Salt water pond helps dry grain

ARGONNE, II. — A pond of water that can store enough heat during the summer to dry a farmer's grain crop in the fall was the subject of a workshop this week at the Department of Energy's Argonne National Laboratory, near Chicago.

Argonne has developed a system to remove heat from its experimental salt gradient Solar Pond for use in drying grain, heating barns and houses or supplying domestic hot water.

Salt water is the key to the pond's ability to collect and store solar energy. Salt concentration increases with depth, forming layers that suppress convection circulation within the pond.

Sunlight penetrates the surface, warming the lower layers. Because the lower layers are heavier than those above them, they cannot rise, and their heat remains trapped.

The pond can produce useful heat day and night, all year round, even when covered with winter ice. Peak water temperatures at the bottom of the solar pond exceed 170 degrees F at the end of summer, low winter temperatures are about 100 degrees F.

The quarter-acre pond is about 12 feet deep. It holds 700,000 gallons of water and about 700 tons of salt.

The heat removal system developed by Argonne uses a heat exchanger to tap the hot water at the bottom of the pond. Air passes through the heat exchanger at 8000 cubic-feet-per-minute and is warmed by the hot water to about 40 degrees above the temperature of the surrounding air. This temperature and airflow is sufficient for grain drying operations.

No-till data available

NEWARK, Del. - Delware farmers interested in trying a few acres of no-till small grain this fall can get helpful production advice from the extension fact sheet, "Notill Wheat and Barley in Delaware." The fact sheet was prepared by University of Delaware extension agronomist Frank Webb. It contains information on planting equipment, soil fertility, seeding rate, variety selection, liming rate and weed For the past five years the specialist has been evaluating notillage cultural practices on small grains at the university's Georgetown substation. He says test results are promising, with notill yields about the same as those from conventionally grown wheat and barley.

To obtain a copy of the no-till wheat and barley fact sheet, contact the county extension office in Newark (451-2506), Dover (736-1448), or Georgetown (856-5250).

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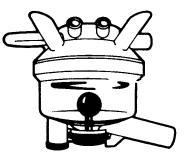
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