

U.P. Ag Connections Newsletter Agricultural News from MSU Extension and AgBioResearch

Is it climate change, a weather anomaly, or the beginning of the end?

News and Views, by Frank Wardynski

February 2024

In this issue:

Page 2

 Making Trees Work for You

Page 3

- U.P. Pesticide Applicator Training & Exams
- The World Food Prize Michigan Youth Institute

Page 4

 2023 Early Maturity Soybean Variety Trial

Page 5

Soybean yields

Page 6

Advertisers

Page 7

- Advertisers
- Classifieds
- Market Report

Page 8

 Women's Snowshoe Hike Series

 MCA-MSU Bull Evaluation

MICHIGAN STATE UNIVERSITY Michigan State University AgBio**Research**

My title is designed to draw emotion and interest to the issue. The issue I want to address is the mild winter with limited snow accumulation. I do not think it is the beginning of the end even though there are those that do want to use that fear tactic to bring awareness. Regardless of identifying our mild winter as climate change or just a weird irregularity, it deserves mention about how it may impact us this summer and how we may manage our agriculture enterprises.

In the spring of 2023, the Growing UP Ag Association hosted Dr. Jeff Andresen as a guest speaker via Zoom to discuss the change in our weather over the past 30 years. Regardless of your opinion of whether climate change or global warming is real, Dr. Andresen did an excellent job of reporting real data from UP weather stations of what weather has done in the UP over the past 30 years. He does not claim the cause for change. For example, he is very deliberate to not say it is due to carbon dioxide accumulation in the atmosphere.

Dr. Andresen's points, compared to 30 years ago, the UP is warmer. It is warmer in the winter months but not in the summer. We are receiving more precipitation today than 30 years ago and extreme weather events are more extreme and more frequent. Does anyone remember the rainstorm in Houghton of 2018?

I really bring this up to talk about challenges that a mild winter with limited precipitation may have on our crops this coming growing season and management decisions we may be thinking about now. I do not have any scientific data to support my worries that the current lack of snow fall is going to lead to a drought, but it has me thinking about it. Certainly, all my recommendations will not apply for everybody but hopefully some will.

I want to start with grazing. More intensive management practices can help during drought years. Last year we were very dry here in Ontonagon as well as other locations across the UP. At a time when I should have ramped up grazing management efforts, I was focused on making hay and neglected the grazing. I like to leave about 50% of the forage behind. Maybe during dry weather, I should have left more but I certainly should not have taken more. But when cows should be going to the next pasture, I was busy mowing or baling and would many times leave them too long and over graze. Consequently, stressing plants more, leaving less ground cover and causing more moisture loss from the soil.

During hay making I kept mowing at four inches. I wish I had raised the mower to at least six inches to leave more forage to protect the ground from sun exposure and evaporative moisture loss. Leaving more uncut forage would have left more viable root underground, with more water reaching capabilities. It also would have left more leaf material above ground for photosynthesis to start regrowth.

Cover crops – Crop farmers with winter growing cover crops will want to evaluate their upcoming termination and tillage practices. Many times, those crops are harvested as forage. Is this the year to not terminate the crop and leave standing to protect soil from evaporative moisture loss? Will early termination help minimize the moisture the crop pulls out of soil into the upper plant? Can we no-till into the cover crop?

Drought tolerant crops – look at crops that will produce well in drought conditions. Sorghum-sudan grass in a high yield crop that is drought tolerant and likes heat. In hot dry summers the sorghum species will produce good yields. But note it is not a high-quality forage as compared to corn silage.

The MSU Extension web page always has drought management information as we watch the weather this spring and summer.

Volume 28 Issue 2

MICHIGAN STATE UNIVERSITY | Extension

Agroforestry 101: Making Trees Work for You and Your Land

Feb. 9th, 10:00 am - 12:00 pm



Forests and farms

Agroforestry, the intentional integration of trees and shrubs into crop and animal farming systems, has been practiced worldwide for centuries. Although it is less prevalent today, modern-day farmers stand to gain from the environmental, financial, and social benefits of agroforestry. Whether it be greater crop yields, improved soil health, increased livestock safety, or added income streams, there are countless ways that trees can be used to your advantage on your land.

