

Home-Built Central Air Conditioner

Canadian hog farmer Ted Dyck built a central home air conditioning system for just \$200 that requires almost no energy input.

"I was chilling my hogs one very hot day a year ago this summer when a thought occurred to me. There was all this ice cold water coming out of the well, into the basement of the house and then back out to the hog barn. I figured there must be some way of utilizing the coldness before it left the house," recalls Ted, who farms near Winkler, Man.

He went to a local plumber and bought a standard A-frame cooling coil — the type used in furnaces for central air conditioning. He paid about \$200 for the coil and enough fittings and pipe to hook it up. The coil is positioned in the furnace just above the heat exchanger.

"I took the fittings off the coil and soldered on 3/4-in. pipe fittings. There are four separate lines going through the coil. I spliced them all into one 3/4-in. fitting. I then tapped into the water line coming from the well to the house, diverting the 45° well water through the furnace coil," Ted explains. "The only power the system requires is enough electricity to run the furnace fan. It can cool a house enough to bring the temperature down to at least 70° even on the hottest days." Ted adds that another advantage is that the cool

water helps to remove excess humidity by condensing water from the air. "I can pull off a couple gallons of water a day on really, humid days. Also, there is no buildup of minerals as there can be on evaporation-type cooling surfaces."

At night, when the hogs are inactive and drinking very little water, the system is hooked up so that on extremely hot nights the lawn sprinkler can be turned on to keep enough cold water flowing through the coil to keep the house cool and comfortable.

Ted estimates that his hogs use about 1,500 gals. of water per day. When its needed, the lawn sprinkler uses about 2 gal. per minute. Ted estimates that 1 1/2 gals. per minute would sufficiently cool his 1,100 sq. ft. house. If your well water isn't as cool as 45°, he says, you can decrease the flow rate so water stays in the system longer and will still cool the house sufficiently.

The cooling system is currently operated by manually switching it on. However, it would be simple to install a thermostat to control it automatically, Ted points out.

He has drawn up a set of do-it-yourself plans which he will send to anyone interested for \$10 per set.

For more details, contact: FARM SHOW Followup, Ted Dyck, Box 1812, Winkler, Man. ROG 2XO (ph 204 325-8428).



Vacuum Fuel Pump Works On Diesels

Most vacuum fuel pumps are driven by a gasoline engine vacuum and won't work on diesels. So, if you want to refuel a diesel tractor or combine, you need your pickup — with tank and pump in back — to operate the fuel transfer pump.

An Australian inventor, Terry Goater of Gravesend, says he's changed all that with a new vacuum pump adaptor for diesel engines powered by diesel air intake. His invention was prompted by a suggestion from an Australian importer of vacuum fuel pumps from the United States.

"We ran into problems because our farms are large and most farmers refuel their diesel tractors and harvesters with mobile field tanks. Many others are driving Toyota diesel farm trucks. So, I set out to adapt a unit to those diesel engines," Goater told FARM SHOW.

The solution was in finding a way to restrict the air intake while the motor idles. "I fitted an off-center, spring-loaded butterfly valve into the air intake. The valve can be set to the vacuum pressure needed, and will fit nearly all tractors and harvesters. It attaches perma-

nently to the air intake with a clamp-on hose fitting."

Goater is also making a portable adaptor that attaches simply by removing the pre-cleaner and attaching it to the top of the exhaust pipe.

He plans to have the vacuum adaptors on the market for around \$20, and welcomes inquiries from farmers, distributors and manufacturers.

For more information, contact: FARM SHOW Followup, Terry C. Goater, Gravesend, N.S.W. 2401 Australia.



Two Story Hog Barn Is Energy-Efficient

When you see a two-story hog barn, it's usually an old dairy barn that's been remodeled. But in Gerry Knechtel's case, he designed and built his new hog barn in two levels because that's the way he wanted it. Breeding stock and mature animals occupy the ground floor of the building while the second story houses the farrowing, nursery and dry sow areas.

The large amounts of heat generated by the older pigs on the lower level rises and warms the second floor where the baby pigs need supplemental heat. The entire building is so well insulated that the only additional heat comes from brooding lamps over the farrowing stalls.

Pigs are moved from floor to floor on an elevator that occupies a small amount of space at one end of the building. The elevator was built by Knechtel and has a capacity of 1,200 lbs. It runs on a reversible electric motor.

"The elevator interests a lot of

people, and we have custom-built 15 of them for other farmers," Knechtel told FARM SHOW. "Nobody rides on the elevator, which is designed just for transporting animals. There would be a lot of regulations on it if it was for human use."

Removing manure from the second story is not a problem. It's pushed to one side and drops down several chutes to the lower area and into 18-in. deep gutters which are scraped with a conventional barn cleaner. Liquid waste flows to an outside concrete storage tank.

A third story of the hog barn is used for hay storage which also acts as an insulating layer. Humidity on both the breeding and the farrowing levels is regulated with a series of fans.

For more details, contact: FARM SHOW Followup, Gerry Knechtel, Box 99, Shakespeare, Ont. Canada, NOB 2P0 (ph 519 625-8717).

