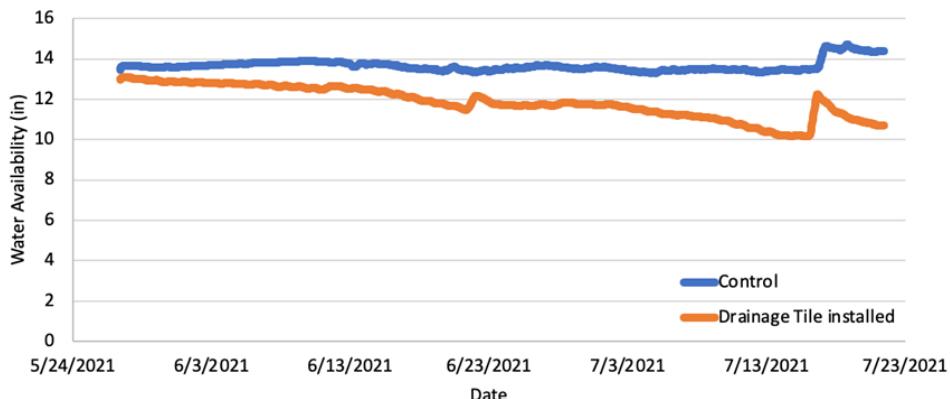


Figure 2. Top 30-inch composition water availability from two areas (Control and drainage tile installed) in Dafter, MI.

The third and fourth fields are located in Pelkie, MI. We monitored soil moisture levels in control and AerWay soil aeration implemented areas. Figure 3 shows the top 30-inch composite water availability from each area. This graph shows that the area where AerWay soil aeration is implemented has better drainage than the control area. It suggests that use of the Aerway implement may reduce the soil's water-holding capacity.

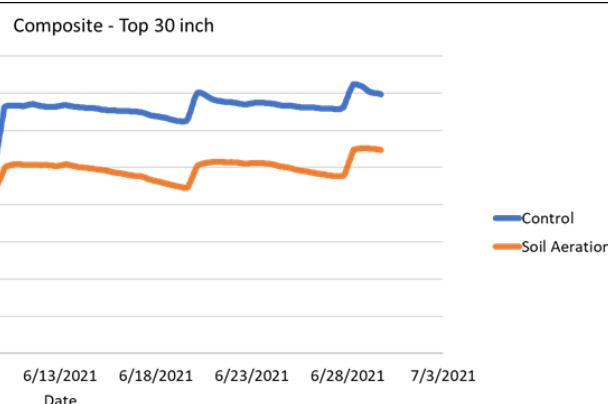


Figure 3. Top 30-inch composition water availability from two areas (Control and Soil Aeration Implementation) in Pelkie, MI.

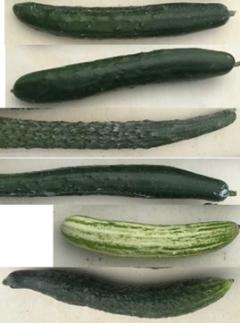
Discussion

- The improved, digital data collection units were much more effective in collecting data than the water filled tensiometers used in 2019. The data collected, although incomplete at some sites, is much more useful.
- The first field in Rudyard, MI, comparing soil water conditions where recent deep tillage at hayfield establishment was conducted vs a field deep-tilled at hayfield establishment 11 years previously, shows distinct differences in volumetric soil water levels. The recent deep tillage provides an advantage in soil drainage.
- The second field in Dafter, MI, comparing a field with subsoil tile drainage vs a portion of the same field with no subsoil tile drainage shows distinct differences in volumetric soil water levels. The tile drainage is effective in reducing the amount of soil water season-long, and especially after rain events.
- The third and fourth fields in Pelkie, MI, comparing a field with AerWay soil aeration treatment vs a portion of the same field without the soil aeration treatment. The soil aeration treatment is effective in decreasing the amount of soil water holding in the soil. However, the intention of the farmers using the Aerway implement is to increase the soils water-holding capacity during the drier summer months. The data collected this year does not support this idea.
- All efforts by UP farmers compared in this trial resulted in improved soil drainage. No economic comparison based on crop yields or quality were attempted. Continued efforts to evaluate economically feasible improvements to soil drainage on clay soils in Michigan's Upper Peninsula, including 'mole drains' (see Dr. Ehsan Ghane article at <https://www.egr.msu.edu/bae/water/drainage/mole-drains>) should be considered.

