



U.P. Ag Connections Newsletter

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EPA cancels Avipel dry registration: Options limited to control sandhill crane damage

James DeDecker, MSU UPREC and Mitch Galloway, Farm News Media

- This article contains content from [Michigan Farm News](#)

Michigan is blessed with abundant wildlife, and I have been working on wildlife damage in agriculture as a side project since 2014. Migratory birds, like sandhill cranes, are the second most damaging group of species inhabiting agriculture landscapes after white-tailed deer according to our 2019 survey of Michigan farmers. Sandhill cranes commonly damage newly emerged grain crops, especially corn, by digging or pulling-up seedlings to eat the remaining seed still attached to the young root system. They can also damage many different crops near harvest time, eating small grain seed as it matures or piercing potato tubers near the soil surface, for example.

Wildlife damage can be particularly frustrating and difficult to control relative to other pest damage. Recommended physical, cultural and biological controls offer variable results at best. There are few effective chemical control tools (repellents) available, and those that exist are often prohibitively expensive. Avipel, a seed treatment product labeled to control bird damage in corn and rice, has been an exception. Avipel was developed by Arkion Life Sciences in cooperation with the International Crane Foundation and is very effective at reducing crane damage by causing digestive upset in cranes ingesting treated seed. According to Arkion, Avipel's active ingredient, 9, 10-anthraquinone (AQ), is an organic chemical found in multiple plant species, including aloe vera, rhubarb, greater plantains and sennas. While being a particularly effective agent for repelling birds, AQ is non-lethal to birds. Avipel has been available in two formulations, a dry planter box formulation applied by growers at planting and a liquid product applied before planting using commercial seed treating equipment.

Early in 2023, Arkion Life Sciences announced it would cancel the registration of their dry corn seed treatment upon request from the Environmental Protection Agency due to emerging evidence of possible applicator safety issues. Distribution of the dry product ended last year nationwide. According to Theresa Sisung, industry relations specialist for Michigan Farm Bureau, Avipel dry treatment was labeled for 2 ounces per 25 pounds of seed and could easily be applied and mixed with the seed at the planter hopper. "Unfortunately, losing the dry formulation of Avipel really limits farmers' ability to protect their corn crop from sandhill crane damage. They can attempt to scare the birds away from their fields, but that is not overly effective, or if they can prove damage, they can apply for depredation permits from U.S. Fish and Wildlife Services." Other than that, options are limited, said Sisung, noting liquid application is still available, but a grower must be able to treat seed with a liquid product to use the liquid treatment prior to planting.

According to Arkion and the Michigan Department of Agriculture and Rural Development (MDARD), five states have Special Local Need labels allowing application of Avipel's dry formulation in 2023. Michigan is not one of them, unfortunately. Those special labels will expire in late 2023 and will not be renewed by EPA. Arkion states that they will try to re-register the dry formulation in the next few months after gathering new data, but the decision will ultimately be made by EPA. Michigan corn growers experiencing Sandhill crane damage in 2023 have few options remaining to protect their crop. One option is to contact USDA Wildlife Services for assistance applying for crane depredation permits from US Fish and Wildlife ([989-705-8467](tel:989-705-8467) or 517-336-1928). Other options include scare tactics and cultural controls described in the MSU Extension [Wildlife Management Series for Midwestern Farmers](#). Working to line-up commercial treatment of 2024 corn seed with the Avipel liquid formulation may be the best long-term solution.

Why farm in Michigan's Upper Peninsula?

*Michelle Sweeten and James DeDecker, Michigan State University Extension
Updated from an original article written by James Isleib.*

Low cost land and a laidback lifestyle may seem appealing, but the basics of successful farming in Michigan's Upper Peninsula are the same as everywhere else: careful planning, efficient use of resources, adaptability, commitment and good luck.

Farms in Michigan's Upper Peninsula often face many challenges. Over the years, Michigan State University Extension educators have worked with various types and sizes of farms to minimize these trials.

- The environment, weather, soil types and short growing seasons challenge successful farming here.
- The infrastructure serving Upper Peninsula farmers (businesses supplying seed, fertilizer, lime, equipment, repairs, etc.) is minimal and often distant. Distance to markets adds expense and complication to profitable agriculture production.
- The number of traditional farms is decreasing, but the overall number of Upper Peninsula farms is increasing due to an influx of small, diversified farms.
- Many farmers have few farming neighbors to work with and depend on.
- Numerous farms do not have an upcoming generation to take on the agricultural business and farmers themselves are aging.
- Relatively small fields and equipment make large-scale crop production difficult.
- Predators and vertebrate pests may be more numerous or damaging, but some insect pests and diseases are less common relative to other places.

