

The New Tools for Aquatic Plant Management

Gary J. Burtle

Animal & Dairy Science

The University of Georgia – Tifton Campus



Control of Aquatic Plants

- ❑ Copper – algae
 - ❑ Diquat – contact herbicide
 - ❑ Glyphosate (Rodeo) – grasses, shoreline
 - ❑ Endothal – contact herbicide
 - ❑ Floridone (Sonar) – residual herbicide
 - ❑ 2,4-D – growth regulator
 - ❑ Triclopyr – brush
 - ❑ Imazapyr – floating, emergent weeds
 - ❑ Carfentrazone – floating weeds
 - ❑ Dichlobenil – pre-emergent, not for food fish
 - ❑ Aquashade - dye
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Controlling Invasive Plants

- Label extensions to aquatic plants prompted quicker approval of proven chemicals
 - Triclopyr
 - Imazapyr
 - Carfentrazone
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Trichlopyr

- ❑ Systemic
- ❑ Used primarily for weeds and brush along the pond edge
- ❑ Production forests and industrial non- crop areas
- ❑ Avoid overspray of pond water if possible
- ❑ Renovate 3, Garlon 3A, Garlon 4, and Pathfinder II are some of the products



Triclopyr Mode of Action

- ❑ Synthetic auxin – carboxilic acid
- ❑ Causes rapid growth
- ❑ Half life is less than one day in water
- ❑ 0.5 gal/are or 1.5 to 6 lb/acre



Best to control these plants

- ☐ Emergent or ditchbank plants
 - ☐ Water lily
 - ☐ Water shield
 - ☐ Purple loosestrife
 - ☐ Woody plants (willow)
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Precautions for Triclopyr

- ❑ No irrigation for 120 days
 - ❑ Hold dairy out till next growing season
 - ❑ No fish consumption or swimming restrictions
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Imazapyr

- Systemic
 - Broad leaf and brush
 - Floating leaf aquatic weeds
 - Not in irrigation ponds
 - Habitat, Arsenal (shoreline only)
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Imazapyr Mode of Action

- Interferes with amino acid metabolism
 - Gradually starves the plant
 - Active in small quantities
 - 1-2 pints per acre foot or surface acre
 - Applied in 100 gallons per acre = 0.125% solution
 - Takes several weeks to act
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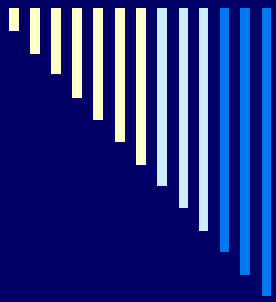
Best to control these plants

- Floating weeds
 - Ditchbank and emergent weeds
 - Spartina (smooth cordgrass)
 - Parrotfeather
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Efficacy

Treatment	Rate	% Control
Imazapyr	6 pt/A	86.8-90.3
Glyphosate	20 qt/A	80-81
Imazapyr: Glyphosate	3 pt: 6 pt/A	74.6
Control		0



Precautions when using Imazapyr

- ❑ Irrigation restricted for 120 days
- ❑ No restrictions on swimming, fish consumption, or animal watering



Carfentrazone

- Systemic
 - 40 to 60 g of product/ ha (0.56 oz/A)
 - Half life of 6 to 9 hours in water
 - Rainbow trout toxicity – ~1.1 ppm
 - Bluegill toxicity = ~1.5 ppm
 - Mysid shrimp toxicity = ~1.17 ppm
 - Has algicidal activity
 - Knockdown in 1 to 4 days
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Carfentrazone mode of action

- Aryl triazolinone
 - Membrane disruption by inhibition of protoporphyrinogen oxidase
 - Apply to small, active growing weeds
 - Contact must be achieved for effectiveness
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Best to control these plants

- ☐ Duckweed and watermeal
 - ☐ Water lettuce
 - ☐ Water hyacinth
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Precautions for Carfentrazone

- ❑ Not approved for aerial application
 - ❑ Surfactants make non-target plant damage more likely
 - ❑ Restrict irrigation for 1-14 days depending on crop
 - ❑ Restrict animal watering for 1 day
 - ❑ No swimming or fishing restriction
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