

U.P. Ag Connections Newsletter

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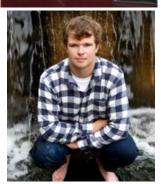
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Neo Wilson



Hudsen Cady

Inaugural Neo Wilson Memorial Scholarship Awarded at Superior Central High School

By James DeDecker and Abbey Palmer, MSUE

Neo Wilson, son of Paul Martin and Gina (Zanetti) Wilson was raised in Skandia and attended Superior Central High School. He is remembered as a young man who loved life, loved people, and looked beyond himself, always making sure everyone was taken care of. He also had a passion for vehicles, the outdoors and nature, all of which fed into his involvement with agriculture. At home, Neo helped his family run Liberty Farms and Flour Mill using refurbished historic equipment to mill wheat into flour, which is sold across the U.P. "Neo was very passionate about our flour mill and the process of having good food for people," his mother remembered. At school, Neo actively participated in teacher Tim Bliss' Agriculture and Forestry class, including a recent Michigan State University project focused on increasing local food in school cafeterias called Locally Integrated Food Teams in the Upper Peninsula (LIFT-UP).

When Neo passed away in July 2022, the team at MSU's Upper Peninsula Research and Extension Center (MSU-UPREC) wanted to recognize the positive impression he had made. With input from Neo's family and teachers, we decided to initiate the Neo Wilson Memorial Scholarship. "This scholarship means a lot to me and I am very proud and humbled by how much my son Neo has affected adults at MSU to start and promote this scholarship in Neo's name," said Neo's Father, Paul. "I'm hoping that the effects of it on the recipient will ease the burden of a desired better education, give them hope for the future, give them a sense of gratitude to someday pay it forward, and to realize there are still good people out there to help."

Neo's scholarship recognizes Superior Central seniors who have made a unique contribution to farming, agriculture, natural resources, or local food in the community. Neo inspired others to approach life with patience, resolve, and thoughtfulness. The \$1,500 scholarship in his honor is intended to continue Neo's legacy of passion for agriculture and being part of a community that actively addresses issues and seeks to solve problems with the good of the whole in mind. While the funds are intended to support continuing education, the scholarship is not only for college-bound students. Those interested in technical education and skilled trades can equally qualify.

The 2023 Neo Wilson Memorial Scholarship was awarded to Hudsen Cady. "This scholarship means a lot to me because it is helping with my future. I plan to join the IronWorkers Union and start an apprenticeship with them," noted Hudsen. "The money from the scholarship will help with the expenses of tools, clothing, and boots. It will really help me get an easier start as I enter this program and the workforce." Neo's family contributed \$1,000 to the scholarship fund in 2023, while MSU-UPREC contributed \$500. Neo's mother shared some encouraging words for the inaugural recipient. "When you figure out if trade school or college is for you, give it your all and you will always succeed. Never let people tell you, "you can't". It will always make Paul and I feel good knowing we can help someone with their dreams. Neo will live on through this scholarship for us, and for the person who receives it." Superior Central seniors interested in pursuing the Neo Wilson Memorial scholarship in 2024 and beyond should contact Agriculture and Forestry teacher Tim Bliss.

MICHIGAN STATE UNIVERSITY Extension AgBioResearch

Managing the top five toughest weeds in Michigan hay fields

Phil Kaatz, Michigan State University Extension, and Erin Burns, Michigan State University, Department of Plant, Soil and Microbial Sciences

When hay producers go to the field this summer to harvest forage crops, one of the challenges they face is how to address the weeds that creep in over time. Michigan State University Extension surveyed past participants of the Great Lakes Forage and Grazing Conference on what are the five toughest to control weeds in their hay fields. Many weeds were identified, but five rose to the top of the list: Queen Anne's lace (wild carrot), horsenettle, hoary alyssum, curly dock and Canada thistle.

Starting with a vigorous forage stand is the best way to prevent weeds from getting established. In general, as forage stands decline, weeds find places to establish and continue to be problematic unless the management problem that caused the forage stand decline is corrected.

The first step in controlling any pest should be to have the weed properly identified. Secondly, if control methods include using pesticides, always follow label recommendations since the label is the law. Additionally, many herbicides outlined below have long residual activity or restrictions on forage and manure management. Take time to read and consider these restrictions seriously before making applications (see Table 1).

