



# Sunflowers improve soil and public relations

## EXTENDED SEASON

“We want to harvest sunlight, and the way to do that is to keep something growing.”

***They are the most obvious variety in a cover crop mixture that may contain six different plants***

*By Frances Anderson*

**A drive along** Ontario’s ‘West Coast’ this fall has a lot of people turning heads to take a second look at the sunflowers. These late-planted beauties are not a stand-alone crop. They’re a cover crop, in a mix that may include a half dozen other species.

Stefan Zehetner, who grows, blends and sells cover crop seed, says he uses sunflowers in almost all his mixes – unless the seed will be planted very early, and the grower plans to wait for the frost to terminate it.

“Sunflowers will set seed after a few weeks

of flowering. Chemical control is easy and most people want to control the volunteer wheat anyways,” said Zehetner. “Another option is mowing.”

Developing weed resistance to spraying shouldn’t be an issue, he said, because growers can use multiple modes of action in burndown.

Zehetner’s main cover mix this year included oats, Austrian winter peas, faba beans, chickling vetch, sunflowers, a bit of flax and a mixture of brassicas or sometimes just daikon radish. The cost ranged from \$18 to \$21 acre,



**A mix of cover crops improves soil quality, alleviates compaction and holds phosphorus over the winter.**



**The sunflowers feed pollinators and make people smile**

acre, depending on the grower's volume and delivery needs.

"Sunflowers have a great taproot as well as a very fibrous root system. They leave the ground very mellow, especially in my seed crop fields. They are also great at extracting zinc from the soil, and the residue that remains in the spring is black, which helps warm up the soil in the spring," Zehetner said.

"Faba beans and Phacelia residue is also black in spring so I have used the three together as a cover crop before in hopes of warming up soil faster."



**After burndown**

However, he adds, he hasn't seen any research to confirm this works.

"Straight oats are cheaper," says Zehetner, but "they don't offer the offer the same benefits in my opinion. It only adds another cool season grass. We already have wheat in the rotation. What we are really missing is cool season broadleaves/legumes and Brassicas in most of southwestern Ontario's standard rotation."

Tom Hayter and his sons, Justin and Adam, have always planted cover crops after wheat at Hayter's Turkey Farm near Dashwood.

"We want to harvest sunlight, and the way to do that is to keep something growing," Tom said. "We used to plant oat and peas, but in the last five or six years, we have gotten into growing more complex cover crops. Our aim is to have something growing all year 'round. We haven't quite figured out how to do that yet."

Ross Wilson, who is an agrologist working for the Ausable Bayfield Conservation Authority says the choice of cover crop depends on what you want your cover crop to do. For example, if you want to improve soil

condition, a fibrous root, like buckwheat is a good choice, while sunflowers and oilseed radish will send down deep taproots to alleviate soil compaction. To reduce soil erosion, you need a cover crop that will overwinter – and a plan to terminate it in the spring.

Hayter said he's a boater, so he is well aware of the problem of phosphorus leaching in the Great Lakes.

"They find that 80 to 90 per cent of our phosphorus leaches out during the winter, from the time we harvest in the fall, to when we plant in the spring. So, if we can have something alive in the field over the winter, it will hang onto the phosphorus."

Of course, there are pros and cons for every species. Sunflowers are thought to be a host for nematodes, said Hayter. His purpose for growing "sunflowers, flax and buckwheat is to feed the pollinators."

"As farmers, we get beat up over lots of the things we do. So it's our way to give back," said Hayter. "Sunflowers definitely please people, so that's worth a lot. They almost always make you smile when you go by."

Hayter may be more aware of public response because they run a farm to table business. They process the turkeys on the farm and sell them through an on-site retail store, as well as wholesale. The public comes to their door daily.

They have had people ask to take their wedding photos in the sunflower fields... and received money in the mail from people wanting to pay for the flowers they've picked. "We send it back," he said.

"We've made a tonne of mistakes," in growing cover crops, said Hayter. "The first is letting buckwheat go to seed, the second is letting sunflowers. As soon as they're done heading, we take them out."

That's as easy as spreading their dry turkey manure. "We're doing it right now," he said on a morning in mid-October.



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The other challenge is not letting the cover crop get too big and aggressive. With big and aggressive root species like oilseed radish and rye, on lighter soil, where the tiles aren't adequately sloped to drain properly, and the water lies in them, the roots will plug them.

"Last spring we had to retille a whole field," Hayter said.

Hayter estimates he spends about \$20 an acre on cover crops planted after wheat. He's not looking for a quick payback, he said. He just wants to make sure that they are not reducing yield. "We do check strips and have had some 'oops' where the cover crop was too aggressive and competed with the cash crop in the spring."

Aaron Breimer is an agronomist whose family farms near Ailsa Craig. It's hard to quantify the impact of sunflowers alone, he said, because they're part of a mix. They shy away from brassicas, which "seem to have a zero to slightly negative yield draw."

However Breimer's test plots show that in general, the mix of clover, oats, peas and sunflowers adds 10 to 15 bushels increase in yield, on clay loam, to heavier clay, and the bigger response is on the better land, though both benefit.

Breimer added there is some data that sunflowers make zinc more available to the following corn crop.

Like Hayter, Breimer has found "the neighbours absolutely love the sunflowers!" both for weddings and for "selfies!"

The plants will brown after a killing frost, but the deer will eat them all winter long. By spring, the stalks, which seem so tough when green, are so dry that they shatter.

Breimer gave a shout out to Zehetner as "one of the few people pushing for quantifiable data on cover crops."

"I strongly encourage people who are doing things with cover crops to leave a check strip. And document it on GPS. We need to know what's working, and what's not," Breimer said. •



## Incentives help promote cover crops

*By Frances Anderson*

**Farmers in Huron County** can get both financial assistance and agronomic support for cover crops through their conservation authority.

Ross Wilson is a professional agrologist who has been working with the Ausable Bayfield Conservation Authority (ABCA) for over a decade.

He's one of the few Certified Agrologists on Conservation Authority staff in the province, and he can help get farmers get growing. They have to decide on a species mix, a seeding rate, an application method, and finally, a plan for termination.

Huron County also provides co-funding for cover crops, through its Clean Water Project. This is delivered through the Maitland Valley and Ausable Bayfield CAs. It offers a financial incentive of \$10 an acre for up to 100 acres to offset the cost of planting.

ABCA had more than 4,000 acres enrolled in the project this year, said Wilson. Most growers will have less than 100 acres planted, so the program is used by well over 40 farms.

The application process involves a ten to 15 minute phone call to the CA staff, who complete the form on behalf of the grower.

The original goal was to get farmers started growing cover crops, said Wilson, so it covered costs for one species. "Now they're up to three species in the mix to support the development of farmers' capacity."

A typical introduction to cover crops starts with oats, which are cheap, easy to establish, and easy to terminate because they winter kill. Adding peas to the oats is more expensive, but because they are a legume they will fix nitrogen in the soil, and still die during the winter. However, peas and oats don't have very deep roots, so the next step is often adding sunflower or radish for a deep taproot.

As farmers get more experience with cover crops, they will even use different mixes to reduce compaction in the headlands, which get more traffic than the rest of the field.