

Key's thermostatically-controlled furnace is housed in a shed at about the mid-point of his 325-ft. brooder barn.

## BURNS FULL-BLAST FOR EIGHT HOURS AT A TIME

# Wood-Heated Barn Sends Fuel Costs Up In Smoke

"It works for us," says George Key, Carrollton, Ga., who for the past two winters has heated his 18,000-bird brooder barn almost entirely with wood, saving thousands of dollars in propane costs.

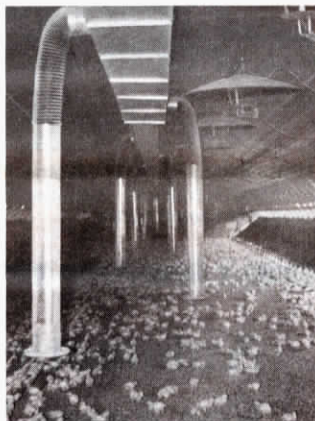
Although winter temperatures in Georgia are relatively mild, they do remain consistently in the teens and 20's during the coldest months. Key says his furnace design would work as well, and reap even more benefits, in northern states and Canada where winters are much more severe.

What Key has designed is a thermostatically-controlled wood furnace housed in a shed not more than a few feet away from the 325-ft. long barn. Air is ducted into the barn by conventional heating ducts to a large center duct that carries heat to either end of the long barn, keeping temperatures from 60° to 90°, depending on the age of birds.

To get heat from the elevated duct down to the young chickens near the floor, flexible 8-in. "downcomers", made from steel and plastic, channel the hot air down to within a couple feet of the floor and out through 18-in. diffuser plates. Key now uses his conventional brooder stoves only as back-up heat.

The 47-cu. ft. furnace firebox has room for log chunks up to about 4 ft. in length, according to Key. Outside air is force-fed into the sealed chamber by a small thermostat-controlled fan. When the fan shuts off, the fire cools down.

"The furnace is so efficient it'll burn at full capacity for eight hours," says Key. "Since outside temperatures normally warm up during the day, I can usually keep it going by stoking it once in the morning and once at night. That's important to me because I work a full-time job in addition to farming."



Flexible 8-in. "downcomers" bring heat from the elevated duct to the chicks near the floor.

Key has had to fire up his propane brooder stoves in the coldest part of the winter up to about 25% of heating requirements but feels that, with an increase in air flow out of the furnace, he could rely on it 100%. Even so, he saved about \$2,000 in his propane bill the first winter, and a comparable amount last year. Subtracting about \$900 for wood (29 cords of "scrub" wood which he is able to buy at \$30 a cord), the \$10,000 system would have a payback of about 9 years.

Key has a second barn located 100 ft. from the wood-heated barn. It's the same size and is heated with propane. Besides cost savings, Key says the wood-fired barn is dryer and healthier. And, he says, you don't have the open flame you have with propane brooders.

"The only drawback is labor. Even if you only have to stoke the furnace twice a day, getting the wood and handling it are a lot of work. Propane

## EAR-IMPLANTED SENSOR ACTIVATES EACH ANIMAL'S FEEDER

# New Way to Feed Hogs "By Ear"

The first electronically controlled individual boar feeding system in North America has been launched by McLeod Hybrid Swine Ltd., Aurora, Ontario.

All boars are grouped together, four per pen. Each boar has a sensor implanted in his left ear which acts as a key to open his own self-feeder and no one else's. The feeder door flips open as the boar's left ear passes a small panel set to one side of the feeder. All feed placed in the feeder is weighed and recorded. Then, at the end of the test, any remaining feed is removed, weighed and subtracted from the total to determine feed conversion for the entire period.

McLeod herdsman, Eric Alderson explains that many boars locked up individually in pens for testing develop psychological problems and do not breed well later. "Even if you test four boars together from the same litter you'll likely find one excellent pig, two average gainers and one poor one. If they are tested and fed together, all would receive the same average rating.

"By grouping boars and feeding individually, you can more readily determine those animals with superior feed conversion ability. In the future, gilts may also be tested in the same manner and the best ones mated to outstanding boars. It promises to speed up the selection process," explains Alderson.

The electronically-controlled feeders used by McLeod are available from, American Calan, Inc., Northwood, New Hampshire. President, Douglas Briggs, says the design was purchased from a Scottish firm and production is underway in the U.S. He notes that similar electronic controls are being used to feed individual dairy cows on the basis of milk production.

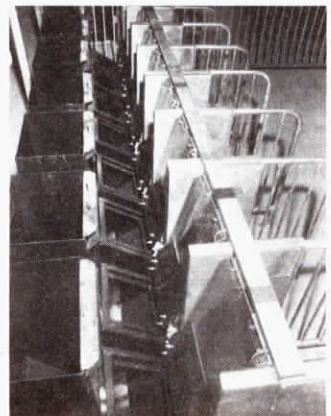
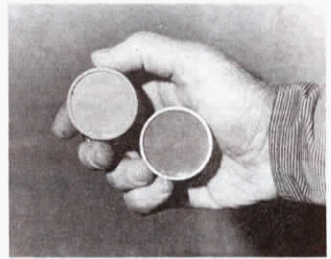
American Calan will sell and install the complete package of elec-

tronic controls and feeders for approximately \$500 per animal unit. Briggs is hopeful that the price can be reduced as production increases and the design is improved.

In addition to testing boars for feed conversion, the electronic feeders are being used by manufacturers and universities to test different rations, medications, feed additives, animal behavior, etc.

Alderson believes that many large producers of swine breeding stock could justify installation of the electronic feeders in one or two pens (four to eight animals per pen) if they are really interested in testing and promoting their stock on the basis of feed conversion. McLeod has chosen a test range of 100 to 215 lbs., compared to Canadian government testing of 50 to 200 lbs. Alderson says the heavier weight range suits their needs, and reduces the time boars are in the pens. This means more boars can be tested every year in the same facility.

For more information, contact: FARM SHOW Followup, Eric Alderson, McLeod Hybrid Swine Ltd., Box 122, Aurora, Ontario, Canada L4G 3H3 (ph 416 895-8691), or FARM SHOW Followup, Douglas Briggs, American Calan, Inc., R. 4, Northwood, New Hampshire 03261 (ph 603 942-7711).



Each boar has a sensor implanted in his left ear, top, which acts as a key to open his own self-feeder. The feeder door flips open as the boar's left ear passes a side panel.

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