GRASS CARP FOR AQUATIC WEED CONTROL

Grass carp or white amur is a member of the minnow family native to Asia. They feed almost exclusively on aquatic plants. Their short digestive tract requires grass carp to feed almost continuously when water temperatures are above 68ºF, which means they can eat two to three times their body weight each day. This makes them an excellent biological control of certain nuisance aquatic plants.

Grass carp are capable of fast growth and may gain 5 to 10 pounds per year, reaching their final size of 20 to 30 pounds within a few years, and can live for 10 to 15 years. Unfortunately, when they reach maturity, their rate of weed consumption declines, and restocking of additional fish is required every three to five years.

Grass carp have definite preferences on the type of vegetation they consume. They prefer tender, succulent vegetation that is underwater. They are best suited for submerged vegetation and will not generally control tough, fibrous plants that grow up out of the water. The extent that they are able to control a particular weed depends on many factors, including their feeding preferences, the density of aquatic plants, water temperature and the number and size of grass carp stocked. As more preferred food becomes scarce, grass carp will eat less preferred types of vegetation. Even the water chemistry can affect weed palatability. If you feed your fish floating fish food, grass carp will consume it as well as aquatic plants.

Grass carp are readily available in Arkansas, and the "Sport Fish Supplier List" provides a listing of the fish farms that sell grass carp. This publication is available at the county office or online at http://www.uaex.edu/wneal/Pond_Management/pdf/Sport-Fish-Supplier-List-2008.pdf. Unlike many states, Arkansas permits the stocking of either diploid (normal) or triploid (sterile) grass carp in ponds and lakes. Because grass carp require flowing water to reproduce, stocking fertile grass carp in your pond will not result in more grass carp. New ponds can be stocked with 2- to 6-inch grass carp, but if largemouth bass are present, the grass carp stocked should be 8 to 10 inches in length. The stocking rates can vary, depending on the amount of weeds. A standard recommendation is 5 to 10 per acre, but if the pond has plant coverage of greater than 50 percent, a stocking rate of 20 or more per acre may be required.

As a biological control agent, they will not provide immediate results. Typically, it will take one to two years before a plant problem is brought under control, assuming the offending plant is one that grass carp will readily consume. If the pond/lake owner wants quicker results, applying an aquatic herbicide followed by stocking grass carp may be the best solution. Stocking should take place after much of the dead plant material has had a chance to decompose (two to three weeks).

Grass carp are natural inhabitants of rivers and readily escape ponds that overflow. Barriers on spillways are a good idea to prevent fish losses. Ponds with grass carp often develop a green or yellow color as grass carp promote greater phytoplankton growth in the water by releasing nutrients from the plants they eat.

After the grass carp reach maturity, the pond/lake owner may want to remove them. These large carp can be removed by snagging, bow fishing, spearing or angling. Their habit of hanging near the surface make can make bow fishing especially simple. Because of their jumping ability, seining is often not effective. Their flesh is white, firm and not oily, but the muscle mass contains "Y" bones that can make cleaning more difficult. Their flesh is considered a delicacy be many seafood enthusiasts

For more information, ask you county Extension agent for Southern Regional Aquaculture Center (SRAC) Fact Sheet #3600, *Using Grass Carp in Aquaculture and Private Impoundments*, or download it from http://srac.tamu.edu/fulllist.cfm.

AQUATIC DYES

Aquatic dyes are made from an EPA registered nontoxic blue dye that control unwanted filamentous algae and submersed plants in natural and man-made lakes and ponds. They do not kill plants; they prevent growth by blocking light penetration, which reduces photosynthesis. They are less effective when plant growth is near the surface (2 ft or less). These should only be applied to water bodies entirely within the control of the applicator, and only those with little or not outflow. This leads to wasted product. There effects typically last for up to 6 weeks.

Apply in the early spring before weed growth begins or apply when weeds may be seen on the bottom of the pond. When applied to ice, it will melt a hole and disperse underneath. Additional applications will be necessary through the year to maintain an acceptable level of dye in the water. These dyes may be used at any time of the year.

Do not apply to water that will be used for human consumption. Water may be used for swimming after complete dispersal of the dye in water. Dye is nontoxic to livestock.

Various formulations are AquaShade, Admiral Liquid and WSP, SePro Blue, and Lake Colorant Liquid and WSP, though this list is undoubtedly not complete. For the formulations that are liquids, the rate is typically 1 ppm, or one gallon/acre*ft. For hydrilla, the rate should be doubled, due to its ability to grow at very low light levels. See label for rates.