

Alligatorweed a monster of a problem

Because it provides a vital link to the Albemarle Sound and Atlantic Ocean, the Scuppernong River in north-eastern North Carolina has long been an important artery for commercial and recreational fishermen, duck hunters and other boaters.

Alligatorweed infestations along the Scuppernong, however, have been so intense that a large portion of the river had to be closed several years ago, forcing boaters and fishermen to search for other navigable waterways.

Heavy aquatic weed growth also restricted water flow from tributaries and drainage canals feeding into the Scuppernong, raising the likelihood of the river overflowing onto farmland and residential property during storms.

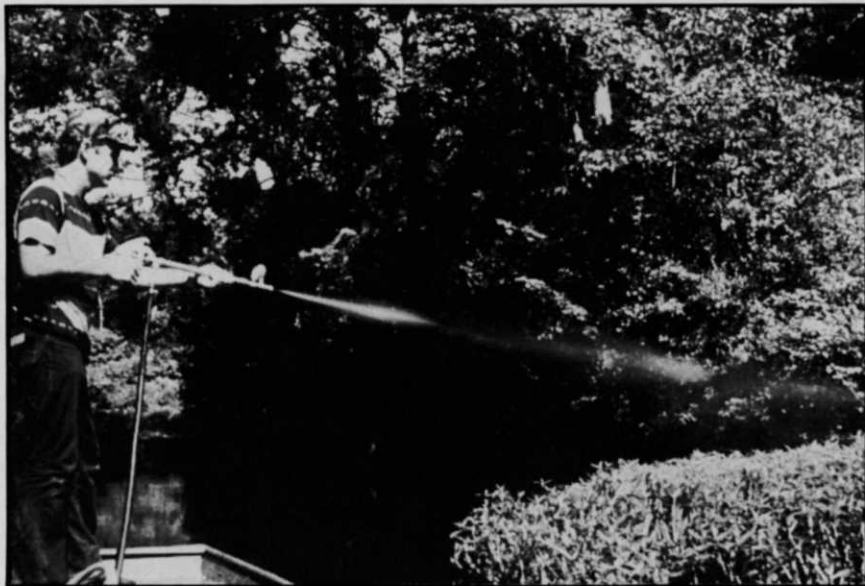
Like the Scuppernong, other major rivers, tributaries and canals in the coastal plains of North Carolina have been adversely affected by alligatorweed for many years. Only recently has a concerted effort begun to bring infestations to manageable levels, benefitting municipalities, farmers and residents.

"Alligatorweed is the most prevalent and economically most costly aquatic weed in North Carolina," says Dr. Ken Langeland, former assistant professor of crop science at North Carolina State University and current assistant professor at University of Florida. "It is a prolific warm-season perennial, with an extensive rhizome and stem system, and the ability to form thick floating vegetation mats. Those mats can impede navigation, reduce water quality and increase sedimentation rates. They also can cause major flooding in a short time, and that can really devastate crop production in the coastal plains."

Chemical control

Alligatorweed control with herbicides is not a new idea in North Carolina. The Army Corps of Engineers, Wilmington District, initiated an alligatorweed management program in canals and drainage ditchbanks during the 1960s that relied largely on silvex applications. By 1970, the program was abandoned, due both to environmental sensitivity and a general feeling that alligatorweed was no longer a significant problem.

In the intervening years, mechanical methods, including dredging and



Alligatorweed cluttered much of the Scuppernong River (top), cutting off an important link between the Albemarle Sound and the Atlantic Ocean in North Carolina. But within a few weeks of spraying Rodeo, an aquatic herbicide, much of the vegetation was gone and the river was opened for fishing and boating (bottom).

draglines, and biological controls were occasionally used to fight alligatorweed. These efforts were costly and time-consuming. But, as the experience in the Scuppernong River demonstrates, they did little to stem the weed's proliferation.

"As a result, by the early 1980s, alligatorweed infestations increased seven-fold over 1963 levels. The weed was spreading not only in canals and rivers, but also turning up in pri-

vately-owned ponds and ditches used for irrigation," Langeland recalls. "The extension office began receiving large numbers of requests from farmers and other residents for information on how to control alligatorweed."

In response, the North Carolina Department of Natural Resources and Community Development, in conjunction with the North Carolina Agricultural Extension Service, under

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the leadership of Dr. Langeland, developed a herbicide program to meet that objective in 1983.

The first roundup

The program was introduced in the Scuppernong River where the problem was particularly severe. From boats, crews armed with hand-held sprayers applied Rodeo herbicide, a broad spectrum, post-emergence aquatic weed killer. The initial treatment was made during alligatorweed blooming in the spring, and was applied at a rate of 1.25 percent solution plus surfactant.

