

AGRICULTURAL LIFE

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THE STANDARD

Brock farmer begins first growing season with prototype solar electric tractor

EVE-LYNN SWAN The Standard

An error message blinking on his solar electric tractor's dash panel means Tony Neale will be connecting its battery management system to his computer. Well, once the cord arrives from the Mendocino, California manufacturer, he will.

"I expected with a prototype that we'd be doing some of this," acknowledges the Brock Township vegetable grower. "This" is working through the kinks of being an early adopter of electric battery technology. The 30 horsepower (hp) Solectrac brand tractor rolled off a flatbed truck at his Sunderland-area Wheelbarrow Farm last August.

Tony is willing to farm with a prototype because he likes his blue tractor's benefits: Power for the battery comes from solar panels on his land, the torque provided by the electric motor is instant and superior to the internal combustion engine, and the tractor doesn't produce engine noise or exhaust fumes. "The user experience is amazing!"

Neale says the larger electric vehicle market will perfect the battery management system before the tractor manufacturers do. "There's no stopping it now. They will outperform in every single manner, but they don't just yet."

According to Solectrac, his tractor's advanced lithium battery will provide four to eight hours of run time, charge to 80% in three hours, and the electric motor is 95% efficient.

For vegetable farming, 30 hp suits Neale. For larger farms, German tractor maker Fendt's e100 Vario puts out 68 hp and recharges to 80% power in 40 minutes. John Deere's prototype SESAM (Sustainable Energy Supply for Agricultural Machinery) electric tractor will be based on a JD 6R and will provide 174 hp.

Independence from fossil fuels is important to Tony and he also prefers to avoid contact with banks. When it came time to finance the new tractor, he said he'd rather pay interest to friends and customers. One and five-year



bonds, with a four percent rate of return, were issued and, along with a Greenbelt Foundation grant, they provided the funds.

2019 will be Wheelbarrow Farm's first complete season with the new tractor onsite, but Tony has lived at the Durham Road 13 location since 2008, when he made another alternative financing agreement, that time with his father, Ken.

The elder Neale was looking for a house within commuting distance of northern York Region, and Tony, newly returned from an apprentice farming stint, was in the grip of "Farm Fever". He wanted a farm. Ken caved in and bought ten acres with a ten-year contract in place: Tony would pay rent and Ken wouldn't sell the farm until 2018.

For a young man studying history and political science, and working in restaurants before he became interested in gardening, country life was a big shock. Despite the huge learning curve, he now grows produce without using synthetic fertilizer or black plastic mulch. Lots of labour, use of cover crops, and well-timed planting limits chemical pest control and water use on the farm.

Full-time staff and farm apprentices grow vegetables, perennials, flowers, and fruit and nut trees. Long-time friends Debbie Kinoshita and Garrett Maxfield helped Tony buy the land from his father in 2018, bringing much-needed marketing and finance skills to the business, including a unique Market Buyers Club that allows customers to pre-pay.

As field manager, Tony is kept busy supervising staff, attending Toronto farmers' markets, delivering weekly produce shares, and selling at the farm Friday through Sunday. Wheelbarrow Farm has two annual projects: they plant 100 trees and donate 1,000 pounds of produce to not-for-profit organizations and foodbanks.

Tony uses sustainable agricultural methods, but relates to his neighbouring 'conventional' farmers. "There's no real divide between us. They see that I'm out in the field, I see that they're out in the fields. We talk about our different struggles, but we're both farmers."

Perhaps, before too long, those neighbours will replace their diesel-powered tractors with quiet, solar electric versions, making conversations easier to hear and making the divide even smaller.



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