



Environmental Horticulture Program Research Project Sheet

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

Project Name: Post Emergent Herbicide Crop Safety– Iron HEDTA

New	Ongoing	X	Completed		Duration if ongoing or completed:	2018-2021
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Project Description:

The Post-Emergent Herbicide Crop Safety Project began in 2016 and has continued through 2019. 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 one formulation containing Iron HEDTA: Fiesta using over the top applications.

Research Project Abstract (if available):

Abstract from 2020 Iron HEDTA Crop Safety Summary

Fiesta (Iron HEDTA) is a new herbicide currently labeled for post emergence broadleaf weed control on lawns (use on rights of way or non-crop areas), turf, golf courses, parks, playgrounds, cemeteries and athletic fields. Neudorff is interested in adding environmental horticulture crops to the Fiesta label. The IR-4 Project completed 146 crop safety trials on 83 environmental horticulture plant species / genera during 2016 to 2019. In these trials, 7 plant species / genera (*Buxus* sp., *Calamagrostis acutiflora*, *Carex cherokeensis*, *Festuca glauca*, *Juniperus* spp., *Muhlenbergia capillaris* and *Taxus x media*) exhibited no or minimal transient injury after application to either dormant or actively growing plants at all 3 rates in at least 3 trials. Six species / genera (*Cotoneaster apiculatus*, *Heuchera* spp., *Hibiscus* sp., *Lagerstroemia indica*, *Ophiopogon* sp. and *Teucrium chamaedrys*), where Fiesta was applied to actively growing plants, exhibited no phytotoxicity at 1X but did have some injury at 2X and 4X rates. Twenty species / genera exhibited significant phytotoxicity at even the lowest rate; in ten of these crops, Fiesta was applied to dormant plants.

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)

Fiesta

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	

Area	Characteristic	Pro	Con
Availability & effectiveness of alternative management tools	Additional research could yield data favorable for further label expansion	x	
Damage potential of target			
Performance and crop safety of proposed products (from other systems)			
Compatibility with IPM, resistance management programs			
Economics			
Geographic distribution			
Manufacturer interest in labeling products			
Other			
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.

Data on crops studied from 2020 through 2021

Plant Group	Crop	Fiesta Herbicide (Iron HEDTA)
Broadleaf Evergreen Tree/Shrub	Boxwood (<i>Buxus</i> sp.)	1.0 (1 - 1) n4
	Wintercreeper (<i>Euonymus fortunei</i>)	1.0 (1 - 1) n2
	Gardenia (<i>Gardenia</i> sp.)	3.0 (2 - 4) n2
	Holly, Chinese (<i>Ilex cornuta</i>)	1.5 (1 - 2) n2
	Holly, Japanese (<i>Ilex crenata</i>)	2.0 (1 - 3) n2
	Holly, Blue (<i>Ilex x meserveae</i>)	4.0 (4 - 4) n1
	Oleander, Rosebay (<i>Nerium oleander</i>)	3.0 (2 - 4) n2
	Rhododendron (<i>Rhododendron</i> sp.)	2.3 (1 - 3) n3
Broadleaf Evergreen/Deciduous Tree/Shrub	Cotoneaster (<i>Cotoneaster</i> sp.)	3.0 (2 - 4) n3
	Privet (<i>Ligustrum</i> sp.)	2.3 (2 - 3) n3
	Wall Germander (<i>Teucrium chamaedrys</i>)	4.0 (4 - 4) n1
Bulbs & Corms	Elephant's-Ear, Angel-Wings (<i>Caladium</i> sp.)	3.0 (3 - 3) n1
	Daylily (<i>Hemerocallis</i> sp.)	1.7 (1 - 2) n3
Cactus & Succulents	Spurge (<i>Euphorbia</i> sp.)	4.0 (4 - 4) n3
	Stonecrop, Moss (<i>Sedum acre</i>)	4.0 (4 - 4) n1
	Stonecrop, White (<i>Sedum album</i>)	3.0 (1 - 5) n2
	Stonecrop, Kamchatka (<i>Sedum kamtschaticus</i>)	4.0 (4 - 4) n2
	Stonecrop, Jenny's (<i>Sedum rupestre</i>)	4.0 (4 - 4) n2
	Stonecrop (<i>Sedum</i> sp.)	4.0 (4 - 4) n2
	Stonecrop, Broadleaf (<i>Sedum spathulifolium</i>)	4.0 (4 - 4) n1
	Stonecrop, Two-Row/Caucasian (<i>Sedum spurium</i>)	4.0 (4 - 4) n1
	Houseleek (<i>Sempervivum</i> sp.)	3.0 (2 - 4) n2
Deciduous Tree/Shrub/Vine	Maple, Red (<i>Acer rubrum</i>)	2.0 (2 - 2) n1
	Burning Bush (<i>Euonymus alatus</i>)	3.0 (3 - 3) n1
	Dwarf Fothergilla (<i>Fothergilla gardenii</i>)	4.0 (4 - 4) n1
	Hydrangea (<i>Hydrangea</i> sp.)	3.3 (2 - 4) n3