At a first glance, some of these factors may appear similar to agriculture throughout Michigan. However, other elements are unique to the Upper Peninsula or especially prominent here, giving a special twist to farming in the Upper Peninsula, particularly our weather, soil and access to inputs and markets.

And the people...

Those who love farming in the Upper Peninsula are not necessarily natives of the area but must be determined to stay. There is a certain understanding among farmers who annually remove over 200 inches of snow out of the barnyard, either to let the milk truck in week after week, or just to get the livestock fed. This quiet pride among farmers may not be restricted to the Upper Peninsula, but there are some unique features.

For example, the calculated risk that barn roofs or the plastic on your hoop houses will hold up to the snow load, at least until you can get out with your snowblower to cut out the pile along the bottom. Or waiting for the snow to melt off the fields so you can get your small grains and hay seeding in by the second week of May. Or negotiating with the milk hauler to keep your isolated farm on the route. Or wading through permits to gain permission to remove sandhill cranes from your fields before they destroy your crops.

Every year, MSU Extension educators are contacted by people wanting to come to the Upper Peninsula to farm. Some are beginners, maybe dreamers, and others are experienced people looking for new opportunities. Here are a few of the things we tell them.

Land price for purchase or rent is relatively cheap, with rent for cropland around \$20-\$40 per acre in many areas. However, it is important to note that not all land in the Upper Peninsula is suitable for agricultural uses. Buyers should learn what the past or current land use has been for a particular property. A second option would be to use resources like the [NRCS Web Soil Survey](#).

What will grow here?

- Forages are the backbone of Upper Peninsula agriculture. Primarily cool-season grasses such as orchardgrass, timothy, mixed hay, pasture and alfalfa in a few places.
- For commodity-type farms: corn (mostly for silage), small grains including oats, barley and wheat, potatoes and canola. Some of the areas with more moderate climate will support soybeans and dry beans.
- For smaller scale, local food producers: Cole crops or Brassicas, shorter season and cold hardy vegetables, root crops, sweet corn and with season extending hoop houses, just about anything.



What can I produce that will make money? Maybe cover the land costs? That's really a tough question. This is where careful, realistic planning is a must. Do you have the finances, labor resources, willingness to assume risk, and dedication that it will take? The time-tested and proven sustainable farms, environmentally and economically, include:

- Dairy farms (although milk hauling access is becoming thin).
- Beef cow-calf farms (selling weaned feeder cattle).
- Beef farms (buying feeder calves and selling as larger feeder cattle, or grass finishing).
- Potato farms.
- Specialty fruit and vegetable farms. For example, U-pick strawberries and pumpkins or farmers market produce sales. Location near a major town is **critical** for success.



Showing promise in the area are small, diversified farms supplying smaller volumes of locally marketed produce, poultry and meat products. These farms often utilize hoop houses to extend the growing season and pasture for cost efficient livestock production. While few are certified as organic, many use organic production techniques. They are selling through farmers markets, community supported agriculture shares, on-farm stands and occasionally to restaurants and institutions. An Upper Peninsula food hub is under development to stimulate growth in this sector. Producers find that choosing livestock with genetics that can adapt to the harsh winters and can thrive with minimal outside inputs is key to their success.

Numerous small, part-time farms specialize in single commodities, such as horse hay or raising feeder pigs, even cold-tolerant fruit orchards.

If you're interested in farming in Michigan's Upper Peninsula, take a couple of weeks to tour the area. Visit the various pockets of agriculture in places such as Delta and Menominee counties, Bruce Crossing/Ontonagon, Western Alger County, Engadine/Germfask, Chippewa County and other places. Connect with local farmers, MSU Extension staff, local agriculture supply companies, veterinarians, U.S. Department of Agriculture staff and others. Learn everything you can. Then think it over – carefully.

ATTENTION HIGH SCHOOL TEACHERS:

Are you interested in learning about how to incorporate local food systems and agricultural education into your classroom? This professional development opportunity is open to UP high school teachers in any subject area who would like to deepen their knowledge of how students can drive food systems change through a process for community food systems change called land-based learning.

