

# Herbicides and difficult weeds

Kim Patten

## **The enemy**

- **Yellow Loosestrife**
- **Aster**
- **Horsetail**
- **Sheep Sorrel**
- **Lotus**
- **Clover**
- **Buttercup**
- **Silverleaf**
- **False Lily-of-the-Valley**
- **Morning Glory**
- **Perennial grasses**
- **Vetch**
- **Annual grasses**
- **Moss**
- **Arrowgrass**

# The tools of wars

## Prevention

- Start clean & keep clean
- Prevent seeding

## Control/Management

- Focus on most damaging species
- Don't kill the bog just to get the weed
- Right herbicide choice, rate and timing

## Prevent seed production

Species	Seeds/plant	Longevity (Years)
Barn yard grass	7,000	3 - 5 years
Silverleaf	4,000/m <sup>2</sup>	4 years
Lotus	10,000	20 to 60 years Up to 1000 years in peat beds

## Herbicides in the toolkit

WA/OR*	BC
Callisto	Callisto
Casoron	Casoron
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)
glyphosate	glyphosate
Stinger	Lontrel
2,4-D amine	2,4-D amine
2,4-D G	
Evital	
Pravin	
Curio	
Quinstar	
Poast	Poast
Select /Intensity	Select (Centurion)
	Ventura
Vinegar	Vinegar
Sulfentrazone (numerous WA/OR labels for CB)	

\* Go to PICOL website for pesticides registered on CB in WA/OR

# Herbicides for problem weeds

- Herbicide efficacy by weed species matrix
- Comments on select controls
- Suggested product(s) and treatment recommendations
- Possible alternative treatments (less confident about efficacy)

## Control options- Yellow Loosestrife

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	Suppression (height)	
Casoron	Casoron	Suppression only	Reduced competitiveness
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	No	
glyphosate	glyphosate	OK, but difficult to accomplish.	Not wipeable if Casoron was used
Stinger	Lontrel	No	
2,4-D amine	2,4-D amine	No	
2,4-D G		No	
Evital		No	
<b>Pruvin</b>		<b>50 to 80%</b>	<b>Combine with Callisto to improve efficacy</b>
Curio		Suppression	Combine with Callisto to improve efficacy
<b>Quinstar</b>		<b>Excellent</b>	<b>MRL issues – confer with handler</b>

## Control options -Aster

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	Good to Excellent	Timing important, don't apply too early
Casoron	Casoron	Suppression	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	Suppression	
glyphosate	glyphosate	Good	
Stinger	Lontrel	No	
2,4-D amine	2,4-D amine	No	
2,4-D G		No	
Evital		?	
Pruvin		?	
Curio		?	
Quinstar		?	



## Control options- Horsetail

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	no	
<b>Casoron</b>	<b>Casoron</b>	<b>Excellent annual control</b>	<b>Rate and timing should be based on soil type</b>
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	No	
glyphosate	glyphosate	Good knockdown with wiping	Timing important, maybe Silicon adjuvant helps
Stinger	Lontrel	No	
2,4-D amine	2,4-D amine	No	
2,4-D G		No	
Evital		?	
Pruvin		?	
Curio		?	
Quinstar		Some suppression	Partially effective is treated early

## Control options – sheep sorrel

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	no	
Casoron	Casoron	Suppression	Can slow spread
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	no	
glyphosate	glyphosate	no	
Stinger	Lontrel	Partial to good control	Timing (dormant and post-set) is important to prevent crop damage combine w/ Casoron to prevent new seedlings
2,4-D amine	2,4-D amine	No	
2,4-D G		No	
Evital		No	
Pruvin		No	
Curio		No	
Quinstar		no	

## Control options - Lotus

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	Moderate	Not adequate by itself, must treat early
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	Good	High rates, spot treat overwintering planting and surrounding areas, With continued use efficacy declines
glyphosate	glyphosate	no	
Stinger	Lontrel	Partial to good control	Timing (dormant and post-set) important to prevent crop damage
2,4-D amine	2,4-D amine	No	
2,4-D G		No	
Evital		No	
Pruvin		No	
Curio		No	
Quinstar		no	

## Control options- buttercup

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	minor	Will suppress new seedlings
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	Suppression	Comb w/ Callisto to improve control. Good for seeding control
glyphosate	glyphosate	no	
Stinger	Lontrel	no	
2,4-D amine	2,4-D amine	No	
2,4-D G		No	
Evital		No	
<b>Pravin</b>		<b>Excellent</b>	<b>Best before bud elongation</b>
<b>Curio</b>		<b>Excellent</b>	<b>Best before bud elongation</b>
Quinstar		no	

