Great Lakes PHRAGMITES COLLABORATIVE

Phragmites Treatment Herbicide Quick Guide

Please Note: This document has been developed for interpretive purposes. It is not meant to override the instructions provided on each individual herbicide label. The label is the law; follow all label instructions. This sheet provides information about concentrations by **volume** of packaged product NOT by **active ingredient (a.i.).** When working over or near water, it is important to use herbicide and surfactant **formulations approved for aquatic uses**. Terrestrial (overland) formulas, such as Roundup, contain ingredients that are dangerous to aquatic species. Use of terrestrial herbicides or surfactants on wet sites violates state and federal laws. **Many states require a permit** to use herbicide over or near water. Check with your local authorities to determine permitting requirements. **Habitat Aqua is the only herbicide approved for over-water use in Canadian provinces**; refer to its label for specific application rates and use restrictions.

Herbicide		Imazapyr	Glyphosate	Imazapyr & Glyphosate Combination	Imazamox	Surfactant (nonionic)
Trade Names		Habitat (28.7% a.i.) Arsenal (27.8% a.i.) Nufarm Polaris (27.7% a.i.)	Rodeo (53.8% a.i.) AquaNeat (53.8% a.i.) Aquamaster (53.8% a.i.) Accord (53.8% a.i.)		Clearcast (12.1% a.i.)	Cygnet Plus Cide-Kick
Treatment Timing		Apply to actively growing green foliage after full leaf elongation and up to first killing frost (~ June-Oct)	Apply after plants are in full bloom in late summer up to the first killing frost (late-Aug – Oct)	Apply after plants are in full bloom in late summer up to the first killing frost (late-Aug – Oct)	Apply to actively growing green foliage after full leaf elongation and up to first killing frost (~ June-Oct)	
		If the stand has a substantial amount of old stem tissue, mow or burn prior to spray; allow to re-grow to approx. 5' before treatment (>6 weeks)				
Herbicide Rate (% solutions are by volume of packaged product)	High Volume (aerial, boom spray)	4-6 pints/acre	4-6 pints/acre	3 pints imazapyr + 3 pints glyphosate/acre	4 pints/acre (use with 2 pints/acre methylated seed oil (MSO) instead of other surfactants)	1-4 pints/acre
	Low Volume Spray (backpack)	1-1.5% solution	0.75-2% solution	1.5% solution total (0.75% ea. for imazapyr and glyphosate)	1-2% (use with methylated seed oil (MSO) at 0.5-1% instead of other surfactants)	0.25-0.5% solution
	Hand Swiping, Wick, or Boom Wick	10% cover at least 50% of the foliage, best results from covering top half of plant	10% cover at least 50% of the foliage, best results from covering top half of plant	10% cover at least 50% of the foliage, best results from covering top half of plant		0.25-0.5% solution
	Stem injection or cut stem (squeeze bottle/ sponge applicator)		33% solution			0.25-0.5% solution
Pros:		Allows treatment earlier in the growing season	More appropriate if working in sensitive areas or areas near woody species	Reduced cost from imazapyr alone	More appropriate if working in areas near woody species	Use of surfactant is necessary to achieve the labeled results for the herbicides
Cons:		Greater danger of non-target damage and active residuals in the soil; expensive	Treatment window is smaller	Greater danger of non-target damage and active residuals in the soil; treatment window is smaller		
Mandatory setback distance to potable water-intakes		0.5 mile (0.8 kilometer)	0.5 mile (0.8 kilometer)	0.5 mile (0.8 kilometer)	0.25 mile (0.4 kilometer)	

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Amount of Herbicide Needed for Common Percent Solutions

Total amount of spray solution being prepared	Desired percent solution (by volume of packaged product)					
	0.25%	0.75%	1%	1.5%	2%	10%
1 gallon	0.3 oz	0.9 oz	1.3 oz	1.9 oz	2.6	12.8
2	0.6	1.9	2.6	3.8	5.1	25.6
3	1	2.8	3.8	5.8	7.7	38.4
4	1.3	3.8	5.1	7.7	10.2	51.2
5	1.6	4.8	6.5	9.6	12.8	64
10	3.2	9.6	12.8	19.2	25.6	128
25	8 (1 cup)	24 (3 cups)	32 (4 cups)	48 (6 cups)	64 (8 cups OR 0.5 gallon)	320 (40 cups OR 2.5 gallons)
50	16 (2 cups)	48 (6 cups)	64 (8 cups OR 0.5 gallon)	96 (12 cups OR 0.75gallon)	128 (16 cups OR 1 gallon)	640 (80 cups OR 5 gallons)

To determine how many ounces of herbicide or surfactant you need to reach a desired concentration by volume, use the chart above for common measurements or follow the equation below to calculate it yourself.

oz product needed = total gallons of solution desired x 128 x (% solution by volume /100)

Example If you want 3 gallons of spray solution and want a 1.5% solution of herbicide and a .25% solution of surfactant, how much do you need of each?

Herbicide:	oz herbicide needed	=	3 x 128 x (1.5/100)
	oz herbicide needed	=	**5.76** (round to 5.8 oz)
Surfactant:	oz surfactant needed	=	3 x 128 x (0.25/100)
	oz surfactant needed	=	**0.96** (round to 1 oz)

Add about 2 gallons of water to your tank. Add 5.8 oz of herbicide. Add 1 oz of surfactant. Add marking dye if desired. Add water until your tank is filled to 3 gallons total.

Use the QR code or visit
greatlakesphragmites.net/management/herbicide/
for links to state-approved herbicides and permitting information

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