

Wasps Offer Alternative for Alfalfa Weevil Control

WASHINGTON — "Any day now we will get the expected telephone call telling us that the wasps are coming," says Robert Meinders, an inspector for the U.S. Department of Agriculture.

He has a smile on his face when he makes this statement, because the wasps he talks about are not the large, stinging variety, but tiny insects, no bigger than a quarter of an inch, that attack only the destructive alfalfa weevil. Meinders, of USDA's Animal and Plant Health Inspection Service in Tulsa, Okla., has local responsibility for implementing a biological control program that pits wasps against weevils.

Meinders explains that the

wasps will be released in an alfalfa field infested with alfalfa weevils, where they will attack both adult and larval weevils and help reduce the population of the pest.

"What we're doing here locally is part of a nationwide plan to protect alfalfa, the nation's leading forage crop, against its worst enemy," Meinders says. "Alfalfa weevils are known to be in every one of the lower 48 states, and they do \$1 billion worth of damage in a bad year."

The APHIS-coordinated campaign against the alfalfa weevil was started in 1980 as part of a program to identify pest problems that could be fought by biological

control agents. APHIS officials develop and implement practical methods to raise the agents in large numbers and then distribute and track them in the field.

Meinders says that most field releases of the wasps are made by employees of the Cooperative Extension Service and State Departments of Agriculture; other agencies and farm groups also help make the program effective.

Local farmers join in the battle against alfalfa weevils, Meinders says, because they want to reduce their dependence on agricultural chemicals. Farmers allow one of their fields to be dedicated as a beachhead for the incoming wasps.

The farmers keep the field free of pesticides and delay the first cutting of alfalfa so the weevils can feast long enough to be a good host to the newly established wasps.

If all goes well, weevil numbers in the field drop dramatically as the wasps knock them down, and a good number of wasps go on to colonize other alfalfa fields in the area. Eventually, enough wasps become established to keep damage to alfalfa within acceptable limits.

Meinders says the tiny wasps don't sting and raise welts like their larger cousins, and don't bother humans and farm animals at all. When they attack alfalfa

weevils, they insert eggs into the bodies of both adults and larvae. When the eggs hatch, the young chew the weevils to death.

"We put out one to 20 boxes, each holding about a thousand individuals, depending on the local situation," Meinders says. "This may include one to four species of related wasps that attack alfalfa weevils. In two years, we'll come back to the field to see how the wasps are doing. If they haven't colonized successfully, we'll try again the next year. In six years of experience, we found that 60 percent of the releases successfully established the wasps in new areas."

University of Del.

Appoints Plant Scientist

NEWARK, Del. — Dr. Jeffrey J. Fuhrmann, a soil microbiologist specializing in microbial ecology, has joined the University of Delaware's Department of Plant Science. Fuhrmann earned his doctorate in soil science from North Carolina State University. He also holds a master's degree from there. He earned his bachelor's degree from Humboldt State University in Arcata, California.

Fuhrmann's speciality is soil bacteria—particularly the varieties that fix atmospheric nitrogen in root nodules of leguminous plants. Seeds of legumes such as soybeans are often inoculated with this

bacteria before planting to increase yields and/or reduce the need for commercial nitrogen fertilizer. Most of his research to date has been on soybeans, a major crop in the Delmarva peninsula.

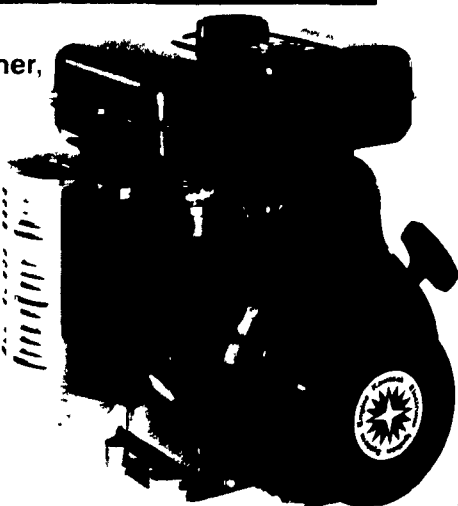
According to chairman Dr. Allen Morehart, Fuhrmann's appointment will strengthen the plant science department's soil research program and enhance both graduate and undergraduate teaching programs.

Fuhrmann will teach two courses in the department of plant science—an undergraduate course on agricultural microbiology and a graduate level class on soil microbiology.

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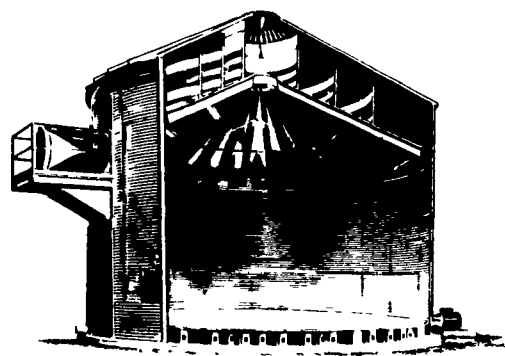
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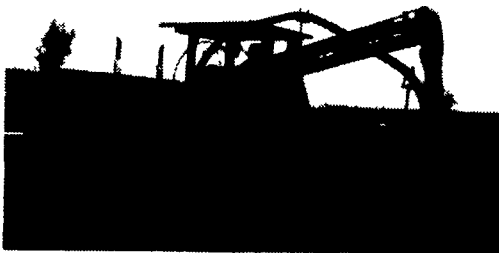


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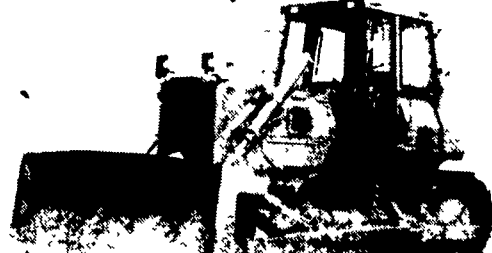
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