

Project Name: Post Emergent Herbicide Efficacy for Broadleaf Weeds

Dates Active: 2022-2023

Project Description:

This is one of several initiatives to study options to manage glyphosate resistant weeds.

Research Project Abstract:

None to date.

Target Species (Phytotoxicity, or common and Latin name of arthropod, pathogen, weed):
Alligatorweed (<i>Alternanthera philoxeroides</i>) Bindweed, Field (<i>Convolvulus arvensis</i>) Bindweed, Hedge (<i>Calystegia sepium</i>) Bittersweet Nightshade (<i>Solanum dulcamara</i>) Canada thistle (<i>Cirsium arvense</i>) Horsenettle (<i>Solanum carolinense</i>) Mugwort (<i>Artemisia vulgaris</i>)

Target Crops (list tested crops if ongoing or completed project)
None

Target Product(s)(list tested products or numbered compounds if ongoing or completed project)	
2,4-D (Amine) (2,4-D (AMINE))	Garlon 3A (Triclopyr)
Basagran T&O Herbicide (Bentazon)	Grapple (rimsulfuron)
Clean Slate (Clopyralid)	RoundUp Pro Concentrate (Glyphosate)
Finale XL (Glufosinate ammonium)	V-10233 76WG (Flumioxazin + pyroxasulfone)
Frequency (topramezone)	Matrix (rimsulfuron)
Gamma 70WDG (tiafenacil)	

Environmental Horticulture Program Research Project Sheet

<https://www.ir4project.org/ehc/ehc-registration-support-research/env-hort-extension-resources/>

Product Registration and Research Status		
	Registration Status (selective)	Registration Status (non-selective)
Labeled & Commercialized Wide range of ornamental horticulture crops listed	Basagran ²	Finale XL Roundup Pro Conc.
Labeled & Commercialized Opportunity to add additional ornamental horticulture crops	2,4-D Amine Clean Slate Frequency Garlon 3A ³	
Labeled But NOT Commercialized		
Not registered or labeled for Ornamental Uses	Grapple Matrix	Gamma 70 WDG
No longer available for development		
* IR-4 Data contributed to registration decision – either adding pest to label or not pursuing further research ¹ At least one crop species screened fully ² Canada Thistle only ³ Christmas tree plantations only		

IR-4 Efficacy Trials to Date
Average rating on a scale of 1 – 5 where 1 = <60% Control (not effective), 2 = 60-79% control, 3 = 80-89% control, 4 = 90-94% control and 5 = 95-100% control; minimum to maximum rating; number of trials (See table on next page). For product/pest combinations that are blank, IR-4 has not screened this combination. A rating of 3 or higher is considered commercially acceptable. 'Labeled' indicates that this pest species or genera is listed on the label.

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MOA	Product (Actives)	Alligatorweed (<i>Alternanthera philoxeroides</i>)	Bindweed, Hedge (<i>Calystegia sepium</i>)	Bittersweet Nightshade (<i>Solanum dulcamara</i>)	Canada thistle (<i>Cirsium arvense</i>)	Horsenettle (<i>Solanum carolinense</i>)	Mugwort (<i>Artemisia vulgaris</i>)
WSSA 4	2,4-D (Amine) (2,4-D (AMINE))	4.5 (4 - 5) n2	5.0 (5 - 5) n2		5.0 (5 - 5) n2	3.0 (1 - 5) n2	2.0 (1 - 3) n2
WSSA 6	Basagran T&O Herbicide (Bentazon)	1.0 (1 - 1) n2	1.0 (1 - 1) n2	2.0 (2 - 2) n1	3.5 (2 - 5) n2 Labeled	1.0 (1 - 1) n2	1.3 (1 - 2) n3
WSSA 4	Clean Slate (Clopyralid)	4.5 (4 - 5) n2	1.5 (1 - 2) n2		5.0 (5 - 5) n2	1.0 (1 - 1) n2	3.0 (1 - 5) n2
WSSA 10	Finale XL (Glufosinate ammonium)	1.5 (1 - 2) n2	4.0 (3 - 5) n2		5.0 (5 - 5) n2	2.5 (2 - 3) n2	2.5 (1 - 4) n2
WSSA 27	Frequency (topramezone)	1.0 (1 - 1) n2	1.0 (1 - 1) n2	1.0 (1 - 1) n1	3.5 (2 - 5) n2	2.5 (2 - 3) n2	2.0 (1 - 4) n3
WSSA 14	Gamma 70WDG (tiafenacil)	1.0 (1 - 1) n2	3.5 (3 - 4) n2	1.0 (1 - 1) n1	5.0 (5 - 5) n2	1.0 (1 - 1) n2	1.0 (1 - 1) n2
WSSA 4	Garlon 3A (Triclopyr)	5.0 (5 - 5) n2	5.0 (5 - 5) n2		5.0 (5 - 5) n2	4.5 (4 - 5) n2	1.0 (1 - 1) n2
WSSA 2	Grapple (rimsulfuron)	1.0 (1 - 1) n2	4.0 (3 - 5) n2		1.5 (1 - 2) n2	1.0 (1 - 1) n2	1.0 (1 - 1) n2
WSSA 2	Matrix (rimsulfuron)			3.0 (3 - 3) n1			2.0 (2 - 2) n1
WSSA 9	RoundUp Pro Concentrate (Glyphosate)	4.5 (4 - 5) n2	3.5 (2 - 5) n2		5.0 (5 - 5) n2	1.0 (1 - 1) n2	2.0 (1 - 3) n2
WSSA 27 + WSSA 10	Tank Mix: Frequency + Finale XL (topramezone + glufosinate)	1.0 (1 - 1) n2	2.5 (1 - 4) n2		3.0 (1 - 5) n2	2.0 (1 - 3) n2	1.0 (1 - 1) n2
WSSA 4 + WSSA 10	Tank Mix: Weedar 64 + Finale XL (2,4-D amine + glufosinate)	1.0 (1 - 1) n2	3.0 (1 - 5) n2		5.0 (5 - 5) n2	1.0 (1 - 1) n2	2.0 (1 - 3) n2
WSSA 14 + WSSA 15	V-10233 76WG (Flumioxazin + pyroxasulfone)	2.0 (1 - 3) n2	4.5 (4 - 5) n2	5.0 (5 - 5) n1	5.0 (5 - 5) n2	3.0 (3 - 3) n2	3.7 (2 - 5) n3