

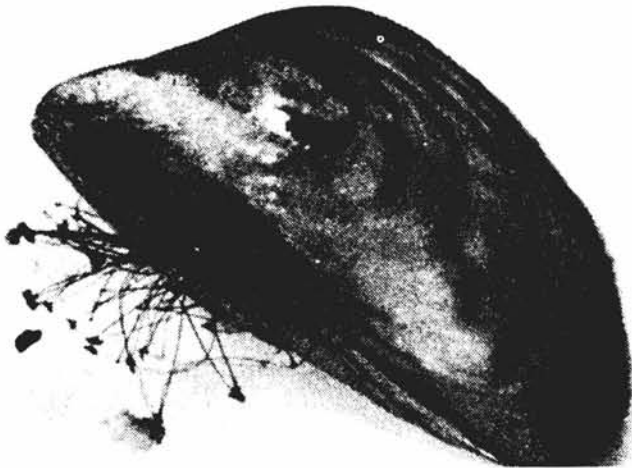
A Pest That is Muscling It's Way Into Our Waters

by Dan Dinelli, North Shore Country Club

Many golf courses use ponds, creeks or rivers as a water supply or reservoir. These waters are vulnerable to an invasive pest, the Zebra Mussel.

In 1989 Zebra mussels were found in Lake Erie. Zebra mussels have now been reported in all other Great Lakes as well as the Mississippi River. Experts predict Zebra mussels will spread beyond the Great Lakes. They pose a threat of colonizing most lakes and rivers in the United States.

The Zebra mussel, *Dreissena polymorpha*, was detected in Western Russia in the early 1800's. Europe found the unwelcome migrant in the 1830's. It quickly spread throughout the continent. In the mid 1980's a transoceanic ship discharged ballast water into Lake St. Clair. The fresh water ballast picked up in an European port, contained Zebra Mussel larvae, Veligers. The Zebra mussels found the plankton rich waters to their liking. The prolific mussel produces eggs when water temperature warms to about 54 degrees and continues until the waters cool to below 54 degrees. A mature female mussel can produce over 30,000 eggs per season. In 10 years the aggressive mussel has dramatically taken over the Great Lakes basin.



Close-up of a zebra mussel shows the tuft of byssal threads used for attachment. Particles on the ends of the threads are debris.

The invasion of Zebra mussels has many biological, ecological and economic impacts. The one to two inch long mussel feeds on algae by filtering the water. One mussel can filter about one liter of water a day. The algae and photoplankton it consumes represent the food source for microscopic zooplankton, which in turn are food for larval and juvenile fish. The impacts on the food chain can be devastating.

Another threat is the way they colonize themselves. Zebra mussels generate a turf of fibers known as byssus. These threads attach to hard surfaces with an adhesive secretion that anchors the mussels in place. Any firm surface can be colonized by Zebra mussels, including each other. Beds of mussels in areas have contained over 50,000 animals per square meter. Through this habit, water lines are susceptible to becoming clogged.

To date no toxic control has been found that is not deadly to other aquatic life. Diving ducks have been found to feed heavily on the mussel, consuming up to 90% of a population.

(continued page 20)

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(Zebra Mussels continued)

However, the prolific mussel breeds itself to staggering numbers when the ducks migrate. Some fish species feed on Zebra mussels. Unfortunately the predation on Zebra mussels is limited, proving little effectiveness in controlling the pest to satisfactory levels.

It seems that it is a matter of time before golf course irrigation ponds and systems fall prey to Zebra mussels. The vulnerability of each system is different, however prevention is the key.

The spread of the mussels occurs in many ways. Scuba divers from infested waters may carry Veligers inside their BC. Veligers can be transported easily in water used in live bait containers. Waterfowl may disperse Zebra mussels by carrying Veligers and or adults in their feathers. Contaminated boots, cages etc. may spread the organism. Veligers die upon drying, however, adults may live for days out of the water.

Zebra mussels look like small clams with a yellowish or brownish D shaped shell. Their name stems from the alternating dark and light bands of color that usually occurs on their shells. They are 2 inches in size or smaller. Normally they are found in clusters. If you find any or suspect an infestation, contact the Illinois Sea Grant Institute at 708/818-2901.



U. of I. Field Day Scheduled for July 14, 1994

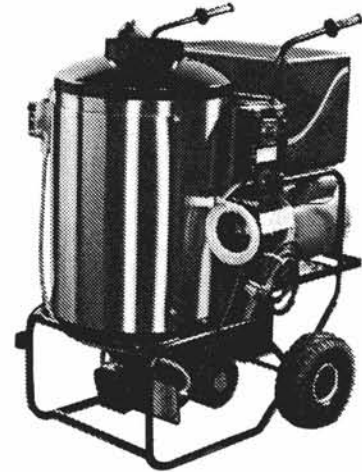
The 1994 University of Illinois Turfgrass, Nursery, Landscape, and Trial Garden Field Day has been scheduled for July 14, 1994. Field Day activities will begin at 8:00 a.m. and include viewing ongoing field research and demonstrations in the morning. The afternoon program will feature workshops and classes. This is an opportunity to visit the Landscape Horticulture Research Center, the Hartley Selections Garden, and see the new research and maintenance facility. Watch the mail for Field Day registration announcements.

The new research and maintenance facility at the University of Illinois' Landscape Horticulture Research Center is now in use. The new facility features a laboratory/classroom; employee areas including offices, rest rooms, and break facilities; equipment maintenance and welding shops; and storage areas for equipment and supplies. The new structure provides more than twice the space of the previous building that was destroyed in a 1991 fire.

For Field Day questions or information, contact Tom Voigt, University of Illinois Extension Turfgrass Specialist at 217/333-7847.

Supplied by: Tom Voigt, Extension Turfgrass Specialist, Department of Horticulture, S-410 Turner Hall, University of Illinois, 1102 South Goodwin Ave., Urbana, IL 61801.

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