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## Ethanol: a new economic engine for rural Saskatchewan?

With sufficient attention given to industry development, ethanol could become an important engine of economic growth for rural Saskatchewan. Ultimately, the province could produce billions of litres of ethanol annually for domestic use and export, providing a significant new market for our agriculture and forest industries.

Ethanol is a fuel alcohol traditionally produced from grain and blended with gasoline. Saskatchewan's small ethanol industry currently produces about 10 million litres per year at a cost of at least 45 cents a litre. With taxes, the cost of bringing ethanol to the consumer is about 80 cents per litre, which until recently put the price of supplying ethanol above that of gasoline.

While current gasoline prices make ethanol competitive, technical advances could bring ethanol production costs well below those of gasoline. With a relatively modest investment in R&D, these new technologies would make it possible to produce ethanol from unused or undervalued agricultural and forestry products, such as straw and sawdust, ultimately for around 20 cents per litre.

Several factors favor the development of a provincial ethanol industry. Saskatchewan produces a large amount of biomass, particularly straw and wood, and could produce much more. Estimates are anywhere from eight billion to 50 billion litres of ethanol could be produced from these sources.

The potential market for ethanol is substantial. Just to convert the Saskatchewan gasoline market to 10 per cent ethanol would require 160 million litres. A full conversion would require about 2 billion litres of ethanol per year, leaving a capacity to produce billions of litres of ethanol for export to an energy-hungry North American market.

Ethanol production would be a boon to our ailing farm economy. Instead of relying exclusively on producing grain and oilseeds for a depressed commodity market, producers would have entirely new options. Ethanol production would create a market for agricultural wastes, such as flax straw, which is currently burned to facilitate tillage. New crops such as trees or hemp could be grown specifically for ethanol production. A transfer of some portion of land from food to

fuel crops might also decrease the food supply, and possibly drive up grain prices.

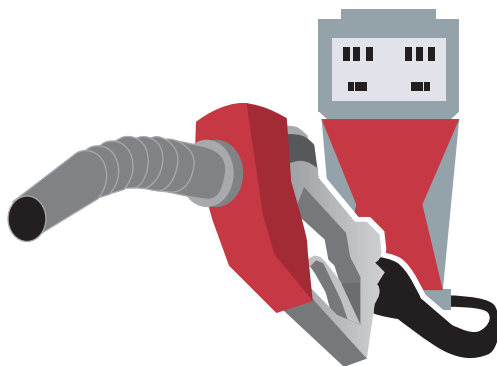
Farmers could maximize their income from ethanol by taking advantage of the "new generation" co-op legislation passed last year by the Saskatchewan legislature. Minnesotans are already having success using this model. They are producing almost a billion litres of ethanol in 15 plants, mostly new generation co-ops with farm partners.

In addition to fuel, ethanol production also yields byproducts that can be used as a source for products, such as plastics and chemicals, currently produced from petroleum.

Significantly, ethanol is an environmentally friendly fuel, which could help Saskatchewan and North America reduce its contribution to climate change. New technologies mean that ethanol from cellulose sources could be produced with large energy gains, and could be produced and consumed with a small fraction of the greenhouse gas emissions of fossil fuel use. Based on a renewable source, ethanol production is also sustainable.

Further development work is needed to aid the commercialization of ethanol from cellulosic crops in Saskatchewan. The range of research and development needs involved in the creation of a viable ethanol production system indicates a corresponding need for the involvement of a wide range of research groups and interested parties. An investment of just a few hundred thousand dollars per year for the next few years could bring significant advances in commercializing new ethanol technologies. More research investment could bring quicker results and more benefits.

History has shown that Saskatchewan accomplished great things when we did something for and by ourselves – and did it first. If we wait to invest in this industry, we will lose more and more farmers, and end up buying the technology from others instead of creating it ourselves. Instead, we could pioneer a lucrative industry that could change the fortunes of rural Saskatchewan.



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