



Characteristics and Modes of Action of Aquatic Herbicides

David C. Blodget, SePRO Corporation, daveb@sepro.com

Herbicides are an effective part of integrated plant management programs. The United States Department of Environmental Protection, Office of Pesticide Programs has approved registration of approximately 300 herbicides for use sites such as agriculture, rights of way and aquatics. Today, there are 10 herbicide active ingredients currently approved for aquatic use in California. Utilization of herbicides for the control of nuisance and invasive plants in and around water can be challenging. Baseline knowledge of herbicide characteristics and mode of action is essential when evaluating the use of herbicides as part of any plant management program. This presentation will highlight and discuss common herbicide classification categories, best management practices, and how they influence aquatic herbicide selection. In addition, how characteristics of water dynamics, concentration exposure requirements and application technique should be integrated in operational aquatic plant treatment program design and implementation.

Aquatic Herbicides	Herbicide Characteristics	Herbicide Characteristics
<ul style="list-style-type: none">Only 10 active ingredients are approved by CDPR and State Water Resources Control Board for use to control weeds in and around water <ol style="list-style-type: none">2,4-D (Sculpin)Acrolein (Magnacide H)Diquat (Reward)Copper (Nautique)Endothall (Aquathol)Fluridone (Sonar)Glyphosate (AquaPro)Imazapyr (Habitat)Penoxsulam (Galleon)Triclopyr (Renovate)Imazamox (Clearcast) <i>Pending in CA</i>	<p>Contact Herbicide</p> <ul style="list-style-type: none">herbicide that causes localized injury or death to plant tissues where it touches the plantplants typically re-grow same season <ul style="list-style-type: none">acroleindiquatcopperendothall 	<p>Systemic Herbicides</p> <ul style="list-style-type: none">herbicide that is absorbed through the root or leaf tissue of a plant and translocated within the plant; capable of killing the entire plant systemtreatments result in annual or multiple years of control (pending timing, concentration exposure, species, etc.) <ul style="list-style-type: none">2,4-DglyphosateImazapyrpenoxsulamtriclopyrimazamox (pending in CA) 

References

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- Weed Technology Volume 12, Issue 4 (October-December)*. 1998. p.789.