## Control options -silverleaf

WA/OR	BC	Herbicide efficacy	Comments
<b>Callisto</b>	<b>Callisto</b>	<b>Good</b>	<b>Timing important, treat in May and repeat on regrowth, takes 2 yrs</b>
Casoron	Casoron	suppression	Can slow spread
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	suppression	Can slow spread
glyphosate	glyphosate	no	
Stinger	Lontrel	no	
2,4-D amine	2,4-D amine	No	
2,4-D G		suppression	
Evital		No	
<b>Pruvin</b>		<b>Moderate to good</b>	<b>Treat early post-emergent, Efficacy data is from 1993/94. Should be verified.</b>
Curio		No	
Quinstar		no	

## Control options- Arrowgrass

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	no	
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	no	
glyphosate	glyphosate	no	
Stinger	Lontrel	no	
2,4-D amine	2,4-D amine	No	
2,4-D G		suppression	Timing is important, multiple applications needed
Evital		No	
<b>Pruvin</b>		<b>Moderate to good</b>	<b>Timing is critical, immediate after-harvest. Must have green foliage (before hard frost)</b>
Curio		No	
Quinstar		no	

## Control options – Morning Glory

WA/OR	Mo	Herbicide efficacy	Comments
Callisto	Callisto	Suppression?	
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	no	
glyphosate	glyphosate	no	
Stinger	Lontrel	no	
2,4-D amine	2,4-D amine	No	
2,4-D G		no	
Evital		No	
Pruvin		good	Based on label, no CB data
Curio		No	
<b>Quinstar</b>		<b>Good</b>	<b>Pre- and Post-emergent</b>

## Control options - Vetch

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	Suppression	
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	Yes, but	Late germinating seedlings escape
glyphosate	glyphosate	no	
Stinger	Lontrel	Yes, but	Timing to prevent crop damage is difficult
2,4-D amine	2,4-D amine	No	
2,4-D G		no	
Evital		No	
Pruvin		no	
Curio		No	
Quinstar		maybe	No data, but label suggests might have efficacy as pre-emergent treatment



## Control options – Barnyard Grass

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	no	
Casoron	Casoron	Slight	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	Yes, but	Won't be effective on mid-to late summer germinating seedling
Pruvin		yes	? Not sure of duration of pre-emergent control
Curio		no	
Quinstar		Yes	? Not sure of duration of pre-emergent control
Poast	Poast	Yes	
Select /Intensity	Select /Intensity	Yes	Chemigation* early post-emergent, repeat if required
	Ventura	yes	

\* Chemigation no on label in BC

## Control options - Brambles

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	Yes, but	Multiple application/year for several years
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	no	
glyphosate	glyphosate	Yes, but	Crop damage is common
Stinger	Lontrel	no	
2,4-D amine	2,4-D amine	No	
2,4-D G		no	
Evital		No	
Pruvin		no	
Curio		No	
Quinstar		no	

## Control options – Perennial grasses

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	minor	Efficacy mainly limited to annual species
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	Yes	Good pre-emergent control
glyphosate	glyphosate	Yes, but	Crop damage is common
<b>Pravin</b>		<b>yes</b>	<b>Excellent on tough species like Reed Canary Grass</b>
Curio		no	
Quinstar		no	
<b>Poast</b>	<b>Poast</b>	<b>Yes</b>	<b>Post-emergent (broadcast) combination with Select improves efficacy on tough to control species</b>
<b>Select /Intensity</b>	<b>Select /Intensity</b>	<b>Yes</b>	<b>Chemigation will suppress many species, but permanent control is tough. Multiple application required</b>
	<b>Ventura</b>	<b>yes</b>	

## Control options – False lily-of-the-Valley

WA/OR	BC	Herbicide efficacy	Comments
Callisto	Callisto	no	
Casoron	Casoron	no	
Devrinol (10-G, 2-XT, DF-XT)	Devrinol (10-G, 2-XT, DF-XT)	no	
glyphosate	glyphosate	no	
Stinger	Lontrel	no	
2,4-D amine	2,4-D amine	No	
2,4-D G		no	
Evital		No	
Pruvin		no	
Curio		No	
Quinstar		no	
<b>Vinegar</b>	<b>Vinegar</b>	<b>partial</b>	High rates as soil drench in dormant season

## Control options – Moss

WA/OR	BC	Herbicide efficacy	Comments
Iron sulfate		suppression	Only legal as soil amendment not herbicide. Crop damage if applied after Feb/March. application
Vinegar	Vinegar	suppression	Dormant season spray OK for burn down, but regrowth common
<b>Sulfentrazone (numerous WA/OR labels for CB)</b>		<b>Good burndown</b>	Dormant season window only, crop damage after Feb/Mid-March. Check with PICOL website for labelled products on CB in OR/WA

## Herbicide combinations (tank mixtures) often used

- Devrinol XT + Stinger – dormant season Lotus
- Callisto + Quinstar – mixed perennials
- Callisto + Pruvlin or Curio – mixed perennial (not during bud elongation or bloom)
- Quinstar + Pruvlin or Curio – mixed perennials (not during bud elongation or bloom)
- Poast + Select – mixed perennial grasses

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