



as a source of ethanol. Presently, most peel residue is used as a supplemental cattle feed. The pulp residue is commonly dried, but rising fuel prices have made this more expensive, and recent low prices for citrus-residue cattle feed have led to the suggestion that citrus-processing residue could be used to make ethanol.

Dr. Bob Braddock at the University of Florida's Institute of Food and Agricultural Sciences Citrus Research and Education Center in Lake Alfred discussed the subject of ethanol production from citrus-juice-processing residue. He pointed out that ethanol has been commercially produced in Florida by traditional yeast fermentation of citrus molasses for more than 65 years, producing a beverage-grade (drinkable) high-value alcohol. Based on known ethanol-conversion efficiencies and other calculations, he concludes it is unlikely that fuel ethanol from peel residue will be a valid byproduct. Others, though, are more optimistic.

The high price of gasoline has created much discussion on alternate fuels as a way to reduce U.S. dependence on foreign oil. Many activities are ongoing in Florida that relate to this issue. The economic sustainability of ethanol and alternate fuels is currently being debated and will continue to be debated into the future. The purpose of this column is to describe some of the things that are going on in Florida and the nation, and to talk about the potential roles of agriculture in this discussion on alternate fuel sources.

Up to now, ethanol production for fuel has been concentrated primarily in the Midwest. Presently, there is no fuel ethanol commercially produced in Florida. That is about to change. U.S. EnviroFuels is scheduled to begin construction in August on the first fuel ethanol production plant in Florida in the Port of Tampa. This company will initially import corn from the Midwest

and use standard fermentation practices to produce ethanol. It hopes to purchase corn from local growers and is investigating the possibility of using sugarcane for producing ethanol. This plant will produce about 40 million gallons of ethanol per year, and it is estimated that it will become available around October 2007.

A Feasible Alternative?

One of the major arguments regarding alternate fuels is that it may take more energy to produce them than they can provide. It has also been argued that ethanol production will not be economically viable without subsidies, and disposal of waste products after conversion is not always factored into the cost. These discussions will continue and the conclusions will depend on the assumptions used in the calculations. Besides using corn, it has been suggested that citrus-processing residue (pulp and peel) could be used

Putting Science To The Test

As gas prices climb, interest in ethanol production for fuel grows. A hot topic of discussion is the possibility of breaking down cellulose in biomass to produce ethanol. Several scientists in Florida are actively working on this. Florida is the largest biomass producer in the U.S. While the Midwest produces one crop of corn per year, Florida can produce two or three crops a year because of its mild climate. At present, ethanol can be produced in the lab, but the details of economically producing ethanol from biomass on a commercial scale have yet to be worked out. The topic of alternate fuels is large and impacts Florida agriculture. Because of this interest, the Florida Department of Agriculture and Consumer Services sponsored a Farm to Fuel Summit in Orlando in August.

Stay tuned, for I plan to discuss other facets of alternative fuels production in future articles.