2021 Asian Cucumber Variety Report

In 2021, six Asian cucumber varieties were trialed at the MSU Upper Peninsula Research and Extension Center in Chatham, MI. Cucumbers were seeded in the greenhouse April 29 into 2 inch soil blocks using Morgan Composting Dairy Doo Seed Starter 101 soil media, potted up to 4 in plastic pots on May 18, and transplanted into the hoop house June 2. Plots 3 ft wide x 7 ft long were laid out in a RCBD design with four replications. Fertility was applied just prior to planting, and consisted of a feather meal based 10-0-4 fertilizer from Morgan's Composting called Safe Green Lawn applied at 500 lbs/ac (0.011 lb/ft²). Plants were spaced 1 ft. apart in-row, with 1 row per bed, and trained to a single leader with plastic twine supported by tomato clips. Plants were pruned of suckers on a weekly basis starting June 21. Irrigation was provided 2 hrs weekly via one line of drip tape. To control cucumber beetles, Surround (kaolin clay) was applied weekly during the growing season, with Pyganic (pyrethrum) added as a tank-mix on June 21 and July 7. Weeds were controlled with hoeing and hand weeding. Cucumbers were harvested 1-2 times weekly June 29 – September 7.

Varieties tested

	<u>Supplier</u>	<u>Variety</u>	<u>Market Class</u>	<u>Color</u>
	Fedco	Shintokiwa	Asian	Dark Green
	Kitazawa	Soarer	Asian	Dark Green
	Fedco	Suhyo Long	Asian	Dark Green
	High Mowing	Tasty Green	Asian	Dark Green
	USDA	WI7633	Breeding	Green & White Stripe
	USDA	WI7801	Breeding	Dark Green

Traits

Marketable Count, Marketable Weight (kg), Unmarketable Count, Unmarketable Weight (kg), Unmarketable (oversized) Count, Unmarketable (oversized), Proportion Unmarketable.

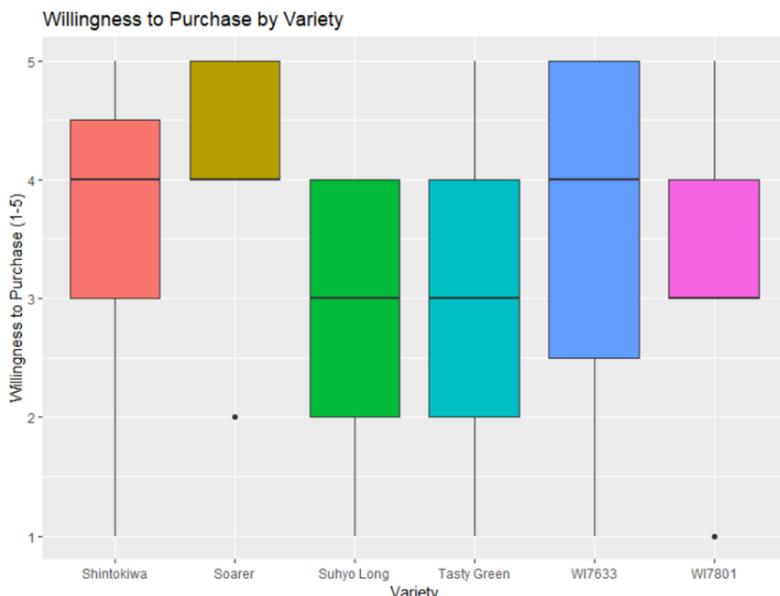
Notes on trait measurement:

Cucumbers faced heavy pressure from cucumber beetles and bacterial wilt. Resistant varieties performed best in 2021. Analysis was conducted at the per plant level.

Quality Evaluation

Chef taste testing:

Flavor evaluation was done by eight local chefs in the Marquette/Alger County area. Varieties were packed with an individual alphanumeric code (no variety names were included in boxes). Boxes were delivered to chefs, including instructions for evaluation and a QR code linking to Qualtrics where data was entered. Flavor intensity and complexity were rated on a scale of 1 (low) to 5 (high). Appearance, texture, and overall flavor were rated from 1 (poor) to 5 (excellent). Skin thickness was rated from 1 (thin) to 5 (thick). The likelihood that they would buy it for their restaurant (1=no way, 5=yes, definitely) and perceived ease of preparation (1=difficult, 5 = easy) were also rated.