What are the toughest weeds to control in Michigan hay fields?

Each weed species may have unique control methods, however knowledge of weed biology and using it to target weeds when most vulnerable is key to long-term success.

Wild carrot (Queen Anne's lace)

Reported the most troublesome weed in hay fields is wild carrot. This biennial is a deep-rooted plant that emerges in year one as a rosette, bolts in year two and forms flowers as early as June. Each flower can produce up to 1,000 seeds and can stay viable in the soil for up to seven years.

- Mechanical control of wild carrot is an effective way to cut off flowers and stop seed production. Clipping/mowing in July has been shown to stop seed production.
- Chemical control is limited. Wild carrot cannot be controlled in non-Roundup Ready (RR) alfalfa. The use of 2,4-D is effective in grassy hay fields, however, continued use leads to resistance in as few as two or three years, and resistant populations are already present in Michigan. Crossbow is the best option in grass hay fields.
- Few herbicide options are available in legumes like alfalfa or legume/grass mixed fields. When infestations are too severe, renovating the field should be considered.

<u>Horsenettle</u>

Horsenettle comes in second place as the most troublesome weed. Horsenettle is a perennial weed that reproduces by seed and vegetatively via new shoots from creeping roots called rhizomes. Spines on plants reduce livestock palatability. <u>Horsenettle</u> <u>thrives in sandy or gravelly soils but will grow on a wide range of soils</u>. The plants flower in late spring to early summer forming yellow berries. **Vegetative parts of this weed and its fruit can poison livestock.** Toxicity is reduced (not eliminated) when the plants are dried and is usually higher in late summer to fall than in the spring.

- Mechanical control is difficult. Tillage at any depth can spread horsenettle. Mowing early in the season encourages growth whereas mowing later decreases some growth.
- Very few herbicides are effective at controlling horsenettle. Herbicides will only "**suppress**" horsenettle and keep it from spreading. Multiple applications over several years are necessary for control. Possible options include glyphosate (RR alfalfa), Milestone, Crossbow and GrazonNext HL. Herbicide applications at the flowering stage prior to berry formation is the optimal time for application.
- Alfalfa (non-RR) and alfalfa/grass mixed fields do not have good options for chemical control.

Hoary alyssum

Hoary alyssum was the third most popular (or unpopular in this case) weed in the survey. This is an annual to short-lived perennial weed with a long taproot that spreads by seed. Hoary alyssum is toxic when horses graze the fresh plant or eat it in dried hay. Hoary alyssum can remain toxic for up to nine months. This weed will thrive in low fertility, well-drained, coarse-textured soils. Nutrient management is important to maintain competitiveness of the desired forage over hoary alyssum. Controlling hoary alyssum is critical prior to the initial seeding of the hay field.

- Conventional tillage when preparing the seedbed is an effective control method.
- A burndown herbicide can be used in no-till systems.
- Control in a legume/grass mixture is limited to a dormant application of metribuzin. If found in grass hay fields, treatment by a 2,4-D or dicamba will provide good control.

Curly dock

Another tough to control weed coming in at fourth place is curly dock. This is a perennial weed with a large, thick taproot that often shows up in older stands of alfalfa, alfalfa and grass, or all grass hayfields. Reproduction is by seed. <u>Curly dock</u> <u>thrives in moist soils and has seeds that can remain viable in soil for up to 80 years</u>. This plant can be toxic when consumed in large amounts.

- Mowing can help reduce populations. Tillage will control curly dock or by using a shovel to remove the crown 2 inches below the soil surface.
- Chemical control in grass hayfields is effective with Cimarron Plus, 2,4-D, dicamba, GrazonNext HL and Crossbow.
- Established alfalfa and legume/grass mixtures have few options for chemical control. Raptor or Pursuit can be effective when applied on curly dock seedlings in pure alfalfa.

Canada thistle

Canada thistle rounds out the end of the top five toughest to control weeds in forages. <u>This perennial spreads by seed and rhizomes</u>. Emergence occurs in the spring and plants flower when days are the longest. Seeds have an attached pappus 'feather-like structure' that allows for long distance transport in the wind. Canada thistle's creeping roots allows for the formation of large colonies that spread over the field.

