

Conservation Corner for Sept. 19, 2017

You Want Fries with That?

Local potato farms take care to provide a consistent crop

By Jodi Venema DeHate
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Potatoes can be made into so many different things like fries, chips, baked potatoes, and the list could go on and on. According to the Michigan Department of Agriculture, potatoes are the most consumed vegetable in the US, with tomatoes coming in at a distant second. Michigan produces nearly two billion pounds of potatoes annually, generating \$178.7 million in farm gate sales. They are grown all the way from Iron County in the Upper Peninsula to Monroe County near the Ohio state line. Michigan is the nation's leading producer of potatoes for chip production.

How about locally?

Local residents say that at one time Manton was a center of potato growing. In the book "The Manton Area Then and Now", 1890 was recorded as a bumper year for potatoes. The April, 1921 issue of "The Potato Magazine" describes a research project in Manton on the correct spacing of potato plants. But potatoes are hard on the soil, and without conservation measures, the soil on which they are grown can quickly be depleted. Soil depletion was one of the factors that led to the demise of the potato industry in Manton.

However, by making use of conservation practices, a handful of large potato growers have been able to be successful in our area. Eisenga Family Farms, Jenkin Farm, and Elmaple Farm are among them. Their potatoes are used for fresh, or table potatoes and you can often find potatoes from their farms at both Meijer and Spartan stores.

Potato seeds - these aren't really seeds

Starting off with good "seed" potatoes is as key in good potato production as it is with any other type of crop. However, seed potatoes really aren't seeds. If you've ever had to cut off an "eye" of a potato because it had sprouted then you have a potato trying to grow! Potato seed is really a cut potato that has an eye on it. These seed potatoes are grown specifically to sell to other growers, Iott Farms in Kalkaska is one of those farms. These seed potatoes must be absolutely disease and pest free. There is a certification process these growers go through in order to sell these.

Nutrient Requirements

Potatoes like any other crop have specific nutrient requirements. Potatoes need large amounts of both phosphorus and nitrogen. Most farmers take both soil and leaf samples to help determine how much fertilizer they need to apply. As good stewards, farmers also take care that these nutrients do not leave the fields via erosion or water run off causing environmental issues in water bodies.

Pests

Potato pests and diseases can be devastating. One that many home gardeners combat is the Colorado potato beetle and so do farms. An infestation can be devastating to a field. There are a lot of aphids that are also very damaging to potatoes and nematodes in the soil are too. Farms scout for these bugs and spray an insecticide when needed.

Soil borne diseases such as blights (yes the same blight that caused the Irish Potato Famine is still around), wilts, and rots are controlled with crop rotation, using resistant varieties, and in many cases fumigating the soil to control those diseases. Companies that do the fumigation are becoming harder to find and less willing to do the fumigation. This has led to some farms experimenting with growing brown mustard. Mustard greens when tilled back into the ground are showing promise as a bio fumigant. The mustard lets off a gas that seems to reduce these soil borne diseases and pests. The research is still on going to understand what varieties of mustard and timing of the incorporation are optimal.

Irrigation management

Potatoes grow better in sandier soil with access to a lot of water. Sounds a bit impossible, right? Irrigation can help ensure that the potatoes get the water they need when they need it. Farmers carefully monitor how much rain they have received and how much water the plants need per week. They balance out the difference and will turn on the irrigation systems to deliver the right amount of water.

Harvesting

Because potatoes are grown underground, harvesting is really rough on the soil. Potato harvesters are massive machines that dig below the potatoes and bring them up to the surface, along with soil, rocks and some weeds. The soil falls away, while rocks, weeds, and the potatoes stay on the front of the harvester. These are all separated out, and the potatoes and some rocks are then conveyed to a wagon and tractor running alongside the harvester. It's really amazing to watch all the moving parts on this machine and the amount of things the operator has to be aware of is astounding. It turns out that there is a market for rocks, so two "crops" can be harvested from the same field. The rocks are piled at the field edge to be sold.

Conservation

Once the potatoes are harvested, the field is tilled and then planted into a cover crop. Typically this a small grain such as wheat or rye. Rye grows quickly and can grow well into the cold months of autumn. This quick growth ensures that the soil is held in place after the harvester has made its way through. Not only does this reduces wind and water erosion, rye also the ability to take up extra phosphorus that might still be in the field, and thus prevent fertilizer run off.

Crop rotation is key on these farms. Eisenga Farms has found that adding hay, corn, green beans, wheat, rye, and black beans into their rotation has been a good thing. Fields will have potatoes growing on them only once every four to five years. Crop rotation helps to build up the soil, reduce pest pressure, and balance soil nutrient levels.

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All photos were taken by Jodi Venema DeHate



Local farmer Bruce Eisenga harvesting potatoes on a sunny fall day.



Potato harvesting machines are equipped with the technology that enables them to precisely drive between the crop rows and efficiently harvest the crop.



Potato harvesters separate soil, weeds, and rocks from the potato crop.



Potatoes are loaded into wagons right in the field. Notice the irrigation booms in the background. A steady supply of water is crucial to producing a healthy crop.



Potato fields are seeded with a small grain or a cover crop within just a few days of the field being harvested. Cover crops help prevent soil erosion, increase soil organic matter, and prevent fertilizer loss. This local field is being seeded to wheat.