

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

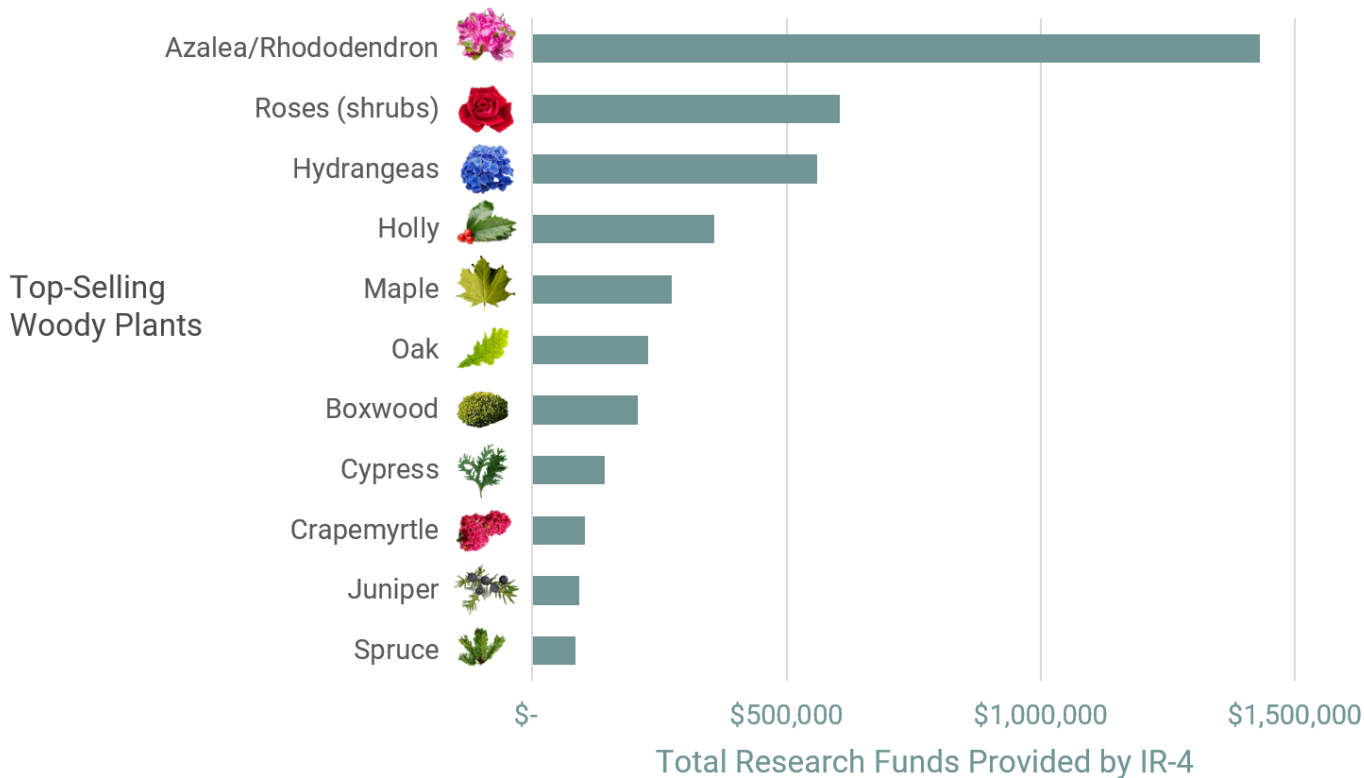
Data development for
registration support

