

Ethanol

Even your gas is local!

Ethanol is a renewable fuel that's produced mainly through the fermentation of corn and wheat in Ontario. Other crops that can be used to make grain based alcohols include grain sorghum, barley, and potatoes, and from sugar crops such as sugar cane and sweet sorghum.

Performance Improvement

Many ethanol blends are described as "high octane fuel." Octane is the measure of a fuel's ability to resist "knocking" or "pinging" noises when the air/fuel mixture burns too early during combustion. High octane fuel improves performance, as less fuel is burned.

Octane used to be achieved by adding lead, and other known carcinogens to the gasoline. Ethanol is not a carcinogen, and doesn't pose any more risk than gasoline or diesel fuel. Also, ethanol can cost less to blend, which can help decrease gas prices.

By-Products

A by-product of ethanol production is dried distiller's grains, which can be fed to livestock. Distillers grains retains many of the nutrients from corn, since only the starch has been removed. The remaining protein, fat, mineral and fiber can be used in animal feed. Approximately 16 lbs from a 56 lb bushel of corn that is used for ethanol production will be returned as a dried distiller grain.

Ontario corn = ethanol



Environment Impact

Ethanol as a fuel source is described to be 'carbon neutral'. The CO₂ that is released when the fuel is combusted is offset by the CO₂ the grains absorb during its growth, thus no extra carbon is released. A car using corn ethanol-blended gasoline will discharge about 3 - 4 per cent fewer greenhouse gases emissions than using unblended gasoline.



Government Regulation

The Ministry of the Environment and Climate Change regulates the amount of ethanol found in gas sold in Ontario. Gas companies must maintain at least an annual average of 5 per cent ethanol in the gas, but many gasoline stations provide a blended fuel is 10 per cent ethanol and 90 per cent gasoline.

Resources:

Ethanol in gasoline. (n.d.). Retrieved from Government of Ontario:

<https://www.ontario.ca/page/ethanol-gasoline>

Ethanol. (n.d.). Retrieved from University of Illinois Extension:

<https://web.extension.illinois.edu/ethanol/>

Octane. (n.d.). Retrieved from

<http://biofuelsassociation.com.au/biofuels/ethanol/ethanol-octane-and-corrosion/>

The Local Fuel, Green and Cheap. (n.d.). Retrieved from GreenField Global.

<http://www.greenfield.com/>

Ethanol facts. (n.d.). Retrieved from National Resources Canada:

<http://www.nrcan.gc.ca/energy/alternative-fuels/fuel-facts/ethanol/3493>



www.GoodinEveryGrain.ca

Ethanol

How is it made?