- Mechanical control of Canada thistle with infrequent mowing is not highly effective. Repeated mowing will stress the plant and force it to deplete root nutrients. Tillage can increase the problem by cutting roots thereby making new plants.
- Canada thistle is most susceptible to herbicides between the bud and early flower stages or in the early fall prior to frost.
- Most herbicides will only "suppress" Canada thistle and keep it from spreading. Yearly herbicide applications will be needed to get Canada thistle infestations under control. Possible herbicide options include Cimarron Plus, Crossbow, Milestone, GrazonNext HL and Stinger in grass hay fields.
- Non-RR alfalfa and legume/grass mixtures have very few effective Canada thistle control options.

Mixed legume/grass stands present special challenges

Legume-grass mixtures have potential to provide agronomic and livestock feeding benefits such as plant diversity, increased persistence and livestock nutrition. However, there are no easy herbicide options for controlling weeds in mixed grass/legume stands. When considering planting legume grass mixtures, select fields with low weed pressure.

Table 1. Five toughest weeds to control in Michigan hay fields.

Weed	Mechanical control	Chemical control legun	Chemical control grasses	Important considerations
Queen Anne's lac (wild carrot)	 Mowing or clipping at late flowering stage reduces size and seed production 	• No selective S herbicides	Crossbow	 Widespread 2,4-D resistance Careful grazing management and clipping plants before they set seed is effective and economical
Horsenettle	 Tillage at any depth can spread horsenettle Mowing not highly ef- fective 	 No selective herbicides 	MilestoneCrossbowGrazonNext HL	• Optimal time to apply herbicides is at the flowering stage, prior to formation of berries
Hoary alyssum	 Tillage will control emerged plants prior to planting 	 Metribuzin (dormant alfalfa and alfalfa/grass) 	2,4-Ddicamba	 Nutrient management is im- portant to maintain competitiveness of desired forage over hoary alyssum
Curly dock	 Mowing can help re- duce populations 	RaptorPursuit	 Cimarron plus 2,4-D dicamba GrazonNext HL Crossbow 	• Problematic in older stands
Canada thistle	 Tillage at any depth car spread Canada thistle Infrequent mowing not effective 	No selective	 Cimarron plus Crossbow Milestone GrazonNext HL Stinger 	• Most susceptible to herbicides between the bud and early flower stages or in the early fall prior to frost 3

MSU researchers awarded \$750K grant to develop sustainable management for potato early die complex

By Cameron Rudolph

A team of Michigan State University researchers has received a \$750,000 grant from the U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture to develop and evaluate sustainable methods of managing potato early die complex.

Michigan ranks eighth nationally in potato production, with more than 46,000 acres and 1.7 billion pounds harvested each year. According to the Michigan Potato Industry Commission (MPIC), the industry contributes \$1.24 billion to the state's economy. Michigan is also the nation's leader in producing potatoes for use in chips.

But there are a multitude of challenges facing potato growers. One of the most destructive diseases, potato early die complex, can reduce yields by as much as 50%. It is caused by the convergence of a fungus, *Verticillium dahliae*, and nematode, *Pratylenchus penetrans*, which compromises the plant's health before it's able to reach maturity. Previous research on the disease has shown that other pathogens may influence it as well.

The new project will be led by Marisol Quintanilla, a nematologist and assistant professor in the MSU Department of Entomology. Other MSU scientists involved include:

- Luisa Parrado, a doctoral student in Quintanilla's laboratory who helped author the project proposal.
- Henry Chung, an assistant professor in the Department of Entomology.
- Jennifer Pechal, an assistant professor in the Department of Entomology.
- Chris Long, a potato extension specialist in the Department of Plant, Soil and Microbial Sciences.
- Jaime Willbur, an assistant professor in the Department of Plant, Soil and Microbial Sciences.

Guiping Yan, an associate professor from North Dakota State University, will also contribute to the research.

In a recent survey of Michigan potato growers conducted by Willbur, 45% said potato early die complex was one of their top three disease concerns, while 42% stated that current management strategies need to be improved.

The most common current treatment is fumigation, which has negative effects on the soil microbiome and can reduce the efficacy of biological controls. Quintanilla believes these biological controls may hold the key to better management.

