

# Tiny wasps wage war on alfalfa weevil

BALTIMORE, Md. — Can gnatsized European wasps save farmers million of dollars, reduce the need for insecticides and save scarce resources?

"Yes," says U.S. Department of Agriculture officials who are working to control the destructive alfalfa weevil.

"The alfalfa weevil costs farmers hundreds of millions of dollars a year by feeding on alfalfa," says Gary Moorehead of USDA's Animal and Plant Health Inspection Service, "but our state-federal biological control effort — with farmers' cooperation — can cut the damage significantly."

The weevil reduces yields and

lowers the nutritional value of alfalfa. This damage is of concern to dairy farmers, who depend heavily on alfalfa hay for their cattle, Moorehead said.

The wasps are tiny parasites that lay their eggs on or in the weevil. After hatching, the young wasps feed on the weevil, killing it.

"Farmers can help the wasps along by timing any insecticide applications so they are more likely to kill weevils and less likely to kill the wasps," said Moorehead.

Like many crop pests, the alfalfa weevil is a foreigner that entered without the natural enemies that keep it in check overseas. From original entry points — in Utah in

the early 1900's and again near Baltimore, Md., in the '50's — it spread throughout the United States.

USDA insect explorers located the wasp parasites in Europe, ran tests to make sure they wouldn't become pests themselves, imported them and released them here, beginning the late 1950's.

"These wasps are nothing to be afraid of," said Moorehead. "They can't sting or hurt people or even insects — except for the alfalfa weevil."

Followup surveys in the northeastern states proved the wasps could cut the need for insecticides drastically, Moorehead said, and today they save farmers in the Northeast \$8 million a year. The savings will increase in years to come, he said, if costs of chemicals and their application continue to rise.

The renewed parasite effort, now in its second year, is focused both on areas where releases weren't made before and areas where there was no systematic followup of earlier releases. The program has two main objectives in 1981:

—completion of systematic surveys in 21 states in the East and Midwest; and

—small-scale release of parasites in 11 of these states.

The Survey workers will visit farms armed with sweep nets and containers to sample the insect populations of selected alfalfa fields. Farms are chosen on the basis of a nationwide grid and visited at carefully chosen intervals to increase the chances of

collecting all the parasite species present.

Insects collected are then sent to a laboratory for identification.

Where key species were not found in 1980 surveys, releases of parasites will be made. Workers will collect parasites from previously targeted fields with high parasite populations and set them free in the new areas. The parasites can then spread on their own to neighboring farms. Followup evaluations will keep tabs on their progress.

Included in the 1980 survey were Pennsylvania, West Virginia (including adjoining areas in Virginia), Ohio, Kentucky, Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa and Missouri. States to be surveyed for

the first time in 1981 are Virginia, North Carolina, South Carolina, Tennessee, Arkansas, North Dakota, South Dakota, Nebraska, Kansas and Oklahoma.

More surveys will also be conducted in states surveyed in 1980, to gain information on additional species of parasites.

Small numbers of parasites were released in 1980 in Iowa, Illinois, Missouri, Michigan and Wisconsin. In 1981 parasites will be released in these and other states surveyed in 1980.

By the end of 1982, most of the base-line survey work will be finished nationwide, according to Moorehead, and large-scale relocations of the parasites will be underway.

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