Photos by Cristi Palmer

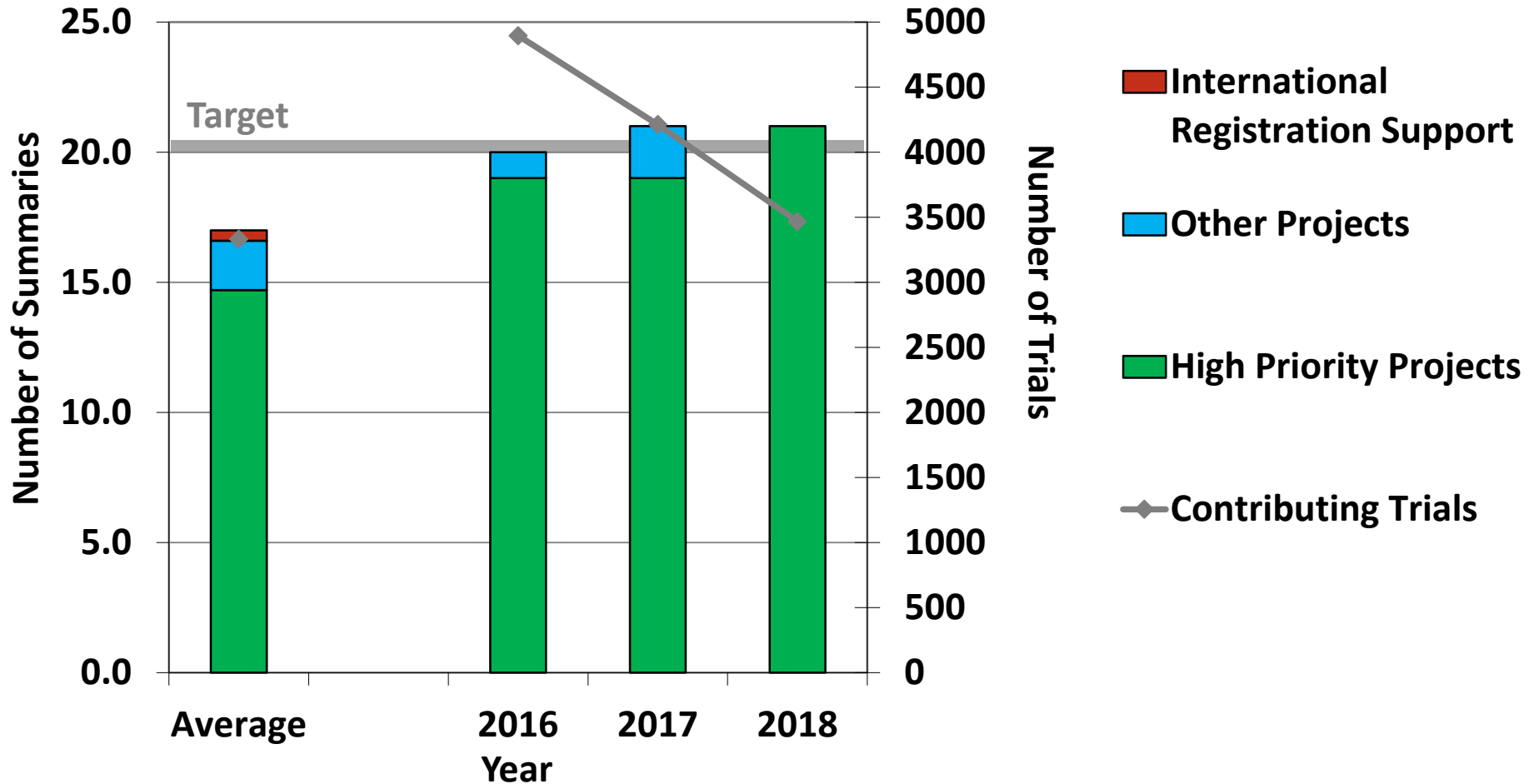
IR-4 Funding for Top Woody Crops

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

