

# Northern ag growth potential needs to be monitored

It could show the way to have sustainable production recognized

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**O**ttawa - The expanding amount of Northern Ontario land going into agriculture production has tremendous potential but also has to be watched for soil degradation and loss of stored carbon.

That's the conclusion of a paper prepared for the Canadian Agriculture Policy Institute by Paul Benalcazar, a PhD Candidate at Lakehead University.

A warming climate and soil conditions are helping to open Northern Ontario to increased food production, Benalcazar says in the paper. "However, within these new opportunities, there will be new challenges to face. Consequently, policies to improve, reduce or maintain healthy ecosystems must be implemented with a strong local focus."

Northern Ontario's boreal soils "are more vulnerable to climate conditions and farm management practices; therefore, better measurements to reduce soil degradation and improve soil conservation and fertility should be developed.

"Farm practices that promote carbon sequestration should continue as part of the policy agenda, and new policies should include cross-compliance in order to be implemented," he said. "By doing this, farmers will receive direct economic benefits and, enhanced conservation farm practices will take place at the farm level."

Northern Ontario has about 884,000 acres of farm land in production mostly in the Kenora, Rainy River, Thunder Bay, Algoma, Manitoulin Island, Cochrane, Temiskaming, Sudbury, Nipissing and Parry Sound regions. This area has the potential to increase by 20 to 50 per cent.

The 2016 agricultural census said there were 2,237 farms in this area which generated \$209 million in gross farm cash receipts - up 9 per cent from the 2011 census.

The land ranges from class 1 to 5 and is used for dairy, beef, grain, fruit and vegetables.

Climate change will lengthen the growing season by about 40 days a year during the next two decades although lower rain and snowfalls are possible.

While land clearing across the

region has positive results on the local and national economies, there are negative impacts on land and ecosystem services such as carbon sequestration, clean water, air purification and soil aggregation, he said.

This makes soil management practices vital to enhancing the region's food producing potential. Changes are needed in cropping and tillage practices to make sure agriculture remains sustainable way or the region will suffer soil deterioration and degradation.

Boreal soils are more vulnerable to changes in vegetative cover and soil use. Soil health monitoring will inform farmers and policymakers and encour-

age better farm practices and guide the development of policies to improve or maintain soil fertility in Northern Ontario.

The Ontario agriculture ministry has found that 82 per cent of agricultural soils in Ontario are losing more CO<sub>2</sub> to the atmosphere than storing organic carbon. Sixty-eight percent of farmlands were at risk of unsustainable erosion, and 53 per cent of soil had low or shallow soil cover. Also, area under conventional tillage practices had increased in Ontario while areas in hay and pasture had decreased by 52 per cent since 1976 due to fewer ruminant livestock.

While public interest has spurred governments to show

more interest in environmental stewardship, their agri-environmental policies remain limited, the report said. They mostly consist of sharing the cost of adopting practices like buffer strips or shelterbelts.

It's generally understood that good quality soil is imperative for having future food, fibre and fuel to feed an increasing population. To ensure that is achieved, soil security and soil quality should be examined separately by farmers, academics, and policymakers.

Farmers need to understand that soil is a complex system that is connected to ecosystem services and not only crop production. Soils require optimal

conditions to function accordingly with their capacity.

More research in soil sensing, telemetry, digital mapping, big data analysis and precision agriculture "will bring a new understanding of how soil functions at the optimal and sustainable level to improve farm management practices," the paper said.

It could also lead "to tools and resources to decision-makers in terms of values and cost of soil conservation practices so that programs can include a real value of those practices that would reduce the cost of programs that otherwise are absorbed either by the government through subsidies or incentivized for the user via payments."

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