

Soil, water, next on endangered list?

MADISON, Wis. — Soil and water resources may surpass energy as crisis issues before the end of the century, announced Anson R. Bertrand, U.S. Department of Agriculture director of science and education.

ference on soil and water resources, Bertrand described some of the research goals that must be met to fill food and fiber production needs while maintaining the quality of the land.

"We are losing our prime farm land at an alarming rate," he

warned. "Every day in the United States four square miles of farm lands are shifted to uses other than agriculture." Intensifying efforts to develop domestic energy resources are already beginning to have unintended repercussions on the country's agricultural land base, he said.

There are two options for meeting food and fiber demands,

according to Bertrand.

The first option, he said, is to bring more acres of land into production. The price for this path continues to increase as marginal lands brought into production further deplete dwindling water supplies, increase erosion, contaminate existing water supplies and increase the energy required to manage these lands.

The alternative is to develop technology leading to increased productivity on the existing land resource base. This calls for managing the land to check severe soil erosion and depletion of water supplies.

"Much of our research in the past has focused on developing ways to maintain yields in spite of erosion," Bertrand said. "We have largely ignored the long-term effects of soil erosion on crop productivity and the environmental consequences of soil loss. These are things we must now consider."

"Failure to control soil erosion on U.S. farms and ranches could double the cost of producing food and fiber over the next 50 years, without regard to inflation or other factors," he said.

In addition to the serious effects of soil erosion, Bertrand warned of water shortages that many parts of the nation will face unless new techniques for management and use of water resources are developed and put into practice.

Irrigated acreage in the United States has almost tripled in the last

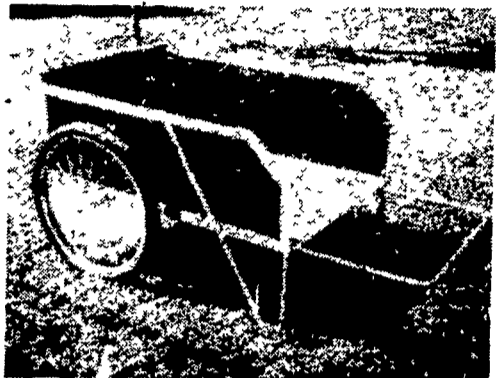
three decades, now consuming more than 80 percent of the water used in the nation. About 40 percent of the irrigation water comes from ground water, which in many areas is being used faster than it is being recharged.

Bertrand described some USDA projects seeking long-range solutions to these problems. Scientists at a national soil erosion laboratory, built on land provided by Purdue University in Indiana, will concentrate on all aspects of soil erosion, its impacts and control.

USDA's Science and Education Administration is planning a moisture conservation-plant stress laboratory in the Southern Great Plains, where scientists will deal with water resources-land management problems. Planning for this laboratory, the only one of its kind in the world, involved scientists from Australia, Israel and Mexico as well as the United States.

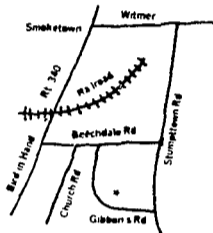
Other USDA research areas include work on water harvesting to enable more effective and efficient use of water supplies; non-point pollution; finding a workable system for modified dryland agriculture to make the best use of available moisture; weed and insect control for minimum tillage; use of crop residues; effective use of sewage sludge and industrial waste; better understanding of plant nutrients and their basic relationships in soil and water resources.

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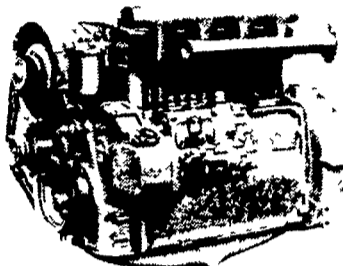
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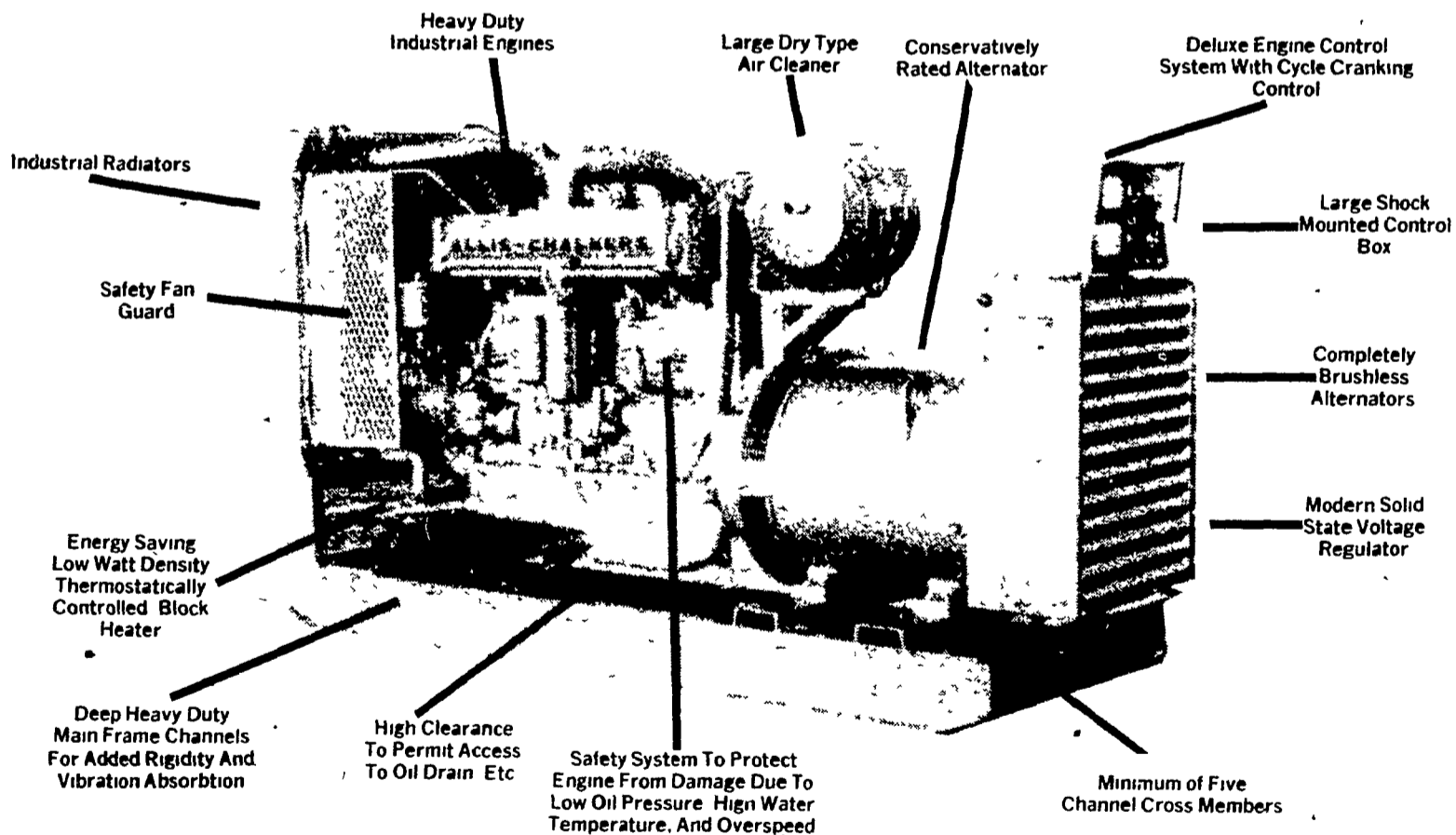
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