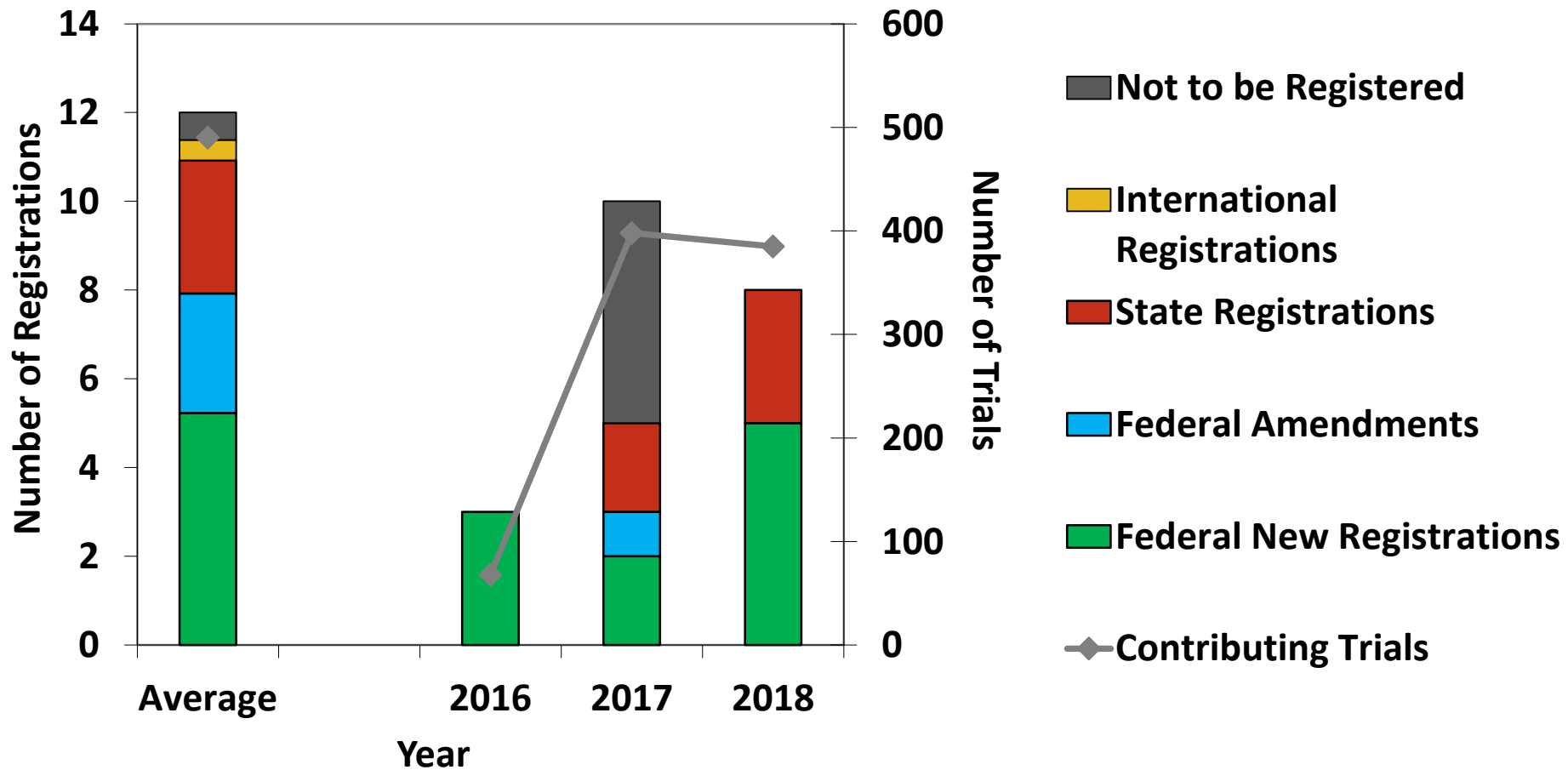
Since 2003, our program has contributed over **\$4 million** to pest, disease, and weed research in top-selling woody plants.



