

This Ford 7000 diesel has been modified to burn two fuels, diesel and denatured alcohol. The alcohol is carried in the tank at the front of the tractor.

State shuts down still

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act as quickly as possible on it. Action will be slowed down somewhat by two week-long recesses this month, one for elections and one for Thanksgiving.

Even so, Moehlmann said he expects there'll be a gasohol with the Governor's signature by the end of November.

Horst was calm on Thursday morning, but made it clear that he didn't intend to remain shut down, and that he'd have a lot of support if he fired up the still again.

"My state Senator told me to keep on running," Horst said.

"One fellow offered to pay the \$2500 license fee to keep me running, and another one said he'd pay my fines if I was arrested. I'm going to wait and see what the legislature does, but I'm not going to wait too long."

For Horst, there's more at stake than fuel for his tractors, cars and home oil burner. He and a partner, Robert Kreider, have been working on their distillation

method since December. The still now standing in a concrete block building beside Horst's veal calf barn is still number six.

"I've got a lot of time and money in this still," Horst said Thursday to a small group of visitors. For the investment I've got here, I could have bought several new tractors."

No one doubted his word. Horst is not the kind of man to fill people with suspicion. He seems open and honest about what he's doing and what he's got. But what he's got doesn't look like several tractors.

It looks like a collection of old rusty water tanks, linked with tubes and pipes and smelling faintly like the juice that comes out of the bottom of the silo.

While it doesn't look impressive, the figures Horst gives for its operation are worthy of note.

Ground shelled corn enters the distillery building through an auger at the rate of a bushel an hour. It goes first to a cooker, where it's heated to 190-degrees, then

to a tank where powerful enzymes break the corn's complex starch molecules down to simpler sugars.

From there the material moves to a fermenting tank, where yeasts act on the sugar to form an alcohol-containing fluid called distiller's beer. This beer, which has 10-percent alcohol, is then distilled to get the alcohol.

If the process were to take place in copper, stainless steel or glass vessels, the resulting alcohol would be drinkable. Horst uses an old steel water tank, and is convinced that the alcohol as it comes from the still is unfit to drink.

Nevertheless, he denatured all that he produced by adding one-percent gasoline and four-percent ketone. The resulting mixture doesn't smell like anything anybody would want to drink.

Horst has been using the ethanol from his still to run his Ford 7000 diesel tractor, which ordinarily is an 80 hp machine. By burning two-thirds diesel fuel and one-third gasohol, he figures he's getting over 130 horses. He is not, at this point, saving any diesel fuel.

"I'm burning just as much diesel as before," Horst said, "and I want to keep it run-



Floyd Horst, the Lebanon County farmer whose name and picture turned up all over the country after the Pennsylvania Liquor Control Board closed down his gasohol still.

ning this way until I can hook it up to a dynamometer. After I find out what kind of performance I'm getting, I'd like to cut back the diesel fuel to maybe 40-percent of the mixture, and run it at about the torque it was designed for."

The gasohol that comes from Horst's still costs him under 50-cents a gallon, he says. When diesel fuel was selling for 40-cents a gallon, this system didn't make any sense. His costs are labor, depreciation, interest on the \$3,000 investment in the building and still, and 7-cents per bushel of corn.

The corn cost is the real key to successful distilling, Horst says.

Horst figures his seven-cent cost on \$4 corn.

The ground corn that goes in at one end comes out at the other end with about 20-percent less feed energy, but along the way its protein content has gone from about 8-percent to nearly 35-percent, and the fat content

has nearly doubled to 15-percent.

The figures aren't Horst's, they came from a Penn State test lab.

A visitor on Thursday asked Horst how the feed would work with his veal calves. "The way this thing is going," Horst said, "I don't know if I'm ever going to feed calves again."

Horst and his partner plan to sell their distillery equipment as soon as they can get it on the market. They'll be operating under the name of Renewable Energy Resources and they expect to be busy.

After the state ordered him closed, Horst was invaded by reporters from area newspapers and radio and TV stations. Wire stories about his plight showed up all over the country, and his phone hasn't stopped ringing since.

On Thursday, the phone rang every 10 or 15 minutes, with somebody calling from down the road or across the country for more information.

Horst's life is changing rapidly, but he may just be the most visible part of a movement that will drastically alter the nation's patterns of energy usage.



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Horst to demonstrate use of alcohol still

Floyd Horst will demonstrate the use of gasohol for heat on Thursday, November 8, at the Lebanon Municipal Building. He also will explain this distilling methods,

and talk about the modifications necessary for operating farm machinery with home-brewed gasohol.

The demonstration will start at 9:30 a.m.

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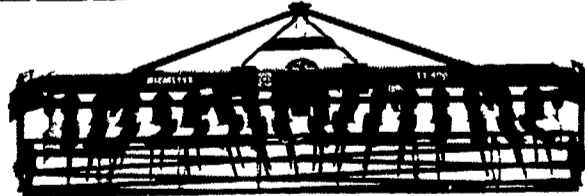
8 Bred Gilts to be sold at the November 7 Feeder Pig Sale.

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