Biodiesel fuels hope for oilseed industry

by Murray Lyons

Biodiesel holds the potential to provide long-term stability to oilseed prices, says an official with one of the largest oilseed processing companies in the world.

Mike Livergood, vice-president of technical oils for Archer Daniels Midland Co., says the huge tonnage required in the United States as a transportation fuel to meet the proposed renewable fuels standard could help ensure prices for canola or soybean oil don't hit the lows seen in the previous two or three crop years. Livergood spoke Monday in Saskatoon as part of a biomass panel at the Agricultural Biotechnology International Conference (ABIC) which runs until Wednesday. Processing Canadian canola into biodiesel is a natural, Livergood said.

By comparison, soybeans, the main American-grown oilseed, are not as ideally suited as canola to use in biodiesel, Livergood pointed out. "What is good for biodiesel is often good for human consumption," the ADM official said. Canola is stable under high heat conditions and is low in saturated fat which makes it a healthy choice as a human edible oil and those same attributes make it an ideal choice to work in diesel engines.

In Europe, canola or rapeseed is the crop of choice for biodiesel where generous subsidies have helped contribute to 2.5 billion tonnes of biodiesel being produced on the continent. In fact, ADM's European production plants have to bring in cheaper palm oil in the summer time to make up for the lack of available rapeseed.

In the United States, the renewable fuels standard bill that is jockeying between the U.S. House of Representatives and the Senate should result in a situation where the current 25 million US gallons of biodiesel becomes 361 million gallons by 2016.

While Saskatchewan is one of the places where canola as a crop was developed and where huge tonnages are grown in most years, it was only this past summer that a commercial biodiesel product became available locally. It is being tested in a City of Saskatoon transit bus.

The other aspect of the biofuel evolution which has excited Saskatchewan business and political leaders is ethanol.

The current proposals in Saskatchewan involve ethanol being distilled from wheat seed just as it is now distilled from corn in the United States. But ABIC delegates heard a presentation on the next generation of ethanol production which doesn't involve consuming a foodstock to make fuel. Jeff Tolan of Ottawa-based Iogen Corporation outlined the company's efforts to scale up production from a biomass demonstration plant that makes ethanol from wheat straw.

The process builds on Iogen's expertise in producing commercial enzymes and is backed by more than $30 million in corporate investment from Shell Canada and Petro-Canada. Tolan said there is no question that breaking wheat straw into a starch through enzyme addition and then producing ethanol from the starch produces far less greenhouse gases than producing ethanol from distillation of grain.

Tolan says producing a gallon of regular gasoline results in 12 kilograms of carbon dioxide having been emitted in bringing that fuel to market. Ethanol from corn requires enough energy to result in 10.2 kilograms of carbon dioxide while ethanol produced from biomass results in just 0.06 kilograms of carbon dioxide produced, the Iogen official claimed.

If the Iogen demonstration plant uses 40 tonnes of straw a day, a commercial scale ethanol plant would require 2,000 tonnes of day. Because of that volume, some of the best sites in Canada for an ethanol biomass plant are in Saskatchewan which is still one of the largest wheat-producing areas in the world, Tolan said.