

WEED-EATING GRASS CARP PROVE TO BE A REAL CATCH

Research at UC Davis has netted a fish solution to a weedy problem

Studies at the US Department of Agriculture's Aquatic Weeds Control Laboratory on campus have shown that a species of carp called grass carp may just be the answer to keeping waterways free of clogging weeds. The grass carp has proved to have a voracious appetite for hydrilla, a particularly devastating aquatic weed in Southern California, and now also appears to relish the aquatic weeds found in Northern California, such as pondweeds and water milfoil.

Water weeds, in addition to making swimming dangerous and fishing difficult, present a costly problem to the agricultural industry, which nationally spends hundreds of millions of dollars each year to keep irrigation canals free of weeds, according to Lars W. J. Anderson, research leader and plant physiologist with the laboratory. Usual methods of controlling the weeds - herbicides or excavation and burial- are often ineffective, costly or only temporarily successful. So researchers have turned their attention to the carp-a means of weed control used for centuries in China.

Grass carp, in fact, come from Asia, but therein lies one of the reasons that the fish have not been used for weed control in the United States, said Anderson. It is feared that if allowed to proliferate, this non-native species would harm the habitat of the native fish. Until 1982, consequently, grass carp were banned in most states. But the success of a recent breeding program has allowed the fish to be used at limited test sites.

Researchers in Florida and Arkansas have bred "triploid" carp—carp with an extra set of chromosomes-which are sterile. The fish are produced from fertilized eggs that have been subjected to heat, shock or a pressure treatment, which results in an abnormal separation of the egg chromosomes into the triple-chromosome configuration.

On the UC Davis campus researchers have placed about a dozen of these carp into small test canals to study their feeding behavior under Northern California conditions. The

researchers are studying the carp's feeding preferences and their behavior in both static and flowing water. They are also developing management techniques for the fish and are looking for an affordable way to remove the fish from canals, since many Northern California canals are allowed to go dry during the winter.

So far, the carp have proved to be very effective in keeping aquatic weeds under control. The fish eat two to three times their weight per day, said Anderson-which means that a 5 pound carp can eat 10-15 pounds of weeds a day. And though the fish eat less in the colder Northern California climate than they do in the warmer weather of Southern California, they can live in the colder temperatures, surviving even in ice covered canals, said Anderson.

So far the testing is limited to only the protected, self-contained laboratory canals, because of continued fears that the fish, if they escaped, might compete with or affect the habitats of other species. But Anderson plans to test the fish in one or two pilot field studies in the next few years. Eventually he hopes the fish can be used more extensively as a safe and natural alternative to chemical herbicides and expensive mechanical methods of weed removal.

Editor's Note:

A letter from the Northern California Golf Association was mailed to all Northern California Golf Course Superintendents concerning information on Grass Carp on December 17, 1990. The letter asked all superintendents to respond on their interest in using grass carp for weed control in their lakes and ponds.

The response will be used to aid our legislative advocate in Sacramento working with the California State Fish and Game Department to determine an appropriate permit process and fee for use of the grass carp in golf course ponds and lakes.

If you did not receive this information, please contact the NCGA (408) 625-4653.

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