

Beetle Eats Aquatic Weed

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ENDEMIC to Argentina but introduced to this country some 70 years ago, perhaps on the ballast dump of sailing ships, Alligatorweed has now infested thousands of acres.

Efforts to control the plant have included dredging, burning, flaming and flooding, and spraying with various herbicides. The degree of plant control has often been both negligible and disappointing.

The Entomological Research Division of the United States Department of Agriculture was asked to search for insects that might act as a biological control. Researchers soon began host specificity tests on a flea beetle of the genus *Agasticles* in its native habitat near Buenos Aires, Argentina. This beetle, perhaps assisted by several other agents, apparently prevents alligatorweed from becoming a major pest plant in South America. Extensive tests in that area indicated that the insect fed and completed its life cycle on the host plant only.

The first shipment of flea beetles was received in the U.S. at the Entomology Research Laboratory at Albany, Calif., for additional study. Further testing there confirmed the beetles total dependence on alligatorweed for food as well as the plants hollow stem for important phases of the reproductive cycle.

In the spring of 1964, the first release of beetles was made on alligatorweed at the Savannah National Wildlife Refuge in South Carolina. Additional releases were made later there and in other southern states including two Texas sites in May 1967.

The small black and yellow beetles multiply rapidly and spread readily from the release site to adjoining stands of alligatorweed. The female generally lays one cluster of eggs per day, throughout her productive period of about 45 days, which develops through several immature stages into sexually mature adults in about 25 days. Several generations per year are normally produced. Flea beetles prefer areas of high humidity and mild temperatures, but have overwintered in areas where temperatures dropped considerably below freezing.

Although the initial study has been of short duration, some aspects of the project in Texas are promis-

ing. Flea beetles appear to have a spring and fall population peak at Dam B Reservoir and Murphree Wildlife Area, which are the initial release sites of Southeastern Texas. During these periods of abundance, the insects have affected considerable temporary damage on rather extensive areas of alligatorweed and

have populated adjoining areas. In 18 months, the 1,000 insects initially released have multiplied many times and have advanced several miles up the slough and along the shoreline. The major point of speculation is how well can the imported flea beetle adapt to local environmental conditions.

The next few years of observation and research will, hopefully, yield information showing a high degree of successful adaptation by the beetle and perhaps its importance as a major biotic suppressant on the rapidly expanding alligatorweed in the South.

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