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## ONTARIO SOIL AND CROP IMPROVEMENT ASSOCIATION

1 Stone Road West, 1st Floor, Guelph, Ontario N1G 4Y2  
Toll: 1-800-265-9751 Tel: 1-519-826-4214 [www.ontariosoilcrop.org](http://www.ontariosoilcrop.org)

### Unlocking soil's secrets key to crop growing success, says Soil Champion

By Lilian Schaer, for Ontario Soil and Crop Improvement Association

Every plant and organism has its likes and dislikes, and it's unlocking those secrets that get you the results. That's the belief of Haldimand County farmer Dean Glenney.

He cash crops 200 acres near Dunnville on the former dairy farm that's been in his family for more than 100 years – and his unique approach to growing corn and soybeans using what he calls “fence row farming” has been turning heads in recent years.

It has also won him a slew of awards from Dupont-Pioneer corn yield champion to Haldimand County Farmer of the Year, and now he's been named the 2015 Soil Champion by the Ontario Soil and Crop Improvement Association (OSCIA).

The Soil Champion Award is handed out annually by the OSCIA to recognize leaders in sustainable soil management, and was presented to Glenney at the organization's annual meeting in London.

An engineer by training with a degree from the University of Guelph, Glenney and wife Vonita spent many years growing fruits and vegetables nearby before returning to the home farm and focusing on cash crops.

“If you sell fruits and vegetables, it has to be perfect or it is junk, so our efficiency and attention to detail comes from the berry farm,” he says.

Over the years, different observations helped form his theory on the benefits of fence row farming, which he started implementing on his farm 20 years ago.

When he was 14, his family moved from a two furrow to a three furrow plow and the extra width meant he was turning over virgin soil when he neared the fence row, soil that looked like it was full of little cubes.

When their plow size went up again to five furrows, they removed some fence rows on their farm to make bigger fields, and Glenney noticed that the corn was two feet higher where the fence row had been than in the rest of the field – but only in the first year.

“The key to recreating the fence row in my fields was planting forever in the same place and making the soil of a fence row every 30 inches across a field,” explains Glenney. “The crop is planted in twin rows into the root ball of the previous year's crop, always in exactly the same location.”

The crop puts roots down about five feet right through the clay layer, following the old root paths from the year before, and although he admits his corn looks “a bit sick” when it first comes up, Glenney believes it's that early struggle that actually helps it do better later on in the season.

It took six years to start seeing results, and it was about 14 years ago when he first reached corn yields of 236 bushels per acre. The yields kept creeping upwards, and in 2010, the Glenneys won Pioneer's Ontario Corn Yield Challenge with an average yield of 271.8 bushels per acre.

This led to him meeting research scientist George Lazarovits, who felt it wasn't just the healthy soil structure that was responsible for the high yields on the Glenney farm.

“George started doing research here on bacterial colonization and because we don’t disturb the soil, bacteria is being colonized specifically to provide the nutrients that corn needs,” Glenney explains, adding that cultivation makes bacterial colonization more random. “There is 20 years’ worth of crop residue in the ground now.”

“The availability of nutrients is the key,” he believes. “We found only 55 per cent uptake of available nutrients in 60 days on conventionally grown corn on a nearby farm, whereas we found up to 90 per cent uptake on my fence row corn from the soil that was touching the roots.”

Glenney soil tests his fields and uses 215 pounds of nitrogen, 54 pounds of potassium and 70 pounds of phosphorous per acre and reaches yields that are now in the 300 bushel per acre range.

Yields plateaued in 2013 and were actually down in 2014 due to the late start to planting, so now he’s looking at what he might be able to do next.

That includes applying fungicides – Glenney has built a sprayer that will fit into the existing tracks on his fields – as well as using cover crops.

Lazarovits’ research on the Glenney farm is ongoing too, and he’s convinced Glenney to plow a small strip of his field to see how long it will take that soil to recover from being plowed.

An initial barrier to fence row farming was being able to precisely hit the same row over and over again, but the advent of GPS solved that challenge. Next on Glenney’s wish list is to have manufacturers standardized wheel width on farm equipment, but he’s not hopeful of fast change in that area.

“I have to apply lime in the winter because the spreader would run on top of my rows. We should have tramlines that we never get off of,” he says. “Soil structure really is the key, along with bacteria colonization in the soil.”

Glenney’s high yielding corn has led to many speaking engagements in recent years as well as being recipient of various awards, including Farmer of the Year in Haldimand, Haldimand Farm Enterprise of the Year, and National No-Till Association Soil Practitioner of the Year.

“It’s always neat to be recognized, and contests encourage people to do better. It was the yield challenge that started all of this,” he says of all the attention he’s received for his soil management practices.

“Dean Glenney epitomizes what the Soil Champion Award is all about. His efforts have contributed very significantly to understanding the importance of soil life and how it contributes to healthy, resilient, and extremely productive agricultural soils,” says Alan Kruszal, newly appointed President of OSCIA for 2015.

Do you know someone worthy of the title Soil Champion? The submission deadline for the 2016 Award is April 30, 2015. For the application form and details, visit: [www.ontariosoilcrop.org/en/resources/sca.htm](http://www.ontariosoilcrop.org/en/resources/sca.htm)