MARQUETTE-ALGER RESA, MSU UP RESEARCH & EXTENSION CENTER & PARTRIDGE CREEK FARM HAVE AN UPCOMING FARM TO SCHOOL INSTITUTE TRAINING FOR HIGH SCHOOL STAFF ON JUNE 12 & 13 AT THE MSU NORTH FARM IN CHATHAM AND A COMMUNITY RESOURCE FAIR FOR ALL PARTICIPANTS ON JUNE 13 AT BARREL AND BEAM. For more information contact Rachel at rbloch@maresa.org. Stipends, mileage, hotels, meals and SCECHS available with support from Michigan Health Endowment Fund and Superior Health Foundation.

Can biological products substitute for fertilizer nutrients?

Kurt Steinke and Jonathan LaPorte, Michigan State University Extension

Save more dollars and grow more bushels. This simple phrase is a common goal across many farms. The idea of reducing costs and maximizing production is often key to greater profitability. In recent years, higher input costs have tightened farm profit margins. Although fertilizer prices have softened some in 2023, nitrogen (N) fertilizer prices increased nearly 150% in 2022 as compared to 2020. These price increases have been a major factor in lower farm profits leading many farms to look for alternative options to supplement nutrient management. One option is biological products that may contain N-fixing bacteria. These products are marketed to reduce supplemental fertilizer N by a certain percentage or quantity depending on the cropping system.

Biological products with asymbiotic N-fixing bacteria claim to fix N in similar fashion as symbiotic *Rhizobia* in legumes. Products operate by infecting the seed or the soil adjacent to plant roots and fix N from the air. In soil, these bacteria receive energy from root exudates including organic matter or residue decay compounds. In the plant, these organisms receive energy from within the plant in which they reside. Products containing asymbiotic bacteria are one of the latest marketing trends to enhance crop production. Some products claim replacement values of up to 50 pounds of applied N per acre. In 2022 when nitrogen reached prices of \$1 per pound, cost savings would have been up to \$50 per acre. At current 2023 pricing, \$35 per acre would be a potential savings target.

With the potential for cost savings, universities across the North Central Region sought to determine the value these products may bring to growers. Tests focused on a broad array of biological products, with 61 site-years of testing completed in 2022 alone. Application methods included in-furrow, foliar spray, and seed treatments. Michigan State University was one participating university conducting research on corn in 2022.

N rate, Pounds N/acre	Corn Yield, bushels per acre			
	No additive	Envita	Utrisha	ProveN 40
60	130 bcd	148 ab	120 cd	119 d
110	154 a	148 ab	152 a	137 abc
180	160 a	145abc	139 abcd	154 a
Mean	148NS	147	137	137
Check	128 d			

Table 1: Michigan State University corn yield trials with no additives vs. biological N-fixing products (2022, Mason)

Treatments included multiple N rates with and without asymbiotic N-fixing products including Envita, Utrisha, and ProveN 40. Each trial received a base rate of 60 pounds N per acre applied in a 2-inch by 2-inch subsurface band placement at planting. The 110 pounds N per acre treatments received an additional 50 pounds N per acre side dress application at V3-V4 using coulters injection of 28-0-0 (UAN). The 180 pounds N per acre treatment received a 120 pounds N/acre side-dress application at V3-V4 using coulters injected UAN. A check plot with no N fertilizer application was also included for comparison.

Total N application rates were 60, 110, and 180 pounds N per acre. Envita was applied in-furrow at planting at 3.2 ounces per acre; ProveN 40 was applied in-furrow at 12 ounces per acre; Utrisha was applied as a foliar application at V4-V8 at 5 ounces per acre. There was no yield improvement ($P < 0.05$) with the use of Envita, Utrisha, or ProveN 40 over N rates alone (Table 1).

Trials on corn, spring wheat, sugar beets, and canola were conducted across the upper Midwest at other universities. Results from these studies are collected in a new bulletin available here: [Performance of selected commercially available asymbiotic N-fixing products in the North Central Region](#).

Across the compiled studies, 59 of the 61 site-years demonstrated no yield increase with the biological product over the N rate individually. Asymbiotic N-fixing bacteria already exist in many soils with activity levels increasing as tillage decreases and under moist, warm conditions. Activity levels decrease in dry, wet, or cold soils and under high concentrations of residual inorganic N.

