



"ANYONE COULD DO WHAT I'VE DONE"

"Farm Pond" Fuel Powers His Pickup

Grant Dohm of Grinnel, Kan., pumps fuel from his farm pond, until recently just a small, little used drinking hole, to run his pickup.

Using nearly all "junk" parts, Dohm designed and built a new-style "horizontal" windmill that generates electricity on top of a windy Kansas hillside ¾ mi. south of his home. That electricity is "piped" through wires to the farm pond, at the base of the hill, and to a hydrogen fuel generator — supported on the water's surface by a raft of telephone poles.

"The technology is very feasible. I've been burning home-made hydrogen in my truck for more than three years," says Dohm. He first began his hydrogen experiments several years ago, collecting gas with small containers in a 100 gal. tank of water and using electricity from conventional windmills. Now he works on the wide-open farm pond where he can collect larger reserves of fuel in an 800 gal. storage tank without constant attention on his part. He has also mounted several windmills directly on top of old hand-dug wells, collecting and pressurizing hydrogen as it's made in the well shaft.

Here's how Dohm's hydrogen system works:

His huge horizontal windmills pivot on circular concrete runways to catch the maximum amount of wind. The windmill shafts are connected through pulleys to 5 kw generators, and wires run from the generators to four hydrogen-generating electrodes suspended in the farm pond. The electrodes consist of 3-in. sickle sections spaced about ½-in. apart with plastic. Current between the plates separates the water through hydrolysis into hydrogen and oxygen.

Kansas State University specialists tested both gases from Dohm's farm pond and found them to be 99% pure. "We run both gases into the same storage tank. Since oxygen is heavier, it stays at the bottom. When we

extract the hydrogen, we first pull off the oxygen," explains Dohm.

His system has been generating more than 100 gal. of lightly pressurized hydrogen per day, depending on the amount of wind available. "With a modern, controlled system, there's no telling what could be done," he told FARM SHOW.

Dohm burns the fuel in his pickup, storing it at 150 psi in two tanks — a 40-gal. propane tank and a water tank. He simply channels it out of the tanks through a Sears and Roebuck regulator, depressurizing it to 3 psi, and through air hose to a simple "T" into the gas lines. He shuts the gas down to a "trickle" and powers the truck on a combination of the two.

"With gasoline, the pickup gets 10 miles per gallon. With the hydrogen mix, mileage jumps to 20 miles per gallon," says Dohm. He feels that hydrogen is safe, although experts have cautioned that there's no safe way to carry it. "Hydrogen will burn — but it won't explode unless you've got oxygen to burn with it," he explains.

Dohm stresses that except for his unique horizontal windmills, which he has patented, his work is purely experimental. He has no commercial plans for his hydrogen ideas.

For more information, contact: FARM SHOW Followup, Grant Dohm, Grinnel, Kan. 67738 (ph 913 824-3384).

How It Works

"You could build these in sequence a half mile long," says Grant Dohm about his unique "horizontal" windmills. (Upper right). Shaped much like a combine pickup reel, the blades are housed in a "wind scoop" housing that catches the wind and speeds it directly down onto the blades, turning the drive shaft at the center of the reel.

The "wind scoops" do more than increase the velocity of the wind, says Dohm. "The design develops more torque and horsepower, making better use of the wind." The 7 ft. dia. reel on the windmill pictured above turns a 5 ft. pulley, which is geared down through a belt to a 1½ ft. pulley powering a 5 kw generator.

Dohm has built other windmills that are 9 ft. in dia. turning 10 ft. pulleys. The windmills are anchored to concrete pads and, with the help of a rear fin, wheel around to always face into the wind. Dohm hopes to find a manufacturer for the patented design. He has one now that he will sell.

Upper right photo shows windmill on top of hill. Wires run from windmill-driven generator to hydrogen-generating electrodes in the farm pond below. Photo below shows tanks for "farm pond" fuel that powers Dohm's pickup.



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