A team of Michigan, Ohio, and Wisconsin researchers and Extension professionals has recently been awarded funding from USDA and the National Fish and Wildlife Foundation to help support the use of agroforestry practices and markets by small and medium-sized farms in the region.

Peer-to-Peer Exchanges

This free event series by MSU Extension will instruct participants on different agroforestry techniques, facilitate discussions between local landowners, and inform participants of resources for management plan development and possible cost-share opportunities.

Participating landowners will be connected to agriculture and natural resource professionals to identify innovative uses of trees and forests within agricultural systems that can improve farm viability and increase environmental and social benefits.

EVENT DETAILS:

- Location: MSU South Farm, E3774 University Dr, Chatham, MI
- Time: 10:00 AM 12:00 PM with lunch from Border Grill to follow. Please inform us if you have dietary restrictions
- Cost: Free

REGISTRATION

- Call the South Farm office at 906-439-5114, or email Anna Ellis at ellisan9@msu.edu to register
- This event has been approved for one MDARD pesticide recertification credit for the following categories: 2, 3B, and Priv Core.

MSU is an affirmative-action, equal-opportunity employer, committed to achieving excellence through a diverse workforce and inclusive culture that encourages all people to reach their full potential. 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. Issued in furtherance of MSU Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Quentin Tyler, Director, MSU Extension, East Lansing, MI 48824. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Accommodations for persons with disabilities may be requested by contacting the event contact [insert name] two weeks before the start of the event [insert deadline date] at [insert phone number and email]. Requests received after this date will be honored whenever possible.

MICHIGAN STATE

U.P. Pesticide Applicator Training & Exams

MSU Extension will offer a Pesticide Applicator Training and Exam opportunity in the Upper Peninsula on April 12, 2024. This program includes a core manual review (NO RUP credits), lunch and MDARD exams (Core exams only, no commercial categories). Full training & exam participation is required.

April 12th, 2024 - NMU Northern Center in Marquette, MI

Who: Certified pesticide applicators seeking MDARD exam prep and administration

What: A four-hour core manual review (NO RUP credits), followed by lunch and MDARD exams (Core exams only, no commercial categories)

When: April 12th, 2024

Core manual review 8:30am-12:30pm, Lunch included 12:30pm-1pm

MDARD Exams beginning at 1pm onsite

Where: NMU Northern Center, Peninsula 2 Room - 1401 Presque Isle Ave.; Marquette, MI 4985

Why: MDARD exam prep and administration (must participate in both, no RUP credits available)

Registration: Registration and payment details online at <u>https://events.anr.msu.edu/2024RUPInPersonTesting/</u>

MSU is an affirmative-action, equal-opportunity employer, committed to achieving excellence through a diverse workforce and inclusive culture that encourages all people to reach their full potential. 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. Issued in furtherance of MSU Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Quentin Tyler, Director, MSU Extension, East Lansing, MI 48824. This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Accommodations for persons with disabilities may be requested by contacting the event contact James DeDecker two weeks before the start of the event at dedecke5@msu.edu. Requests received after this date will be honored whenever possible.



AT MICHIGAN STATE UNIVERSITY

The World Food Prize Michigan Youth Institute is an opportunity for teens to explore solutions to critical local and global challenges.

As millions across the globe deal with food insecurity, the World Food Prize Michigan Youth Institute (WFP MIYI) offers young people an opportunity to be part of the solution. Held May 9 in East Lansing, or by participating from anywhere else using Zoom video/web conference technology, the event seeks to inspire and prepare the next generation of global leaders to address critical global challenges.

To participate, youth should be in grades 7-12 and register by the March 15 deadline. As part of the registration process, youth are required to prepare and submit a 3-to-5-page paper about a country and one of 20 key factors that affect food security in that country. At the event, youth present and discuss their papers with other attendees and research and industry experts and see how MSU faculty, staff, and students are engaged in cutting edge work related to global challenges. The top performing students at the WFP MIYI will be selected to attend the World Food Prize Global Youth Institute in Des Moines, Iowa, in October.

