

Study assesses environmental impact of Ontario corn production

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Researchers at the University of Guelph examined the energy use and greenhouse gas (GHG) emissions associated with corn production in Ontario. Their findings are published today in the Agricultural Institute of Canada's (AIC) *Canadian Journal of Soil Science*.

The study reports estimated county-level energy and GHG intensity of grain corn, stover and cob production in Ontario from 2006-2011. According to the paper's authors, most of the energy used during corn production comes from the use of natural gas and electricity during grain drying; the production and application of nitrogen fertilizers (which are also associated with GHG emissions); and the use of diesel fuel during field work.

"Corn is a major economic crop in North America, and the [renewable fuels](#) developed from corn production are frequently used to mitigate the GHG emissions from fossil fuel use," explained Susantha Jayasundara, lead author of the paper.

"Assessing the GHG and energy intensity of corn production helps identify opportunities for efficiency and aids in improving the GHG mitigation potential of corn-derived renewable fuels," continued Jayasundara. The authors note that reducing GHG intensity and improving energy efficiency during [corn production](#) can be achieved through the use of field-drying corn hybrids, reduced tillage and diminished nitrogen inputs.

The article, "Energy and Greenhouse Gas Intensity of Corn (Zea Mays L.) in Ontario: A regional assessment," by Susantha Jayasundara, Claudia Wagner-Riddle, Goretty Dias and Kumudinie Kariyapperuma, is available Open Access in the *Canadian Journal of Soil Science*.

"Given the environmental and economic benefits of renewable fuels and the proliferation of their use in Canada, it is important to more fully understand the environmental impacts of their associated agricultural production," added Serge Buy, CEO of AIC. "Essential studies such as this are of national significance and are certainly evidence of the need for targeted federal investments in agricultural science."

More information: [DOI: 10.4141/CJSS2013-044](https://doi.org/10.4141/CJSS2013-044)

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