



Environmental Horticulture Program Research Project Sheet

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

Project Name: Aphid Efficacy

New	X	Ongoing		Completed		Duration if ongoing or completed:	N/A
------------	---	----------------	--	------------------	--	--	-----

Project Description:
 Aphid efficacy has routinely surfaced in the biennial survey of grower needs. While multiple classes and subclasses for insect mode of action are currently available, growers continue to have difficulty managing these pests.

Research Project Abstract (if available):
Abstract from 2015 Aphid Efficacy: A Literature Review
 In the past, IR-4 had conducted Ornamental Horticulture Surveys to poll growers, landscape care operators, researchers, extension personnel and others affiliated with the ornamental industry on needs and issues related to disease, insect, and weed management. In 2013, aphids were identified as one of the top five important insects of concern. This summary includes a review of experiments conducted from 1998 to 2013 on ornamental horticulture and food crops published in Arthropod Management Tests. During this time period, numerous products representing 35 active ingredients were tested as foliar or soil applications against several species of aphids known to attack ornamental crops. Although there were insufficient data for definitive conclusions, many of the older registered active ingredients, including, acephate, acetamiprid, bifenthrin, chlorpyrifos, dimethoate, flonicamid, imidacloprid, lambda-cyhalothrin, malathion, pymetrozine, spirotetramat, and thiamethoxam generally provided effective control. Similarly, several relatively new products, including cyantraniliprole, pyrifluquinazon, sulfoxaflor, and tolfenpyrad were effective.

Target Species (Phytotoxicity, or common and Latin name of arthropod, pathogen, weed):
 Aphid, Green Apple (*Aphis pomi*)
 Aphid, Melon (*Aphis gossypii*)
 Green Peach Aphid (*Myzus persicae*)

Target Crops (list tested crops if ongoing or completed project)
Chrysanthemum/Dendranthema sp.
Cotoneaster apiculatus
Impatiens hawkeri
Malus sp.
Rosa sp.
Tagetes sp.
Zinnia sp.

Target Product(s)(list tested products or numbered compounds if ongoing or completed project)
 Akari 5SC (Fenpyroximate)
 Aria 50SG (Flonicamid)
 Aria GH 50WG (Flonicamid)
 Aria N 50WG (Flonicamid)
 Avid 0.15EC (Abamectin)

Product Registration and Research Status			
	Fully Screened (also includes standards)	Partially Screened through IR-4 ¹	Need Data Across Species ?
Labeled Generally & Commercialized	See Table of Registered and Experimental Products for Aphid Management		
Labeled Generally But NOT Commercialized			
Labeled for Specific Aphids & Commercialized			



Environmental Horticulture Program Research Project Sheet

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

Labeled for Specific Aphids 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 species screened fully			

PROS	CONS
A couple new active ingredients are available in current and new MOA classes	Many classes are currently available for growers
Longer lasting products needed (issue not noticeable until population is high) – characterization of residual control	Longer lasting products needed (issue not noticeable until population is high) – characterization of residual control
Aphid sensitivity may be different to different materials	Aphid sensitivity may be different to different materials
Evaluate biologically based materials (if available for testing)	
Aphids can be prone to resistance development and new classes of chemistry are a critical component	
Drench alternatives for greenhouses	
New foliar materials available that would warrant testing	
Marone would be great for aphid studies	

IR-4 Efficacy Trials to Date

Average rating on a scale of 1 – 5 with 1 = 0 to about 50% efficacy (not effective) and 5 = 95 to 100 efficacy (very effective); minimum to maximum rating; number of trials (See table on next page). For product/insect combinations that are blank, IR-4 has not screened this combination.

‘Labeled’ indicates that this disease species or genera is listed on the label. A rating of 2 or lower is considered unacceptable efficacy (*red text*). A rating of 3 or higher is considered commercially acceptable (black text). Non-labeled, completed product/disease combinations (3 or more trials) with an average rating of 3 or higher are highlighted with *green text*. For disease/product combinations that are blank, IR-4 has not screened this combination.



Environmental Horticulture Program Research Project Sheet

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

Mode of Action Group	Product (Active Ingredients)	Aphid, Green Apple (<i>Aphis pomi</i>)	Aphid, Melon (<i>Aphis gossypii</i>)	Green Peach Aphid (<i>Myzus persicae</i>)
IRAC 21A	Akari 5SC (Fenpyroximate)	1.0 (1 - 1) n1		
IRAC 29	Aria GH 50WG (Flonicamid)		5.0 (5 - 5) n1 Labeled	
IRAC 29	Aria N 50WG (Flonicamid)		5.0 (5 - 5) n1 Labeled	
IRAC 6	Avid 0.15EC (Abamectin)			2.5 (1 - 4) n4 Labeled