There is no cost to participate in the WFP MIYI. For more information, visit <u>www.canr.msu.edu/wfpmiyi/</u> or contact event coordinator Brian Wibby (<u>wibby@msu.edu</u> or 906-439-5065)

2023 Early Maturity Soybean Variety Trial

James DeDecker, Christian Kapp, Alina Goulding and Morgan Klosowski, MSU UPREC

For a sixth year, Michigan State University Extension received funding from the Michigan Soybean Committee to evaluate early maturing soybean varieties in the Upper Peninsula. Our objective was to inform farmers in Northern Michigan about the performance of soybean varieties adapted to local conditions. This included yield potential of individual varieties, as well as gathering additional information on grain quality and deer preference.

Thirty-two soybean varieties solicited from seed companies and MSU were planted on a commercial farm in Cooks, MI on May 22, 2023. Growing degree-day accumulation from planting to harvest was near normal for Cooks, but total precipitation during this period was approximately four inches below the five-year average. Precipitation was particularly short in the early summer and fall, placing Cooks at D0-D1 on the Drought Monitor June 20 – July 11 and again Aug 22 through harvest. This resulted is delayed emergence, somewhat uneven stands and higher weed pressure, which were all confounding factors. The trial was harvested October 17th using a Wintersteiger plot combine. Forage soybean varieties from Eagle Seed were not harvested due to lack of mature pods (MG 7.0). Seed was cleaned, weighed and yield corrected for moisture content to a standard 13%. Data were analyzed using ANOVA and Tukey's HSD test (alpha = 0.05) in the Agricolae package for R.

Soybean population averaged 130,680 plants per acre (3 plants/ft²). A few varieties had significantly lower populations (p=0.02), but grain yield was not correlated with plant stand. The trial averaged 17.76 bu/ac, with the lowest yielding variety producing 13.13 bu/ac and the best performing variety yielding 26.55 bu/ac. The average soybean yield for Michigan's Upper Peninsula is 25.50 bu/ac (Source: USDA NASS). Drought exacerbated site variability, leading to large differences in soybean yield among replicates (p<0.0001). However, there were still significant differences among varieties in grain yield (p=0.08), protein (p<0.0001) and oil concentration (p<0.0001).

Since 2019, we have collected evidence demonstrating that soybean tissue sugar (Water Soluble Carbohydrate, WSC) concentration and deer damage vary significantly among soybean varieties, and that deer damage is correlated with soybean tissue sugar concentration. In 2023, we collected tissue samples from our variety entries to again measure WSC concentration. However, due to a shipping error, these samples have yet to be analyzed. We will update this report when the tissue sugar data becomes available in a few weeks.

Many thanks to Michigan Soybean Committee, our seed suppliers and Dave Robere for hosting the 2023 variety trial!

TRIAL DETAILS

PURPOSE:

Compare performance of available commercial soybean varieties, RM 0.5-2.0, under Northern Michigan conditions

TRIAL LOCATION:

Robere Farms in Cooks, MI on Cookson Trenary silt loam

EXPERIMENTAL DESIGN:

Randomized complete block design with four replications

TRIAL MANAGEMENT:

- Conventional tillage
- Previous crop barley
- 8 seed brands, 32 varieties, RM 0.5-1.9 (7.0 in forage beans)
- Planted May 22, 2023 at 170,000 seeds per acre
- Plots 4' X 16' with 7 in. row spacing
- Borders and alleys planted to minimize edge effect
- 200 lbs. per acre of 0-0-60 potash top-dressed
- Post-emerge herbicide: 5 fl oz/ac Raptor + 2 pt/ac Basagran + 25 oz/ac COC + 7oz/ac Boost





