

Using the sun to heat water

BY SALLY BAIR
Staff Correspondent

LEBANON — The advantages of harnessing the sun and putting solar energy to use in homes are becoming more and more attractive. One of the most feasible methods of putting solar energy to work in this climate is to use it as a supplement for hot water needs and thereby cut back the dependency on traditional methods of heating water.

According to Newton J. Bair, Lebanon County extension agent, a drain-back solar water heater can be built for about \$575 and can be expected to furnish one half of the needs of a family of four.

In a workshop attended by 52 persons from the Lebanon area, Bair and Chris Fried, an independent architect under contract to the Department of Community Affairs, supervised the construction of four collectors for drain-back solar systems which are designed as a supplement to conventional hot water heaters of any kind.

A drain-back system is an

active solar system, requiring a pump to circulate water, but needing little attention to operate. The system is a heat exchanger system, with the water being continually recirculated between the collector and the solar tank. A coil of copper pipe picks up the heat in the water and transfers it to the household water supply.

There is a differential thermostat on the collector unit which will activate the pump to have the system capture solar heat when the collector is approximately 15 degrees warmer than the tank. When the collector temperature drops to about 5 degrees above the tank, the thermostat then turns the pump off, and the water drains into the tank.

The solar collector itself is designed to be used anywhere convenient, at ground level or on a roof. Despite the possibility of damage, the logical location is ground level which keeps the pumping needs to a minimum.

Bair pointed out that they used commercial collector panels because they are



Coil of copper tubing used in solar water heating system is examined by Newton J. Bair, Lebanon County extension agent.

“more trouble free and are known to work.” He said they are available from several sources at “a fairly reasonable cost.” The collector itself can be constructed by a handyman, and the housing and hook-up create no major challenges.

“Anybody who is a little

handy with tools can construct one,” Bair said.

The system built at the workshop is expected to pay for itself in three years or less, and it costs one-third to one-fourth what it would cost to buy a similar unit.

Bair noted, however, that the system does have

limitations and that a major portion of the workshop was devoted to a discussion by Fried of the necessity of conserving our present energy supplies. He encouraged the group to evaluate their homes for efficiency as a first step in deciding which system is best for them. There are professional aides available to tell the homeowner what to look for.

The solar drain-back unit is not designed to be self-sufficient, Bair said, because in this climate it can be used only as a supplement to the existing heater whether it be a separate unit or tied into the furnace.

“When the unit is properly built and properly mounted, there is nothing that can deteriorate,” Bair said.

In his opinion, Bair feels this type of supplemental solar heating will become

more popular. He said it is already much more common in the sun belt, but added, “We pick up enough sun here for it to be worthwhile.”

In an evaluation of the program, 27 of the participants indicated they there are actually planning to construct their own solar collector.

The drain-back system, though one of many possibilities, is usually more cost-effective than other systems. It has low installation, operation and maintenance costs and has a high reliability and long life due to its simple, reliable design.

It may be a system whose time has come to assist in providing for the energy needs in this area, but conservation must be considered the first step to being energy efficient.

Lancaster Co. farmers quiet about conservation

LANCASTER — Lancaster County farmers and landowners showed their interest in the federal government's conservation program last Thursday evening.

A total of six county residents, who were not agency representatives, turned out for the special Resource Conservation Act meeting to discuss the direction the federal government's programs affecting soil and water conservation will take.

According to a spokesperson for the Lancaster County Conservation District, a reason for the scanty public participation may have been the storm that hit Lancaster County that day, dropping four inches of snow in the area.

Aaron Stauffer, chairman of the District Board, had cautioned Lancaster County farmers if they did not make their opinions known in the Resource Conservation Act, Lancaster County could stand to lose Federal technical and financial assistance for soil and water conservation. He added this would have an adverse affect on water quality.

Of those six farmers and residents attending the meeting, several indicated their concern about keeping government out of farming.

Even though the public meeting has passed, there is still time for county farmers and landowners to be heard. Anyone can write their comments and opinions to the USDA until March 28, 1980.

Or, the RCA questionnaire in last week's paper can be used either as a guide, or filled out and sent directly to USDA.

Letters should be sent to RCA Response Analysis Center, P.O. Box 888, Athens, Georgia 30603.

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