With limited positive results, farms should be cautious about widespread use of biological products. Individual testing of products across replicated strips and multiple N rates is encouraged. Growers need to be sure that N rates tested are NOT all greater than recommended N rates. Farms should continue to seek unbiased data on products and performance before decreasing fertilizer rates across whole fields.

MSU-UPREC FORAGE FIELD DAY



**Approved for MAEAP
and RUP credits!**

**Tuesday
June 13th, 2023
10:00 a.m. - 1:00 p.m.**

**MSU-UPREC
E3774 University Drive
Chatham, MI 49816**



Upper Peninsula Research
and Extension Center
MICHIGAN STATE UNIVERSITY



Join MSU experts and fellow farmers to view plots of alfalfa and grass while learning about forage research and best management practices.

10:00 am - Welcome

10:30 am - Alfalfa Genetics & Mgmt

- Alfalfa Varieties
- Low Lignin Alfalfa
- Harvest Scheduling
- Alfalfa Autotoxicity
- Pest Management

11:00 am - Grass Genetics & Mgmt

- Forage Grass Varieties
- Grass maturity rating
- Pest Management

11:30 am - U.P. Grazing Update

12:00 pm - MAEAP and Lunch on us

- ⇒ **Call (906) 439-5114 to register**
- ⇒ Accommodations for persons with disabilities may be requested by calling (906) 439-5114

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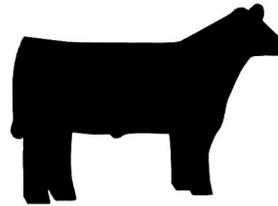
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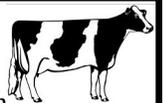
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Classifieds

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Marilyn (906)238-4236.

WANTED: Pasture for 25-35 cow calf pairs for the summer of
2023 in the Eastern UP. Will consider a custom grazing
arrangement as well. Call Ben at (989)370-3570.

FOR SALE: Mixed Grass Hay in Escanaba, 4x5 bales. Call Bill
Johnson 906-630-4945 or 906-786-4878.

FOR SALE: Hay, mixed round bales, 700# stored inside. Also small
square bales of straw. Call Jim Myers (906)399-1649 or (906) 466-
2672.

FOR SALE: small square bales of straw and 2nd & 3rd crop hay
bales. Call Marenger Potato Farm (906)384-6587.

FOR SALE: Mixed Hay round bales, 700#, \$20. Call Alan or Karen
Raynard @ (906) 647-6697, Pickford.

FOR SALE: Hay, 5x6 round bales legume grass hay, stored inside.
Call Jon and Donna Ahlberg, Iron River (906)265-9333.

Looking for animals to custom graze on 120 acres. Henry Miller
2351 W 6 Mile Rd, Sault Ste Marie, 49783

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

2023 BULL TESTING

You've fed your bull all Winter and on the outside, he looks good...but what about what you can't see?

Don't take your chances! Get his semen tested--Ensure he's able to do his upcoming job!

Haul-in dates at MSU **Chatham location** are as follows: **Friday, May 19th & Tuesday, May 30**

Western UP: Saturday, May 13

If you'd like to be added to one of the above haul-in days or if you'd rather schedule bull testing at your home farm location,
please give us a call. Dr. Renee Coyer, Upper Peninsula Veterinary Service: 906.399.2043

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Market Report

Choice Steers	\$150-\$169 per 100 lbs.
Holstein Steers	\$140-\$162 per 100 lbs.
Hogs	\$46-\$56 per 100 lbs.
Lambs	\$130-\$220 per 100 lbs.
Cull cows	\$70-\$100 per 100 lbs.
Calves	\$75-\$130 per 100 lbs.
Goats	\$250-\$380 per 100 lbs.

Breeding and Feeder Animals

Grade Holstein cows top	\$1800/head
Grade Holstein bred heifers top	\$2050/head

Feed Prices across the U.P.

	Avg. \$/cwt	Avg. \$/ton	Price Range
Corn	\$17.92	\$358.40	\$265-560
Soymeal	\$29.68	\$593.50	\$540-650
Oats	\$17.69	\$353.75	\$319-416
Barley	\$13.81	\$276.25	\$200-386
Average price/100 wt. for 1 ton lots			