Upper Peninsula Research and Extension Center MICHIGAN STATE UNIVERSITY

MICHIGAN STATE

Brand	Variety	MG	Stand (1 ft²)	Yield (bu/a)	Protein (%)	Oil (%)	Sugar (%)
Asgrow	AG07XF4	0.7	2.63*	17.15	25.16*	22.94	TBD
Asgrow	AG08XF4	0.8	3.13*	14.43	26.47*	22.80	TBD
Asgrow	AG09XF3	0.9	2.75*	16.33	26.03*	21.86	TBD
Asgrow	AO9E33	0.9	1.50	19.83*	23.95*	23.26*	TBD
Asgrow	A10E33	1.0	2.88*	19.40*	25.30*	22.17	TBD
Dairyland	DSR-0585E	0.5	2.88*	16.05	23.46	23.75*	TBD
Dairyland	DSR-0757E	0.7	2.38*	13.20	21.94	22.75	TBD
Dairyland	DSR-0920E	0.9	2.88*	19.23*	25.86*	22.22	TBD
Dairyland	DSR-1290E	1.2	2.13	14.68	21.65	23.94*	TBD
DF	DF 3124 N E3	1.2	3.50*	23.93*	24.29*	23.04	TBD
DF	DF 3143 N E3	1.4	4.13*	21.13*	25.55*	23.73*	TBD
DF	DF 151 N	1.5	5.38	24.95*	25.51*	22.15	TBD
DF	DF 3194 N E3	1.9	3.88*	26.55	23.02	23.91*	TBD
Eagle	Big Fellow	7.0	2.75*	NA	NA	NA	TBD
Eagle	Large lad	7.0	2.88*	NA	NA	NA	TBD
Legend	07E165N	0.7	2.75*	22.33*	26.89*	22.84	TBD
Legend	09E345N	0.9	2.50*	19.58*	23.86	23.51*	TBD
Legend	11E153N	1.1	2.63*	18.15	23.97*	23.59*	TBD
Legend	14E152N	1.4	3.75*	13.90	25.07*	23.69*	TBD
MSU	E19191	1.3	3.13*	13.68	24.03*	22.62	TBD
MSU	E19314T	1.6	3.50*	13.13	27.94	22.72	TBD
MSU	E13268	1.7	3.00*	16.83	23.19	23.90*	TBD
MSU	E20078	NA	3.88*	15.23	26.28*	23.32*	TBD
Pioneer	06A85E	0.6	2.00	15.23	24.23*	23.03	TBD
Pioneer	08A44E	0.8	3.00*	16.08	23.18	23.37*	TBD
Pioneer	14A12E	1.4	3.00*	15.43	27.46*	22.41	TBD
Pioneer	17A87E	1.7	3.50*	17.35	24.91*	22.75	TBD
Pioneer	18A73E	1.8	3.13*	21.70*	25.28*	24.30	TBD
Pioneer	19A37E	1.9	3.38*	19.18*	24.06*	23.39*	TBD
Rob-See-Co	IS0822 E3	0.8	3.38*	16.58	27.27*	23.03	TBD
Rob-See-Co	AGL1150	1.1	1.63	15.95	24.83*	22.74	TBD
Rob-See-Co	AE1930	1.9	2.38*	15.70	22.84	23.45*	TBD
Average		1.6	3.00	17.76	24.78	23.10	TBD

Table 1. Soybean yield and quality at Cooks, MI by brand and relative maturity. (* denotes varieties that performed similarly to the BEST variety for a given metric at alpha = 0.05.)

c. .

W-14

. . .







Upper Peninsula Research and Extension Center MICHIGAN STATE UNIVERSITY

MICHIGAN STATE



www.marquettefood.coop

(563) 568-4501 www.equitycoop.com

GARY & JAN SIMPKINS

CELL 989-329-4668

GLADWIN, MI



Grade Holstein cows top \$3300/head Grade Holstein bred heifers top \$3000/head Michigan State University Upper Peninsula Research and Extension Center P.O. Box 168, E3774 University Drive Chatham, MI 49816 NON-PROFIT ORG U.S. POSTAGE PAID PERMIT #77 SAULT STE MARIE, MI 49783

AgBioResearch <u>MICHIGAN STATE</u> UNIVERSITY

RETURN SERVICE REQUESTED

Serving the Upper Peninsula Agricultural Industry

Michigan State University Extension is an affirmative-action, equal-opportunity employer. Michigan State University 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.

U.P. Ag Connections appreciates the support of this newsletter by our advertisers, however in no way does this imply endorsement of any specific products or services.

If you do not wish to receive this publication, please contact Rene Sanderson at sande638@msu.edu or (906) 439-5114

