



Environmental Horticulture Program Research Project Sheet

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

Project Name: Post Emergent Herbicide Efficacy for Broadleaved Weeds

New	Ongoing	<input checked="" type="checkbox"/>	Completed	Duration if ongoing or completed:	2022-2023
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Project Description:
 This is one of several initiatives to study options to manage glyphosate resistant weeds.

Research Project Abstract (if available):
 n/a

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

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)) Basagran T&O Herbicide (Bentazon) Clean Slate (Clopyralid) Finale XL (Glufosinate ammonium) Gamma 70WDG (tiafenacil) Garlon 3A (Triclopyr)	Grapple (rimsulfuron) Matrix (rimsulfuron) Pylex Herbicide (Topramezone) RoundUp Pro Concentrate (Glyphosate) V-10233 76WG (Flumioxazin + pyroxasulfone)

Product Registration and Research Status	
	Registration Status
Labeled & Commercialized Wide range of ornamental horticulture crops listed	
Labeled & Commercialized Opportunity to add additional ornamental horticulture crops	
Labeled But NOT Commercialized	
Not yet registered or labeled	
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 Product not available for production ornamentals	

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Comments:

IR-4 Crop Safety Trials to Date

Average rating on a scale of 1 – 5 with 1 = 0 to about no injury and 5 = severe injury and mortality; minimum to maximum rating; number of trials. A rating of 3 or higher is considered commercially unacceptable (*red text*). A rating of 1 or 2 is considered commercially acceptable and those with more than 3 trials are complete (*green text*). 'Labeled' indicates that IR-4 generated data in at least one trial and that this crop is listed on the label. For crop/product combinations that are blank, IR-4 has not screened this combination.

Product (Active Ingredients)	MOA	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>)
2,4-D (Amine) (2,4-D (AMINE))	WSSA 4	4.0 (4 - 4) n1	5.0 (5 - 5) n1		5.0 (5 - 5) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1
Basagran T&O Herbicide (Bentazon)	WSSA 6	1.0 (1 - 1) n1	1.0 (1 - 1) n1	2.0 (2 - 2) n1	2.0 (2 - 2) n1	1.0 (1 - 1) n1	1.5 (1 - 2) n2
Clean Slate (Clopyralid)	WSSA 4	4.0 (4 - 4) n1	1.0 (1 - 1) n1		5.0 (5 - 5) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1
Finale XL (Glufosinate ammonium)	unknown	1.0 (1 - 1) n1	5.0 (5 - 5) n1		5.0 (5 - 5) n1	2.0 (2 - 2) n1	1.0 (1 - 1) n1
Gamma 70WDG (tiafenacil)	unknown	1.0 (1 - 1) n1	4.0 (4 - 4) n1	1.0 (1 - 1) n1	5.0 (5 - 5) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1
Garlon 3A (Triclopyr)	WSSA 4	5.0 (5 - 5) n1	5.0 (5 - 5) n1		5.0 (5 - 5) n1	4.0 (4 - 4) n1	1.0 (1 - 1) n1
Grapple (rimsulfuron)	unknown	1.0 (1 - 1) n1	3.0 (3 - 3) n1		1.0 (1 - 1) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1
Matrix (rimsulfuron)	unknown			3.0 (3 - 3) n1			2.0 (2 - 2) n1
Pylex Herbicide (Topramezone)	WSSA 27	1.0 (1 - 1) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1	2.0 (2 - 2) n1	2.0 (2 - 2) n1	2.5 (1 - 4) n2
RoundUp Pro Concentrate (Glyphosate)	WSSA 9	4.0 (4 - 4) n1	2.0 (2 - 2) n1		5.0 (5 - 5) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1
Tank Mix: Pylex + Finale XL (topramezone + glufosinate)	unknown	1.0 (1 - 1) n1	4.0 (4 - 4) n1		5.0 (5 - 5) n1	3.0 (3 - 3) n1	1.0 (1 - 1) n1
Tank Mix: Weedar 64 + Finale XL (2,4-D amine + glufosinate)	unknown	1.0 (1 - 1) n1	5.0 (5 - 5) n1		5.0 (5 - 5) n1	1.0 (1 - 1) n1	1.0 (1 - 1) n1
V-10233 76WG (Flumioxazin + pyroxasulfone)	WSSA 14 + WSSA 15	1.0 (1 - 1) n1	4.0 (4 - 4) n1	5.0 (5 - 5) n1	5.0 (5 - 5) n1	3.0 (3 - 3) n1	3.5 (2 - 5) n2