"Our previous research has concluded that poultry manure and a compost blend are effective at reducing *P. penetrans* populations and improving potato yield," said Quintanilla, whose position is supported in part by <u>MSU</u> <u>AgBioResearch</u>. "The pesticidal effect of these products is not fully understood, but literature suggests that it is attributed to a combination of mechanisms, including the activity of microbial communities that reside in these amendments."

While soil amendments have typically been used to improve soil health, structure and quality, there is increasing focus on the potential to fight disease. Much of the preliminary research was funded by MPIC and <u>Project GREEEN</u>, a collaboration among MSU, the Michigan Department of Agriculture and Rural Development, and plant agriculture commodity organizations.

The goal of the new project is to provide insights on a compost blend that has the desired antimicrobial characteristics to fend off potato early die complex. The team will work to accomplish this through three objectives:

- Quantify and identify microorganisms derived from manure-based amendments that are playing an important role in *penetrans* suppression.
- Determine the impact and response of the biological activity of manure-based amendments on commercial potato fields and the suppression of the potato early die disease complex.
- Collaborate with both in- and out-of-state extension educators to disseminate materials for growers.

Research will take place in the field and the laboratory. Two experiments will be hosted at a farm in southwest Michigan with a history of potato early die complex, and these will be replicated in North Dakota.

Extension materials will be created for use online and in print, including a potato management handbook. The handbook will be available in English and Spanish versions.

"Growers will be heavily involved in the process because this research is really geared toward meeting their needs," Quintanilla said. "We want to make sure the resources we generate are accessible to as many growers as possible."

Michigan Beef Industry Eyes State Checkoff

Leaders say resources are needed to modernize public education efforts.

Michigan Beef Industry Commission (MBIC) Executive Director George Quackenbush has seen a lot of change in the landscape during his 18 years representing Michigan cattle producers.

From farming techniques to technological changes in how the public gets information to rising pressure from anti-beef groups around the state and nation, very little of the landscape looks familiar since the day he went to work for Michigan's beef producers back in 2005.

What hasn't changed is the revenue this group uses to serve as the face and voice of Michigan beef producers. The MBIC retains half of \$1 per-head on cattle when they are sold, a federal checkoff program instituted in 1985. Quackenbush and the producer leaders serving on the Michigan Beef Industry Commission say that needs to change.

"The world around us has changed," Quackenbush said. "Cattle producers responsibly use resources and technology to do their jobs more effectively, more humanely and more sustainably than ever before. But the public is skeptical, pressure from outside groups is at an all-time high, and the need for us to reach our consumers has never been more important."

In recent years, producer organizations have recommended MBIC re-start a state check-off that existed before the national program was established in 1985.

"It is critical that we expand our educational programs," says MBIC Chairman Monte Bordner. "Our work to inform pediatricians, cardiologists, and others in the health community about the benefits of nutrient-dense beef in a healthy diet has been exceptionally well received. We are now poised to launch an initiative focusing on fitness, promoting beef's role in strength building and athletic performance. This is about growing consumer trust in our product, increasing beef's visibility, and creating opportunities for future generations in our industry."

Checkoff programs are a tool commonly used by agricultural commodities to help support their producers. Eighteen states have developed beef checkoff programs in addition to the federal beef checkoff. Michigan beef leaders say the state program will also help ensure that money collected on Michigan cattle goes to directly support and create opportunities for Michigan's cattle producers.

"We're working hard to get the word out to producers around the state about this proposal to re-start our state checkoff, why it's needed now and what it will mean for their futures," Quackenbush said. "This is a turning point for our industry in Michigan. Our ability to do the job beef producers expect requires adequate resources, and this proposal will allow us to deliver effectively on their behalf."

The Commission is expected to review and decide this proposal at its July 20th board meeting. Listening sessions are being scheduled where the Commission will receive public input.