Plant Group	Crop	Fiesta Herbicide (Iron HEDTA)
Deciduous Tree/Shrub/Vine	Japanese Rose (<i>Kerria japonica</i>)	4.0 (4 - 4) n1
	Crape Myrtle (<i>Lagerstroemia indica</i>)	3.7 (3 - 4) n3
	Common Ninebark (<i>Physocarpus opulifolius</i>)	4.0 (4 - 4) n1
	Laurel Cherry (<i>Prunus laurocerasus</i>)	1.5 (1 - 2) n2
	Rose (<i>Rosa</i> sp.)	4.0 (4 - 4) n2
	Bridal-Wreath (<i>Spiraea</i> sp.)	2.0 (2 - 2) n2
	Arrowwood (<i>Viburnum</i> sp.)	3.0 (2 - 4) n2
Hardy Ground Cover Foliage	Lilyturf (<i>Liriope</i> sp.)	3.0 (2 - 4) n4
	Mondo Grass; Lilyturf; Ker-Gawl (<i>Ophiopogon</i> sp.)	2.0 (1 - 3) n2
	Japanese Pachysandra (<i>Pachysandra terminalis</i>)	3.0 (2 - 4) n2
Herbaceous Flowering Plant	Lily-Of-The-Nile (<i>Agapanthus</i> sp.)	3.0 (3 - 3) n1
Herbaceous Flowering Plant - Perennial	Eastern Purple Coneflower (<i>Echinacea purpurea</i>)	5.0 (5 - 5) n1
	Alumroot (<i>Heuchera</i> sp.)	3.5 (3 - 4) n2
	Rosemallow (<i>Hibiscus</i> sp.)	3.5 (3 - 4) n2
	Plantain Lily (<i>Hosta</i> sp.)	3.3 (3 - 4) n3
	Witch's Moneybags (<i>Hylotelephium telephium</i>)	3.0 (3 - 3) n1
	Black-Eyed Susan (<i>Rudbeckia hirta</i>)	5.0 (5 - 5) n1
Herbaceous Perennials	Lavender (<i>Lavandula</i> sp.)	4.0 (4 - 4) n3
	Rosemary (<i>Rosmarinus officinalis</i>)	3.0 (2 - 4) n2
Narrowleaf Evergreen Tree/Shrub	Fir (<i>Abies</i> sp.)	1.0 (1 - 1) n2
	Cedar (<i>Chamaecyparis</i> sp.)	2.5 (1 - 4) n2
	Japanese Cedar (<i>Cryptomeria japonica</i>)	2.5 (1 - 4) n2
	Juniper (<i>Juniperus</i> sp.)	1.8 (0 - 4) n9
	Spruce (<i>Picea</i> sp.)	1.5 (1 - 3) n4
	Pine (<i>Pinus</i> sp.)	1.3 (1 - 2) n3
	Pine, Loblolly (<i>Pinus taeda</i>)	3.5 (2 - 5) n2
	Fir, Douglas (<i>Pseudotsuga menziesii</i>)	1.0 (1 - 1) n1
	Yew (<i>Taxus</i> sp.)	1.0 (1 - 1) n1
	Hybrid Yew (<i>Taxus X media</i>)	1.0 (1 - 1) n2
	Arborvitae, American (<i>Thuja occidentalis</i>)	2.0 (1 - 4) n3
	Hemlock (<i>Tsuga</i> sp.)	1.0 (1 - 1) n2
Ornamental Grass	American Beachgrass (<i>Ammophila breviligulata</i>)	1.0 (1 - 1) n2
	Big Blue Stem (<i>Andropogon gerardii</i>)	2.0 (1 - 3) n3
	Feather Reed Grass (<i>Calamagrostis acutiflora</i>)	1.3 (1 - 2) n3
	Sedge, Cherokee (<i>Carex cherokeensis</i>)	2.7 (1 - 4) n3
	Sedge (<i>Carex</i> sp.)	3.0 (3 - 3) n3
	Indian Woodoats (<i>Chasmanthium latifolium</i>)	1.5 (1 - 2) n2
	Pampas Grass (<i>Cortaderia</i> sp.)	2.0 (1 - 3) n2
	Field Fescue (<i>Festuca glauca</i>)	1.3 (1 - 2) n4
	Silver Grass (<i>Miscanthus</i> sp.)	1.5 (1 - 2) n2
	Muhly, Hairawn (<i>Muhlenbergia capillaris</i>)	1.0 (1 - 1) n3
	Switch Grass (<i>Panicum virgatum</i>)	2.0 (1 - 3) n3
	Fountaingrass (<i>Pennisetum alopecuroides</i>)	1.7 (1 - 3) n3
	Crimson Fountain Grass (<i>Pennisetum setaceum</i>)	4.0 (4 - 4) n1
	Ravennagrass (<i>Saccharum ravennae</i>)	1.5 (1 - 2) n2
	Little Bluestem (<i>Schizachyrium scoparium</i>)	1.3 (1 - 2) n3