"Just a few weeks after the initial application, a substantial amount of mats and plants had already been eliminated," Langeland says. "We made a second application later in the year to control regrowth, and by the following year, found very few alligatorweed mats remaining. We were, in fact, highly successful in obtaining control of alligatorweed."

Another key factor, Langeland says, is the environmental compatibility of Rodeo. Tests have shown that the herbicide biodegrades rapidly and is activated on soil particles and sediment, has no effect on fish, humans or other mammals, and does not bioaccumulate in the food chain. This makes it safe to apply to water bodies used for recreation and commercial enterprises.

The management program has successfully and economically restored the Scuppernong as a fishing and recreation center for area residents. "Without busting our budget, we were able to reopen several miles of the Scuppernong to public boating, and eliminate the need for routine draglining at river bridges," Langeland says.

"In addition, we averted a major flood potential since, otherwise, there is always a high risk that the river can overflow due to the presence of a substantial number of alligatorweed mats obstructing water flow."

This program to control alligatorweed has been so successful that plans call for similar programs in other areas. "We are already applying Rodeo to small creeks and canal tributaries in the region," Langeland notes. "Once it has been eliminated from these waterways, reinfestation can only occur through vegetative reintroduction."

The last roundup

"Our goal is to completely eliminate the weed, maintaining alligatorweed populations at the lowest level possible by spot-spraying periodically,"

says Langeland. "We'd also like to make farmers more aware of the consequences of alligatorweed on their cropland and in drainage canals, and help them develop their own maintenance programs," Langeland concludes. "Through our cooperative efforts, we can maintain alligatorweed below problem proportions in the entire coastal plains." **LM**

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MARKETING MANUVERS

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you should learn the best of the combination of Nos. 2 and 3 and use those salespeople who both see a large number of people and who are successful at closing the sale.

4. What is the retention rate for each individual salesperson? This is seldom done, but over a period of a season it will tell you which of your salespeople sold well and which oversold. If they oversold the customer, you will find a very low retention rate.

Those salespeople who were professional in explaining your services will have customers who remain with the company because the results will match their expectations. As with any type of management information, this list can grow considerably and be much more detailed.

The areas listed above are a starting framework. By gathering these types of marketing information you will have a much better understanding of your current customer base, who you should target in the future, and the internal efforts of your organization.

Your knowledge of these points will enable you to plan better and thus make your organization more competitive in the growing green industry marketplace. **LM**

EVENTS

APRIL

Texas Wildflower Day, April 24-25, Texas Women's University, Denton, Tex. Contact: Dr. Robert Collier, P.O. Box 22675-TWU Station, Denton, TX 76204; (817) 898-3326.

Turf & Landscape Institute, April 27-29, Anaheim Convention Center, Anaheim, Calif. Contact: Ed McNeill, 2492 E. Mountain St., Pasadena, CA 91104-3423; (818) 798-1715.

MAY

Mole Cricket Classic & Educational Seminar, May 4, Oak Mountain State Park, Birmingham, Ala. Contact: Judy Copeland, P.O. Box 70, Auburn, AL 36831-0070; (205) 887-6916.

Pest Control Workshop, May 7, Agricultural Center Auditorium, Sanford, Fla. Contact: Uday Yadav, University of Florida, extension service, Sanford, FL 32771; (305) 323-2500 ext. 182.

American Horticultural Society Annual Meeting, May 13-16, Omni Park Central Hotel, New York City, N.Y. Contact: Harriet Sweeney, AHS, P.O. Box 0105, Mt. Vernon, VA 22121; (703) 768-5700.

Western Chapter, International Society of Arboriculture Annual Conference, May 15-18, Santa Cruz Holiday Inn, Santa Cruz, Calif. Contact: Donald Blair, 1958 Latham St., Mountain View, CA 94040; (415) 967-4676.

North Carolina Turf & Landscape Field Day, NCSU Turf Field Center, Raleigh, N.C. Contact: J.M. Dipaola, Box 7620, North Carolina State University, Raleigh, NC 27695-7620; (919) 737-2657.

Hands-On Equipment Expo, May 15-16, Alameda County Fairgrounds, Pleasanton, Calif. Contact: Jim Kwiat, Sequoia Landscape Specialties, 236 Sequoia Ave., Walnut Creek, CA 94595. (415) 937-7973.

To ensure that your event is included, please forward it, at least 90 days in advance, to: Landscape Management Events, 7500 Old Oak Boulevard, Cleveland, OH 44130.