Learn more about the Michigan Beef Industry at <u>www.MIBeef.org</u>



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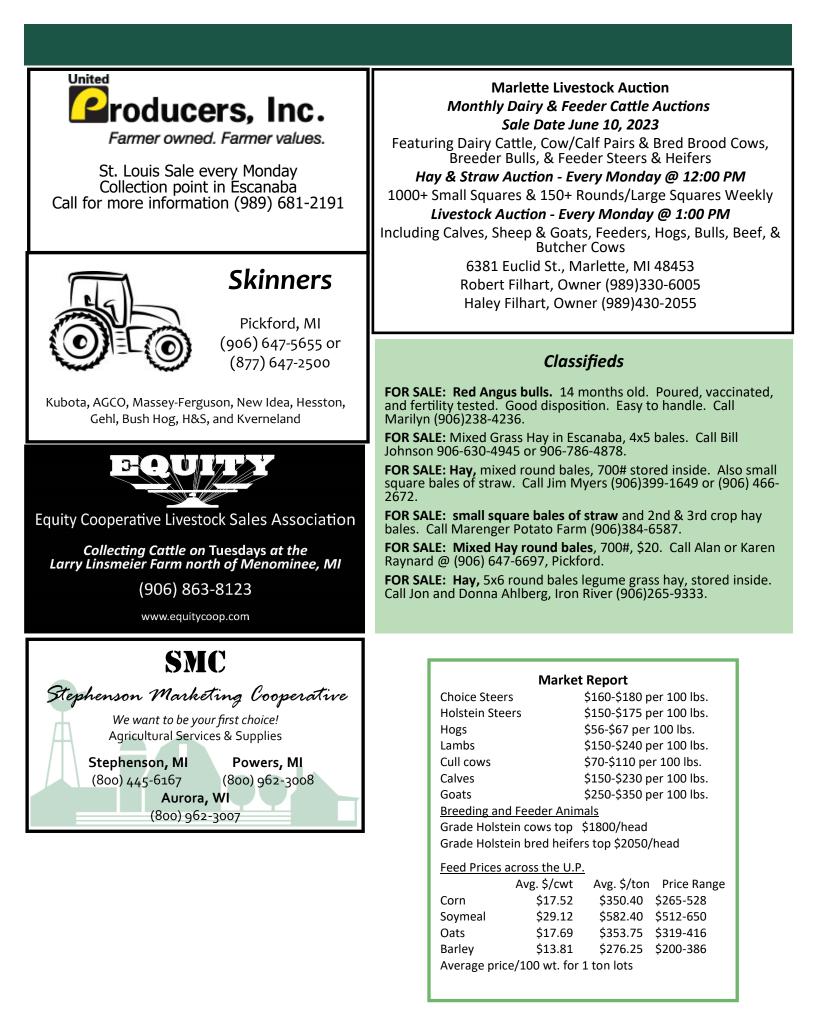
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Drought Scare is here Early

By Frank Wardynski, MSUE

I have already been receiving phone calls about the drought and impacts on forage supply. It's early in June and there is still plenty of time for forage growth if rains start coming. However, if this dry spell lasts through the summer, it is going to create a seriously low forage supply both harvested and pastures.

My thoughts are that we need not start planning now. My plan starts with asking questions regarding harvest time. Should we wait until later in the summer to allow for more growth. Dairy farmers have already finished first cutting harvest. Yields are below normal but not yet disastrous. If rain comes, they will be right on schedule. Delaying harvest due to low yields will not increase forage growth. My thoughts, get the first crop off so that we have a chance for regrowth.

Tillage and plantings. Maybe look at low fertility fields. Harvest the hay and plant sorghum-sudan grass. It is drought tolerant, high yielding, and loves the heat. Plant between now and July 15.

Look at fertility. Once the first crop is off and rains start, will there be time to get second crop? If yes, consider fertilizer. Many low fertility fields are the ones most susceptible to drought. Fertilizer that gets enough moisture to soak into the soil will improve yield.

Protect pastures. Improved grazing techniques can help keep pastures growing. Rotational grazing and not grazing short will better allow forages to regrow for subsequent grazing. Overgrazing allows summer sun and heat to dry the soil out more than leaving more residue. If pastures do not recover for subsequent grazing, pull cattle into sacrifice lots rather than allowing cattle to chew forages to nothing. Recovery will be better when rain starts again. Hopefully the weather pattern changes and allows for forage growth and all the worry will be for nothing. If not, develop a plan and start looking for more information regarding drought emergency.