

Introduction

***Clipper* is a fast-acting, contact aquatic herbicide that controls selected submerged and floating aquatic plants.**

Clipper delivers:

- Rapid and selective control of invasive and nuisance plants, like cabomba, watermeal, duckweed, watermilfoil, water lettuce, giant salvinia, pondweeds and more
- Dissipates quickly from the water column = minimal irrigation restrictions
- Reduced personal protective equipment (PPE) requirements = ease of application and handling

NOTE: Applications of *Clipper* may require special approval and/or permits. Consult with local state agencies if required

Active Ingredient: Flumioxazin

***Clipper* is a Group 14 Herbicide (HRAC)**

GROUP	14	HERBICIDE
--------------	-----------	------------------

- **Class of chemistry:** Protoporphyrinogen oxidase (PPO) inhibitor
- **Mode of action:** Initiates cell membrane disruption

Clipper dissipates quickly from the water column and does not accumulate in sediment. Irrigation of turf and ornamentals can resume 24 hours after treatment when applied at 1 lb of *Clipper* per acre foot of water.

Aquatic Vegetation Controlled

***Clipper* effectively manages undesirable floating and submerged aquatic vegetation.**

Clipper controls:

- **watermeal**
- **duckweed**
- **cabomba/fanwort**
- **Eurasian watermilfoil**
- **hydrilla**
- alligatorweed
- frogs-bit
- water fern
- water lettuce
- water pennywort
- filamentous algae
- pondweed
- coontail
- curlyleaf pondweed
- variable-leaf watermilfoil



Watermeal



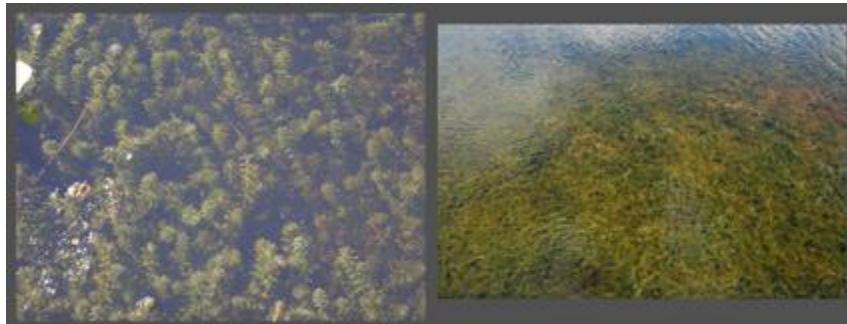
Duckweed



Cabomba/Fanwort



Eurasian Watermilfoil



Hydrilla

Product Performance

Clipper covers both golf lakes & ponds and traditional aquatic waterways.

The following photos show the effect of *Clipper* on watermeal 14 days after treatment. *Clipper* was applied at 200 ppb.



The following photos show the effects of *Clipper* on curlyleaf pondweed (submerged) and filamentous algae (floating) in a pond in Northwest Connecticut. *Clipper* was applied at 200 ppb.



In these photos, *Clipper* was applied at 200 ppb as a submersed treatment for cabomba in this shallow canal.



How *Clipper* Works

***Clipper* provides fast and selective control of undesirable, invasive and nuisance aquatic vegetation.**

- *Clipper* is activated by sunlight resulting in cell membrane disruption
- The greater percentage of leaf area covered with *Clipper* increases control

- *Clipper* is not translocated
- Key aspects for obtaining optimal performance with *Clipper*:
 - Plant size - apply when plants are small and actively growing
 - Plant density - apply before plants are dense and the foliage is packed together
 - Product coverage - obtain the best coverage possible
 - Ideal conditions include an application in the morning of a bright sunny day

Application Information

Always read and follow label instructions

- **Rate:** 1 lb of product per acre foot = 200 ppb
- **Timing:** *Clipper* is a contact herbicide that quickly degrades in water and should contact undesirable vegetation within 2 hours following an application
- **Additive:** Add a surfactant when targeting floating aquatic plants
- **Equipment:**
 - Apply *Clipper* with sprayers equipped with a nozzle designed to deliver the desired spray pressure and spray volume
 - Apply by backpack or handgun sprayer, airboat, helicopter, airplane or other application equipment that will ensure thorough coverage of target plant foliage
- When applied according to label instructions, there are no restrictions for swimming, drinking or fishing

Use Restrictions and Precautions

- Do not apply to intertidal or estuarine areas
- There is no post-application holding restriction against use of treated water for drinking or for recreational purposes such as swimming or fishing
- In areas with dense vegetation, treat only half the water body at one time and wait 10 to 14 days before treating the remaining area; do not re-treat the same section of water within 28 days of application
- Do not re-treat the same section of water with *Clipper* more than 6 times per year
- Do not exceed 400 ppb of *Clipper* during any one application

Irrigation Restrictions

Clipper dissipates quickly from the water column, so it has minimal irrigation restrictions.

<i>Clipper</i> Application	Application Rate	Water Depth	Turf and Landscape Ornamentals	Greenhouse, Nursery and Production Ornamentals
-------------------------------	---------------------	----------------	--------------------------------------	---

Application to control floating and submerged plants	200 ppb = 1 pound of <i>Clipper</i> per acre foot deep of water	When calculating use rate, use an average water depth	Wait 1 day following application to use water for irrigation	Wait 5 days following application to use water for irrigation
--	---	---	--	---

Always read and follow label instructions.

Tank Mixes

Clipper may be tank mixed with 2,4-D, diquat, glyphosate or other registered aquatic herbicides for enhanced control of floating and submerged plants.

Consult manufacturers' labels for specific restrictions, use instructions and plants controlled. Always follow the most restrictive label restrictions and precautions for all products used when making an application involving tank mixes.

The Case for *Clipper*

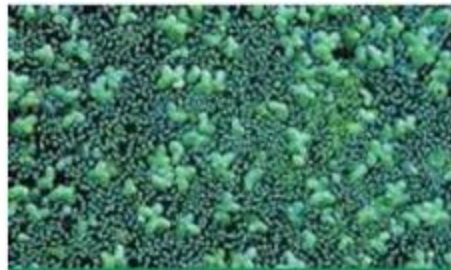
Clipper controls key plants in both golf and traditional aquatics. It's tough. It's fast. And, it's gone.



Watermeal



Duckweed



Both Plants

