

## Pond Facts #17

# Curly Leaf Pondweed

### Description

- One of more than 20 pondweed species (*Potamogetons*) that occur in Pennsylvania, this invasive plant from Europe frequently grows to nuisance levels in ponds.
- Has a very distinctive appearance with crinkled leaves that alternate along the stem. Edges of leaves are also finely toothed.
- Common in ponds with hard, nutrient-rich water.
- Tolerant of low-light conditions; often found in deeper water than many other aquatic plants.
- Plant dies in July and seeds drop to bottom sediment.
- Seeds germinate in fall, producing plants with winter foliage that remain green throughout the winter.
- In spring, long flower spikes often stick up above the water surface. As the pond water warms in the spring, the classic, wavy-leaved summer plants begin to grow until they die in July.



### Value and Concern to the Pond

- Curly leaf pondweed provides value to the pond because it grows through the winter and spring when most plants are absent from the pond. Thus, it provides a source of food and habitat during these times.
- This invasive plant tends to crowd out native submerged plant species and can grow to nuisance levels.

### Prevention

- Overabundant growth is a symptom of excessive nutrients (phosphorus and nitrogen) in the pond water. These nutrients may come from barnyards, crop fields, septic systems, lawns, and golf courses.
- Control of overabundant aquatic plants is best accomplished by reducing or redirecting nutrient sources from the pond by reducing fertilizer applications near the pond, maintaining septic systems properly, redirecting nutrient rich runoff away from the pond, and maintaining vegetative buffer strips around your pond.
- If you fail to address the underlying nutrient causes of aquatic plant growth, you will probably encounter a perpetual need to control overabundant plant growth.

### Physical Control

- Can be removed by raking or cutting, especially in the spring before seeds appear above the water.
- Plants removed from the pond should be disposed of away from the pond edge so that wind or runoff cannot transport the plants or seeds back into the pond. Physical control can be very effective on small ponds and is especially attractive because it also removes the nutrients.

### Biological Controls

- Grass carp can be used to control curly leaf pondweed since it is one of their preferred foods.
- Grass carp must be purchased from an approved hatchery after receiving a state permit.
- Consult the grass carp fact sheet available from your local Pa. Fish and Boat Commission office or online at <http://water.cas.psu.edu/ponds.htm>.

## Chemical Controls

The table below lists common herbicides that are effective in controlling curly leaf pondweed. When used appropriately and by following the label instructions, they can be safe and effective management tools.

Herbicide	Active Ingredient	Dosage Rate	Notes
Aquathol-K	Dipotassium salt of endothall 40.3%	0.6 to 1.9 gal/acre-ft	Toxic to trout; some water use restrictions
Reward	Diquat dibromide 35.3%	1 to 2 gal/acre	Low fish toxicity; short irrigation water use restriction
Weedtrine-D	Diquat dibromide 8.53%	5 to 10 gal/acre	Low fish toxicity; some water use restrictions
Sonar SRP	Fluridone 5%	3.2 to 5 lbs/acre-ft	Use only with little or no overflow; split treatments work best.
Sonar A.S.	Fluridone 41.7%	<5 ft deep: 0.16 to 1.25 qt/acre >5 ft deep: 1.0 to 1.5 qt/acre	Use only with little or no overflow from pond; split treatments work best
Komeen	Copper, elemental 8%	1.7 to 3.3 gal/acre-ft	Toxic to trout and other sensitive fish
Hydrothol 191	Monopotassium salt of endothall 53%	0.7 to 3.4 gal/acre-ft	High fish toxicity; 7- to 14-day water use restriction

Here are some tips to properly using an aquatic herbicide to control curly leaf pondweed:

- Keep in mind that chemical control is often necessary every year or even multiple times during a year.
- Make sure that you positively identify the plant in your pond as curly leaf pondweed before proceeding.
- Carefully measure the pond area and/or volume to determine the amount of herbicide needed. Consult the fact sheet titled *Pond Facts 4: Measuring Pond Area and Volume* for more information.
- Before applying a herbicide to your pond, you must submit a completed two-page application form titled *Application for Use of an Algaecide, Herbicide, or Fish Control Chemical in Waters of the Commonwealth* to the Pa. Fish and Boat Commission (PFBC) to obtain a permit. The permit application can be obtained from your local PFBC office, extension office, or online at <http://water.cas.psu.edu/ponds.htm>.
- Aquatic herbicides can be purchased from some home and farm supply stores, hardware stores, or various online suppliers. Costs can range from less than \$100 to more than \$1,000 to treat a one-acre pond.
- **Follow the herbicide label carefully** for specific instructions on when and how to apply the chemical.
- Herbicide treatments should be done early in the growing season before the plants cover a large portion of the pond. Treatment of severe infestations may cause a fish kill due to reduced dissolved oxygen.

## Additional Resources

For further information and publications on pond management, visit our Web page at <http://water.cas.psu.edu/ponds.htm> or contact your local cooperative extension office.



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Penn State College of Agricultural Sciences research, extension, and resident education programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

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