

Introduction to Aquatic Herbicides



Stormwater IPM Sub-Committee

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HERBICIDES



For Aquatic Plants

State Approved Active Ingredients

- | | |
|------------------|---------------------|
| ◦ Bispyribac | ◦ Hydrogen Peroxide |
| ◦ Carfentrazone | ◦ Imazamox |
| ◦ Copper | ◦ Imazapyr |
| ◦ Diquat | ◦ Penoxsulam |
| ◦ Endothall | ◦ Sethoxydim |
| ◦ Florpyrauxifen | ◦ Topramezone |
| ◦ Flumioxazin | ◦ Triclopyr |
| ◦ Fluridone | ◦ 2,4-D |
| ◦ Glyphosate | |

There are **17** herbicide active ingredients (chemical compounds) approved for use in Florida waters. These active ingredients may be formulated and sold under various trade names. There are more than **100** different registered trade names currently in use in Florida.

Method of Application

Herbicides may be applied directly to the plant, directly to the water, or to the plant and water at the same time; this is dependent on:



- Plant species
- Location
- Time of Year
- Weather
- Water-Oxygen Levels
- Numerous Other Variables

Environmental conditions may dictate that certain herbicides are not permissible. It is up to the LICENSED APPLICATOR to follow the herbicide use label exactly.

THE LABEL IS THE LAW!

EPA Registration

Pesticide that has been researched and approved by the EPA for uses that are specified on the label and labeling. The Label will include:



- EPA Registration #
- Site which may be treated (flowing, canals, reservoirs)
- How to apply
- Application rates for specific plants and environmental situations
- Herbicide's possible hazards
- Specific first aid

Separately, the Safety Data Sheets (SDS) contain specific technical information that is useful in the event of a spill or an accident.

Herbicide Terminology

- **Contact Herbicide:** causes injury to plant tissue where contact occurs, controls plants relatively quickly
- **Systemic Herbicide:** absorbed into the plant through the leaves, stems, or roots and is translocated throughout the plant to kill it from the inside, controls plants less quickly than contact herbicides
- **Selectivity:** the ability of an herbicide to kill certain types of plants without significant injury to non-target species.
 - **selective** (narrow-spectrum) or
 - **non-selective** (broad spectrum)Selectivity can be influenced by application rate, time, method of application, environmental conditions, and stage of plant growth

Other Considerations

- **Mechanism of Action (MOA):** the biological processes that are disrupted by the herbicide
- **Weed Science Society of America (WSSA) Grouping:** A resistance management grouping that describes the possibility of a plant population developing resistance after repeated use



To prevent/mitigate herbicide resistance, it is advised to rotate or combine herbicide MOAs to reduce the selective pressure applied by any one product.