

CONVICTED "MOONSHINER" RECEIVES EXPERIMENTAL PERMIT: FATHER-SON TEAM BURNING "HOME BREWED" 100% ALCOHOL IN THEIR TRACTOR

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These Farmers Produce Their Own Fuel

We told you in an earlier issue (Vol. 2, No. 3) about Lance Crombie, a Webster, Minn., farmer — scientist whose home-built solar still for making alcohol for operating his tractors and home furnace was confiscated by the local sheriff and the Federal Bureau of Alcohol, Tobacco and Firearms. According to those officials, Crombie was breaking the law by avoiding the alcohol tax and failing to follow federal regulations relating to the production of alcohol — regulations that would include periodic visits by the Bureau to inspect the facility and the producer's records.

Now, Crombie has become one of the nation's first farmers to be exempted from Federal regulations relating to alcohol under a special "experimental" status.

Under his newly issued two year permit, Crombie can make as much alcohol as he wants, so long as he produces and uses it on his farm. He may have to post a small bond equal to the tax that would be due on the amount of alcohol he could produce and store during a 15 day period. However, he doesn't have to comply with any federal standards in building his still, nor does he have to file documents covering ownership, personnel and environmental impact — which is the "red tape" that discourages most would be on-farm producers of gasohol.

A spokesman in the office of T.P. McFadden, Chief of Industry Control for the Bureau of Alcohol, Tobacco and Firearms in Washington D.C. — the office which issued Crombie his permit — said they have given out 3 such permits for farm experimentation in recent months. When asked what would happen to Crombie's permit when producing alcohol on his farm for fuel no longer is an experiment, the spokesman for the office said "Crombie would probably just have to reapply and find out."

Even though that leaves open the possibility of another visit from the sheriff in two years, Crombie has big plans for solar produced alcohol on his farm.

First, he plans to incorporate a large solar still into a building now under construction. At



Alan Zeithamer's 12-year-old sister Ann rides the family's Massey-Harris diesel, which has run on a mixture of 50% alcohol, 50% diesel fuel for several months. Note extra fuel tank up front for alcohol, needed with the half and half mixture. Building to left is alcohol plant.

least 600 sq. ft. of the south roof of the building will be a solar collector and still, used to separate the alcohol from about 25 bu. of corn a day. Crombie says he can get 4 gal. of alcohol from a bushel of corn with his still. That's about 1.4 gal. more than most gasohol producers are getting because, he says, his still is more efficient than other processes being used.

Crombie figures he can produce 100 gal. of fuel a day for 100 days out of the summer. That's 10,000 gal. of home-brewed fuel, part of which can be stored for use during the rest of the year. He already has used straight alcohol to heat his house, running it through an oil furnace, and is working on other on-farm uses for straight alcohol, including burning it in his diesel tractors.

While Crombie seems to have had his troubles getting into the production of alcohol, two other Minnesotans, Archie and Alan Zeithamer, of Alexandria, have built the first farm-based alcohol plant in the country to operate under a standard federal "distilled spirits" plant permit. (Another plant, which Alan helped design and build, is producing alcohol in Alabama, but it is operating under an experimental permit, like Crombie's.)

Besides building alcohol plants, the Zeithamers are also setting firsts in their use of alcohol. For the past several months, they have burned 100% alcohol in their gas-powered tractors and a 50% mixture of alcohol and diesel fuel in their

diesel tractors, without any mechanical adjustments. They say they haven't had any mechanical difficulty and plan to switch over to 100% alcohol in their diesels soon, besides using "home brewed" alcohol in their oil furnace this winter to heat their house.

The Zeithamers' plant took them about 5 months to build and cost about \$10,000 in equipment and storage facilities. They provided their own labor. "That's about all most farmers would have to spend," says Alan. "We farm about 500 acres and our plant will more than fill our fuel requirements."

The Zeithamers plan to produce about 22,000 gal. of 160- to 180-proof alcohol this year from a variety of materials, including corn, beets, potatoes, corn stalks and straw. They will sell the surplus of 7000-8000 gals. to neighbors. Average cost per gallon produced from grain is 45 to 50 cents.

Producing alcohol under the standard permit involves only a few regulations that are easy enough to comply with, according to the father-son team.

First of all, says Alan, the system has to be sealed. "Everything within the system is either welded or sealed with a government seal. And the storage tank is locked with a government lock," says Alan.

An agent of the Bureau of Alcohol, Tobacco and Firearms inspects all the alcohol before it is sold or used on the farm. Basically, the producer keeps records on how much is produced

and the agent confirms the figures and then denatures the alcohol to make it unfit for human consumption.

The Zeithamers have set up a regular schedule with their agent, who visits them at least once a week.

The third requirement is posting a bond to cover the amount of taxes due on the alcohol, in case any of it ever was sold for drinking purposes. Zeithamer said the bond on their plant is about \$30,000. That amount is carried with a bond insurance company for a premium ranging from \$7 to \$12 per \$1000. The Zeithamers had to pay out about \$250 to cover it.

"We haven't had any trouble starting our tractors or running them on straight alcohol," says Alan. "And, when we had an implement dealer check our diesel tractor, we found that its horsepower increased from 47 to 64 hp with a 50% mixture of alcohol.

"On the basis of BTU's, 1.4 gal. of alcohol equals 1 gal. of gasoline, but most people are saying that you can't compare the two just on a BTU basis. You have to consider performance. Alcohol seems to be nearly equal to gas in ability to work. The alcohol is 20% water and maybe the hydrogen is released and burned."

The Zeithamers plan to push forward with their alcohol-producing plans and they encourage other farmers to follow suit. Like Crombie, they think the economics are wrong with plans to build huge, commercial alcohol plants. Fitting alcohol into the local farming system by approaching its production on an individual basis, thus cutting costs of production, is the way to make farm-produced alcohol a reality, they say.

For more information on obtaining either an experimental or a standard permit for producing alcohol, contact your local or regional Bureau of Alcohol, Tobacco and Firearms. For more information on what Crombie or the Zeithamers are doing, contact: FARM SHOW Followup, Lance Crombie, Webster, Minn. 55088 (ph 507 652-2804);

FARM SHOW Followup, Alan or Archie Zeithamer, RR #3, Box 235, Alexandria, Minn. 56308 (ph 612 763-7392).