Asian Cucumbers (high tunnel)

(* indicates varieties statistically similar to the “best” variety in each category shown in **BOLD**)

Variety	Total weight (lbs/plant)	Marketable Count (#/plant)	Marketable Weight (lbs/plant)	Unmarketable Proportion (%)	Overall Flavor (1-5)	Willingness to Purchase (1-5)
Shinto-kiwa	9.28	10.05	6.48	28%	3.30*	3.58*
Soarer	9.01*	9.28*	5.91*	34%*	3.79	4.11
Suhyo Long	5.79*	7.41*	3.99*	31%*	3.00*	2.89
Tasty Green	6.73*	7.13*	4.49*	33%*	3.39*	3.24*
WI7633	7.10*	9.48*	5.06*	29%*	3.70*	3.73*
WI7801	2.49	3.01	1.10	56%	3.70*	3.37*

Rue Genger and Claire Strader at UW-Madison are surveying vegetable growers on use of reduced tillage production methods as part of a larger research study into methods that increase resilience to extreme weather events. The survey will take about 10-15 minutes to complete. Your participation will help them develop better research and education programs for reduced tillage in vegetable production.

To start the survey, please scan the QR code below or click this link: https://uwmadison.co1.qualtrics.com/jfe/form/SV_eleWVfVQpM5ue9g



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Classifieds

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FOR SALE: High moisture corn, approximately 5,000 bushels in
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0225.

FOR SALE: Angus bull, AI sired, Born 9-9-21, Sire is Niagara,
Maternal sire is J. Edgar Hoover, Select Sire & Genex breeding,
AI Breeding for 43 years. Call (906) 265-5217.

FOR SALE: Simmental Bulls, mature and young, registered and
non-registered. Call Duane Kolpack (906) 362-6862.

FOR SALE: 2nd and 3rd crop alfalfa, small square bales.
Marenger Potato Farm, Flat Rock. (906) 384-6587.

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Market Report

Choice Steers	\$110-\$145 per 100 lbs.
Holstein Steers	\$100-\$135 per 100 lbs.
Hogs	\$64-\$76 per 100 lbs.
Lambs	\$200-\$270 per 100 lbs.
Cull cows	\$65-\$78 per 100 lbs.
Calves	\$75-\$125 per 100 lbs.
Goats	\$200-\$420 per 100 lbs.

Breeding and Feeder Animals

Grade Holstein cows \$1700/head

Grade Holstein bred heifers \$2100/head

Feed Prices across the U.P.

	Avg. \$/cwt	Avg. \$/ton	Price Range
Corn	\$16.05	\$320.90	\$265-440
Soymeal	\$27.49	\$549.75	\$500-624
Oats	\$18.49	\$369.75	\$320-420
Barley	\$13.91	\$278.25	\$200-394

Average price/100 wt. for 1 ton lots

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UPCOMING MEETINGS

The Growing UP Agricultural Association (GUPAA) was formed in 1978 to help find answers to the many concerns, problems and opportunities of Upper Peninsula agriculture and agricultural research. Every year, the association holds their annual membership meeting to conduct business, present the annual Outstanding Service to Agriculture award and provide an educational session pertinent to UP agriculture. This year's session, "Local Foods – Marketing at the Next Level", will address challenges and opportunities associated with marketing your home-grown product. The meeting will be held on **April 7th, 11:00-3:00 ET**, Heirman Center, Bay College, Escanaba with the educational session beginning at 1:00. This meeting is open to the public and you can call 906-439-5114 for more information. Please consider becoming a member of GUPAA to support the future of UP agriculture.

BQA Certification

Michigan State University will be conducting Beef Quality Assurance (BQA) Certification at three locations across the UP. The last certification program conducted in the UP was back in May of 2019. Certification lasts for three years and most everyone is up for recertification. All meeting times will start at 6:00 pm EDT. The educational portion and testing will take about two hours. For more information Contact Frank Wardynski at wardynsk@msu.edu or call Ontonagon Extension office at 906-884-4386.

<u>Dates</u>	<u>Locations</u>
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April 26 Rudyard Twp Hall

April 27 Bay College, Heirman Center

April 28 Twilley's in Bruce Crossing