

# Burning Broiler Litter

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form, broiler as well as turkey litter, composed of sawdust, shavings and manure, have proven to be readily combustible. And there are enough potential BTU's in Lancaster County's 45 million broiler chickens to pump a significant amount of low-cost heat energy back into county farms.

The broiler houses themselves are in need of supplemental heat, Muir points out. The normal grow-out period is seven weeks, with heat required for two to three weeks of that time, depending on outside temperatures. Since only about one-half of the litter from a flock is needed to provide heat for the next flock, the poultry scientist notes that broiler-produced heat could also be used for drying grain or heating other farm buildings.

Muir also points out that the availability of lower cost heat might even improve the broiler industry's efficiency. "If we had a fuel source less costly, we might put more heat into that (broiler) building, which should improve the

performance of the birds," he speculates.

Muir's incineration project is located on the John Noss farm near East Waterford in Juniata County. The incinerator itself is a converted wood furnace, stoked automatically with broiler litter from a 600-pound capacity cylindrical hopper that fuels the furnace for about 12 hours.

A flex auger transports the litter through a 5-inch diameter PVC pipe to the top of the furnace, and a photoelectric cell shuts down the auger when the litter rises to a level in the furnace that breaks the beam. Heated water is piped into the bottom floor of the 40-by-120-foot broiler house where it circulates through a 43-by-60-inch radiator. A 26,000-cfm fan drives air through the radiator and throughout the house. Muir figures the unit should heat two of the building's three floors.

Though the system shows promise, there are some bugs to be ironed out. At present most of the problems center around the fuel

feed system. A stray rock can stop the auger, and the litter itself must be at the proper moisture level to move freely through the conduit. Even though the litter will burn properly at up to 40 percent moisture, says Muir, it fails to feed properly at moisture levels above 30 to 35 percent.

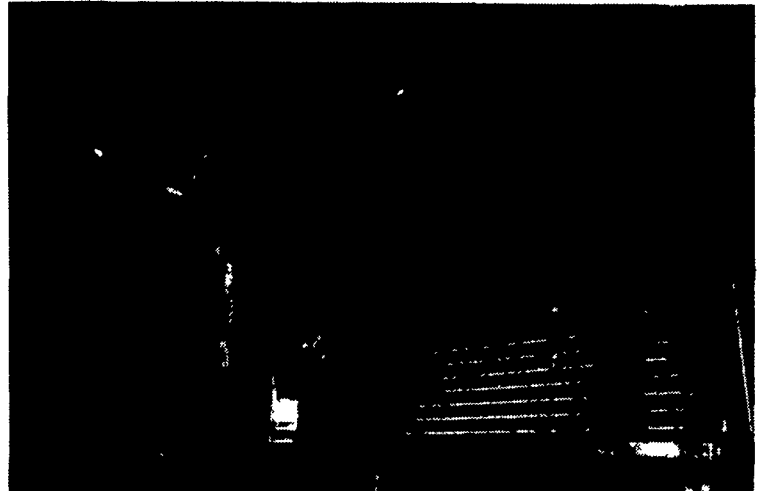
The poultry expert also points out that more research needs to be done on the by-products of the combustion process. Muir concedes that he knows little about what's going up the flue, although he knows nitrogen is certainly one of the components, since it does not remain in the ash. The ash is high in phosphorus and potassium and could prove valuable as a fertilizer.

And with phosphorus being a relatively expensive component in the birds' diet, Muir believes the litter ash might be put to good use as a feed ingredient for both layers and broilers.

Muir figures it will be a few more years until incineration will be a viable alternative for disposing of broiler, as well as turkey litter. Meanwhile, broiler production is expected to increase 6 percent this year, on top of a 5-percent increase



Muir's converted wood furnace burns about 50 pounds of broiler litter an hour. In seven weeks grow-out period broilers will have produced enough litter to warm up two incoming flocks for required two to three weeks.



Regional manure management specialist Mitch Woodward check heat coming from litter-powered radiator in broiler house.

in 1986. Even more dramatic is the turkey industry's projected 15 percent expansion on the heels of a 1986 production increase of 14 percent.

If Forest Muir's incinerators ever do find employment on Pennsylvania farms, it's not likely that they'll suffer from frequent lay-offs.

## Officers Elected In Somerset Local

SOMERSET — Robert K. Knopsnyder of Garrett was elected president of the Somerset Local of Eastern Milk Producers Cooperative during a recent meeting here at the Oakhurst Tea Room, Eastern Director Norman A. Fyock of Osterburg announced.

Other newly elected officers are: Harry R. Walker, Rockwood, vice president; Clarence B. Waltermire, Rockwood, secretary/treasurer; Knopsnyder, delegate; and Clifford Knepper, Somerset, alternate delegate.

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