



Ornamental Horticulture Program Research Project Sheet

<http://ir4.rutgers.edu/Ornamental/ornamentalProjectInformationSheets.cfm>

Project Name: Pre Emergent Herbicide Crop Safety – Indaziflam

New	Ongoing	X	Completed	Duration if ongoing or completed:	2011 - 2015
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Project Description:

The Pre-Emergent Herbicide Crop Safety Project began in 2004 and has continued through 2015. While specific crops and herbicides have changed, the intent of this research has been to screen over-the-top applications of pre-emergent herbicides as plants are breaking dormancy, or beginning new growth, and then 4 to 6 weeks later once foliage is more mature.

This research project sheet covers two formulations of Indaziflam: Indaziflam 0.0224%G, Indaziflam 0.03%G.

Research Project Abstract (if available):

Abstract from 2015 Indaziflam Crop Safety Summary

From 2011 through 2014 IR-4 has completed 102 trials evaluating indaziflam granular formulations for crop safety. The data contained in this report was generated to register the use of indaziflam on and around ornamental horticulture plants with over-the-top applications. The rates tested were 0.045, 0.089 and 0.178 pounds active ingredient per acre (lb ai per A) as the 1X, 2X and 4X rates. The indaziflam 0.03%G formulation was applied to 16 plant genera or species, the Marengo G formulation was applied to 28 crops. Of these crops, 7 exhibited no or minimal transient injury after application at all three rates including *Berberis sp.*, *Liriope sp.*, *Ophiopogon japonicus*, *Rhododendron sp.*, *Rosa sp.*, *Taxus media* and certain *Viburnum* species. The remaining crops evaluated have only been screened in 1 or two trials or exhibited minimal to significant injury. Further testing is required on many species before a conclusion can be made confirming crop safety.

Target Species (Phytotoxicity, or common and Latin name of arthropod, pathogen, weed):

Crop Safety

Target Crops (list tested crops if ongoing or completed project)

See "IR-4 Crop Safety to Date" below

Target Product(s) (list tested products or numbered compounds if ongoing or completed project)

Indaziflam 0.0224%G
Indaziflam 0.03%G

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	Indaziflam 0.0224%G
No longer available for development	Indaziflam 0.03%G
* 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	

Project Pros	Project Cons
1 Additional research could yield data favorable for further label expansion 2 Short list of tested crops	1

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.

Plant Group	Crop	Marengo G
Broadleaf Evergreen Tree/Shrub	Aucuba (Aucuba sp.)	Labeled
	Boxwood (Buxus sp.)	Labeled
	Jasmine, Cape, Common Gardenia (Gardenia sp.)	Labeled
	Holly (Ilex sp.)	Labeled
	Heavenly Bamboo (Nandina domestica)	Labeled
	Indian Hawthorn (Raphiolepis indica)	Labeled
	Azalea (Rhododendron sp.)	Labeled
Broadleaf Evergreen/Deciduous Tree/Shrub	Barberry (Berberis sp.)	Labeled
Bulbs & Corms	Daylily (Hemerocallis sp.)	Labeled
Cactus & Succulents	Agave (Agave sp.)	4.0 (4 - 4) n1
	Barbados Aloe (Aloe sp.)	2.0 (2 - 2) n1
	Stoncrop (Sedum sp.)	1.8 (1 - 4) n5
Deciduous Tree/Shrub/Vine	Maple, Japanese (Acer palmatum)	1.0 (1 - 1) n1
	Dogwood (Cornus sp.)	1.0 (1 - 1) n1
	Euonymus (Euonymus sp.)	Labeled
	Hydrangea (Hydrangea sp.)	Labeled
	Candytuft (Iberis sp.)	5.0 (5 - 5) n1
	Oak (Quercus sp.)	1.0 (1 - 1) n2
	Rose (Rosa sp.)	Labeled
	Bridal-Wreath (Spiraea sp.)	Labeled
Hardy Ground Cover Foliage	Arrowwood (Viburnum sp.)	Labeled
	Delosperma sp. (Delosperma sp.)	2.2 (1 - 3) n5
Herbaceous Flowering Plant	Lilyturf, Creeping (Liriope sp.)	Labeled
	Mallow, Rose Mallow (Hibiscus sp.)	Labeled
Herbaceous Flowering Plant - Perennial	Pasture Sage (Salvia nemorosa)	Labeled
	Purple Coneflower (Echinacea sp.)	Labeled
	Coral Bells, Alumroot (Heuchera sanguinea)	1.3 (1 - 2) n3
	Hosta (Hosta sp.)	Labeled
Narrowleaf Evergreen Tree/Shrub	Coneflower (Rudbeckia sp.)	3.0 (2 - 4) n4
	Spruce, Colorado (Picea pungens)	1.0 (1 - 1) n1
	Yew (Taxus sp.)	2.0 (1 - 3) n3
Ornamental Grass	Arborvitae (Thuja sp.)	Labeled
	Sedge (Carex sp.)	Labeled
	Northern Sea Oats, Wild Oats (Chasmanthium latifolium)	3.3 (2 - 4) n3
	Silver Grass (Miscanthus sp.)	Labeled
	Muhly, hairyawn (Muhlenbergia capillaris)	Labeled
	Mondo Grass, Lilyturf, Ker-Gawl (Ophiopogon sp.)	Labeled
	Feathergrass (Pennisetum sp.)	Labeled
Palm	Palm, Dwarf Fan (Chamaerops humilis)	1.0 (1 - 1) n1