IR-4 Environmental Horticulture Program: General Updates & Coleopteran Research

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IR-4 Environmental Horticulture Program Manager



# Mission

 The Environmental Horticulture Program facilitates registration of sustainable pest management technology for environmental horticulture crops to enhance human health and well-being



## Goals

- Registration Research (the original and core portion of the program)
- Invasive Species
- Special Projects: Pollinator Protection







#### IR-4 Activities on behalf of the Green Industry

# Data development for registration support



**Photos by Cristi Palmer** 

## **IR-4 Funding for Top Woody Crops**

The IR-4 Environmental Horticulture Program contributes significant research funds to all top-selling woody plants sold in the USA.

Since 2003, our program has contributed over **\$4 million** to pest, disease, and weed research in top-selling woody plants.





#### Environmental Horticulture Program Data Summaries – 2018 Final





#### Environmental Horticulture Program – Registrations – 2018 Final





#### Environmental Horticulture Program – Crops Impacted by Registrations – 2018 Final



Year

44,784 total as of 10/30/2018



# What does this mean for Environmental Horticulture?

Since the EnvironHort Program was started in 1977,

 more than 840 products & numbered active ingredients have been screened for performance

- over **34,500** trials have been conducted



 and more than 44,000 crop uses are now available for growers and landscape managers







#### Environmental Horticulture

#### **Coleopteran Research**





#### **Entomology Projects for Top Pest Categories**



#### **IR-4 Flatheaded Borer Research**

- Part of high priority project in mid to late 2000's
- Two species studied
  - Bronze birch borer Agrilus anxius (1 experiments)
  - Flatheaded appletree borer *Chrysobothris femorata* (2 experiments)
- In all three experiments, there were very low infestation levels so no treatment effects could be determined.



#### **Current Coleopteran Research**

• Foliar Feeding Beetles: Flea Beetle

			ApplicationsEvaluationsnsDays after treatmentVeekImage: Second Secon							
#	Product	Rate per 100 gal	0 1 2 0 3 7		7	14	28*			
1	Acelepryn (chlorantraniliprole)	16 fl oz	Х		Χ*	Ε	Ε	Ε	Е	
2	Ancora (Isaria fumosorosea Apopka Strain 97)	1 lb	Х			Е		Ε	Е	
3	BCS-507	16 oz	Х		Х	Ε	Ε	Ε	Е	
4	IKI-3106 (cyclaniliprole)	27 fl oz	Х		Χ*	Ε	Ε	Ε	Е	
5	KOC2'18-8 (botanical oil blend)	128 fl oz	Х	Х	Х	Ε	Ε	Ε	Е	
6	Mainspring GNL (cyantraniliprole)	16 fl oz	Х		Χ*	Е	Ε	Ε	Е	
7	TetraCURB Concentrate (rosemary oil)	128 fl oz	Х	Х	Х	Е	Ε	Ε	Е	
8	TetraCURB Organic (rosemary oil)	128 fl oz	Х	Х	Х	Е	Ε	Ε	Е	
9	V-10433	22 fl oz	Х	Х	Х	Ε	Ε	Ε	Е	



#### **Current Coleopteran Research**

Ambrosia Beetles

			Ар	plicat	tion	Evaluations				
				Mont	h	Months af treatme			ter nt	
#	Product	Rate (per 100 gal)	0	1	2	0	3	6	12	
1	BCS-507 trunk spray at target onset	16 oz	Х			Е	Ε	Е	Е	
2	BotaniGard MAXX (pyrethrins + Beauveria bassiana Strain GHA)	32 fl oz	х	Х		E	E	Е	Е	
3	Rotation: ESP 715 (fluopyram) trunk spray / Followed by BCS-507 trunk spray at target onset	8.55 fl oz / 16 oz	х			E	Ε	Е	E	
4	Rotation: Marathon II (imidacloprid) drench early in season / Followed by BCS-507 trunk spray at target onset	Drench 0.2 fl oz per inch trunk diameter / 16 oz	х			E	E	E	E	
5	V 10422	5.5 fl oz	Х			Ε	Ε	Ε	Ε	
6	V-10433	11 fl oz	Х			Ε	Е	Ε	Е	







### Environmental Horticulture

#### 2019 Workshop



**Photos by Cristi Palmer** 

## How are research projects selected?

#### Stakeholder Input **balanced with**

# **Online Project Request Form**

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#### **Paper or Online Biennial Survey**

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maintain. Then consider situations over the last year where you had <i>difficulty</i> managing diseases, pests, or weeds.			Job firms Plants	Dat Flowers	<b>Jurismus</b> Trees	shingo Plants.	terbacense -	NEARCH GRACE	ahns	teneoal Pottol Plants	three	Trees	and the
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#### **Researcher & Registrant Input**

#### **Project Criteria**

- Availability & effectiveness of current options
- Damage potential of target
- Performance and crop safety of proposed products
- Compatibility with IPM, resistance management programs
- Economics
- Geographic distribution
- **Registrant interest in labeling** product(s)
- Other



# 2019 Workshop

- Overall Schedule
  - Monday 'Plenary' Session, Food Use Product
     Presentations
  - Tuesday Food Use Residue Analysis Priority Setting
  - Wednesday Food Use Integrated Solutions Priority Setting, IR-4 Strategic Planning Session
  - Thursday EHC Priority Setting



# **2019 EHC Workshop Prioritization**

- Grower Survey
- Potential Solutions (biological & chemical)
- Prioritize Projects
- Sticker Caucus
- Biopesticide Project Card Sorting
- Follow up Discussions
- Regional Priority Breakouts



# Help!

- Fill out the Grower & Extension Survey
- Promote completing the survey to growers in your network
- Print out the survey and use in meetings
- Submit potential Biopesticide-related projects through Project Request form
- All are on the IR-4 EnvironHort Website: https://www.ir4project.org/ehc/









Thank you !



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Partners



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*Funding for IR-4 Research:* USDA-NIFA (IR-4 & SCRI) USDA-ARS USDA-APHIS Land Grant Institutions

#### **Researchers:**

All the fine researchers throughout the US and in cooperating countries

#### Growers:

Who donate time to complete the biennial survey and all those plant materials!

#### IR-4 Personnel:

Roger Batts Susan Bierbrunner Mika Pringle-Tolson Marylee Ross Tony VanWoerkem Ely Vea



Photo by Cristi Palmer

### Thank you !