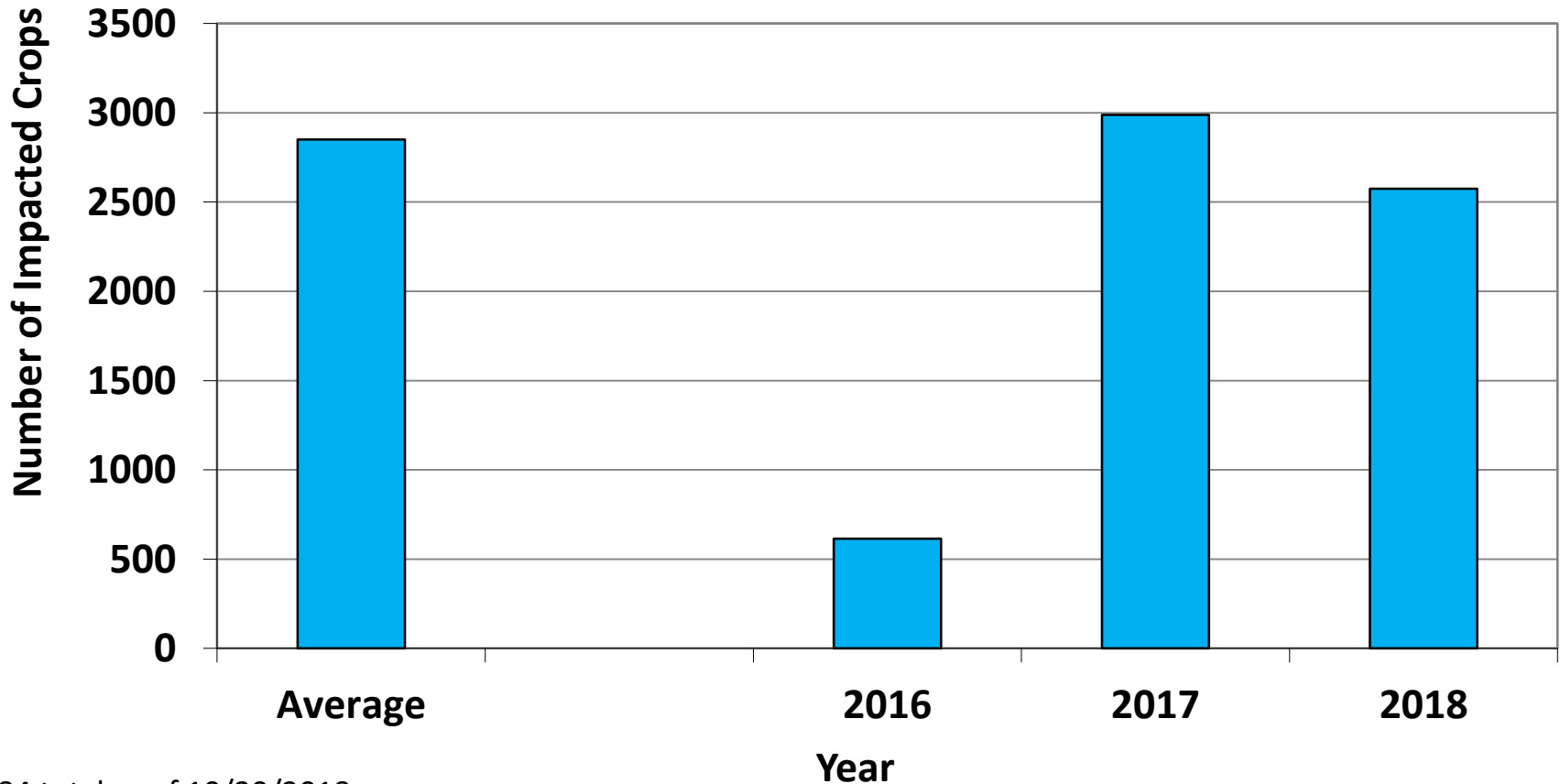
Environmental Horticulture Program Data Summaries – 2018 Final



Environmental Horticulture Program – Registrations – 2018 Final



Environmental Horticulture Program – Crops Impacted by Registrations – 2018 Final



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



Photo by Cristi Palmer

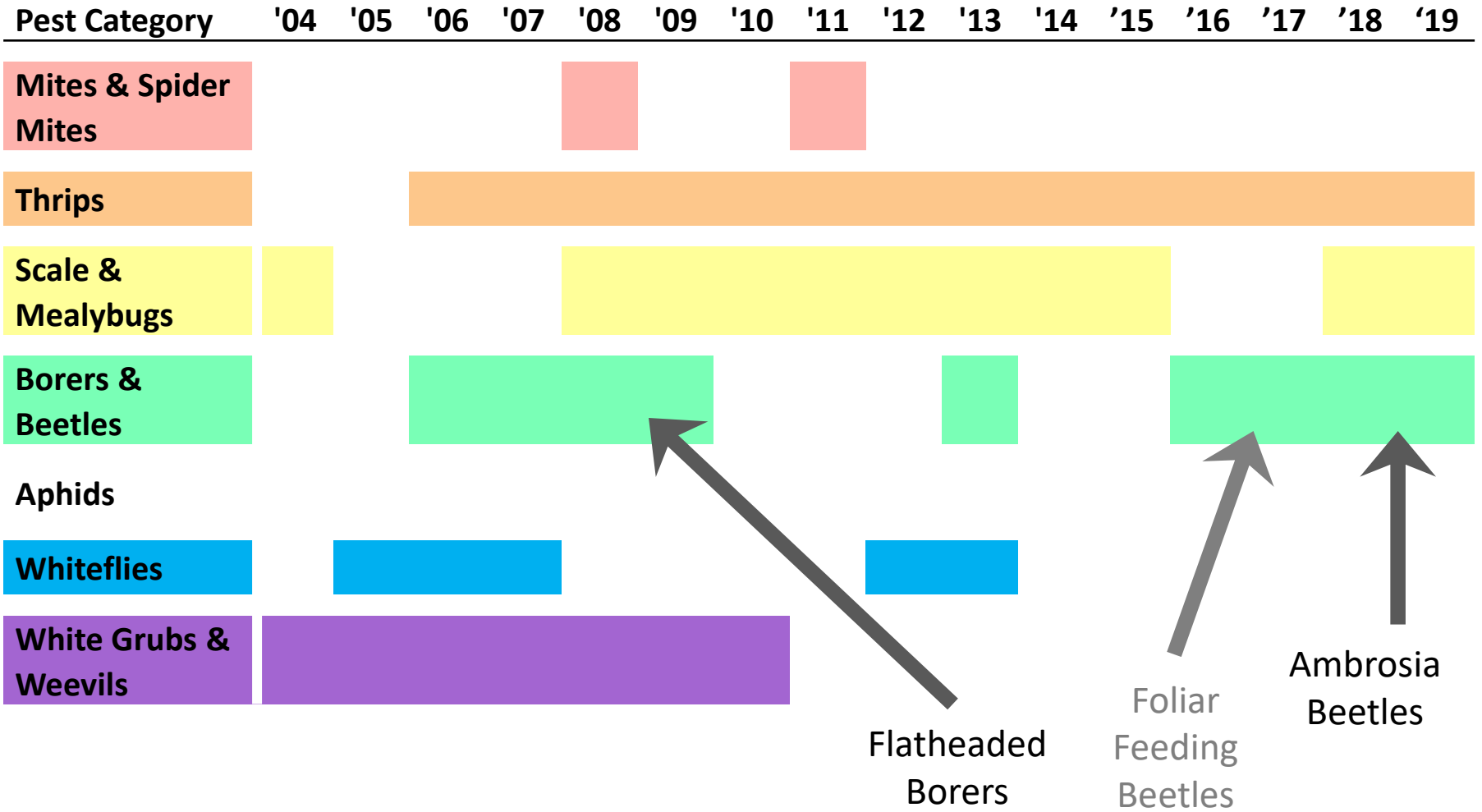


Environmental Horticulture

Coleopteran Research

Photos by Cristi Palmer

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

#	Product	Rate per 100 gal	Applications			Evaluations				
			Week			Days after treatment				
			0	1	2	0	3	7	14	28*
1	Acelepryn (chlorantraniliprole)	16 fl oz	X		X*	E	E	E	E	
2	Ancora (Isaria fumosorosea Apopka Strain 97)	1 lb	X			E		E	E	
3	BCS-507	16 oz	X		X	E	E	E	E	
4	IKI-3106 (cyclaniliprole)	27 fl oz	X		X*	E	E	E	E	
5	KOC2'18-8 (botanical oil blend)	128 fl oz	X	X	X	E	E	E	E	
6	Mainspring GNL (cyantraniliprole)	16 fl oz	X		X*	E	E	E	E	
7	TetraCURB Concentrate (rosemary oil)	128 fl oz	X	X	X	E	E	E	E	
8	TetraCURB Organic (rosemary oil)	128 fl oz	X	X	X	E	E	E	E	
9	V-10433	22 fl oz	X	X	X	E	E	E	E	

Current Coleopteran Research

- Ambrosia Beetles

#	Product	Rate (per 100 gal)	Application			Evaluations			
			Month			Months after treatment			
			0	1	2	0	3	6	12
1	BCS-507 trunk spray at target onset	16 oz	X			E	E	E	E
2	BotaniGard MAXX (pyrethrins + Beauveria bassiana Strain GHA)	32 fl oz	X	X		E	E	E	E
3	Rotation: ESP 715 (fluopyram) trunk spray / Followed by BCS-507 trunk spray at target onset	8.55 fl oz / 16 oz	X			E	E	E	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	X			E	E	E	E
5	V-10433	5.5 fl oz	X			E	E	E	E
6		11 fl oz	X			E	E	E	E



Environmental Horticulture

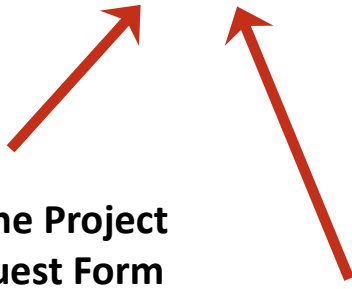
2019 Workshop

Photos by Cristi Palmer

How are research projects selected?

Stakeholder Input *balanced with*

Researcher & Registrant Input



Online Project Request Form

Paper or Online Biennial Survey

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 !



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 | Marylee Ross |
| Susan | Tony |
| Bierbrunner | VanWoerkem |
| Mika Pringle- | Ely Ve |
| Tolson | |



Photo by Cristi Palmer

Thank you !