

Arizona Iceberg Lettuce Research Council

Iceberg Lettuce Research Survey
2018

***Please note that the responses to this survey
were collected prior to the 2018 e-coli outbreak
in leafy greens.***

AILRC Research Survey 2018

- 24 on-line responses were collected between February 21st and April 13th, 2018
- 45 paper surveys collected at the Southwest Ag Summit in February 2018 were manually entered
- 69 respondents started the survey
- 66 with usable data

AILRC Research Survey 2018

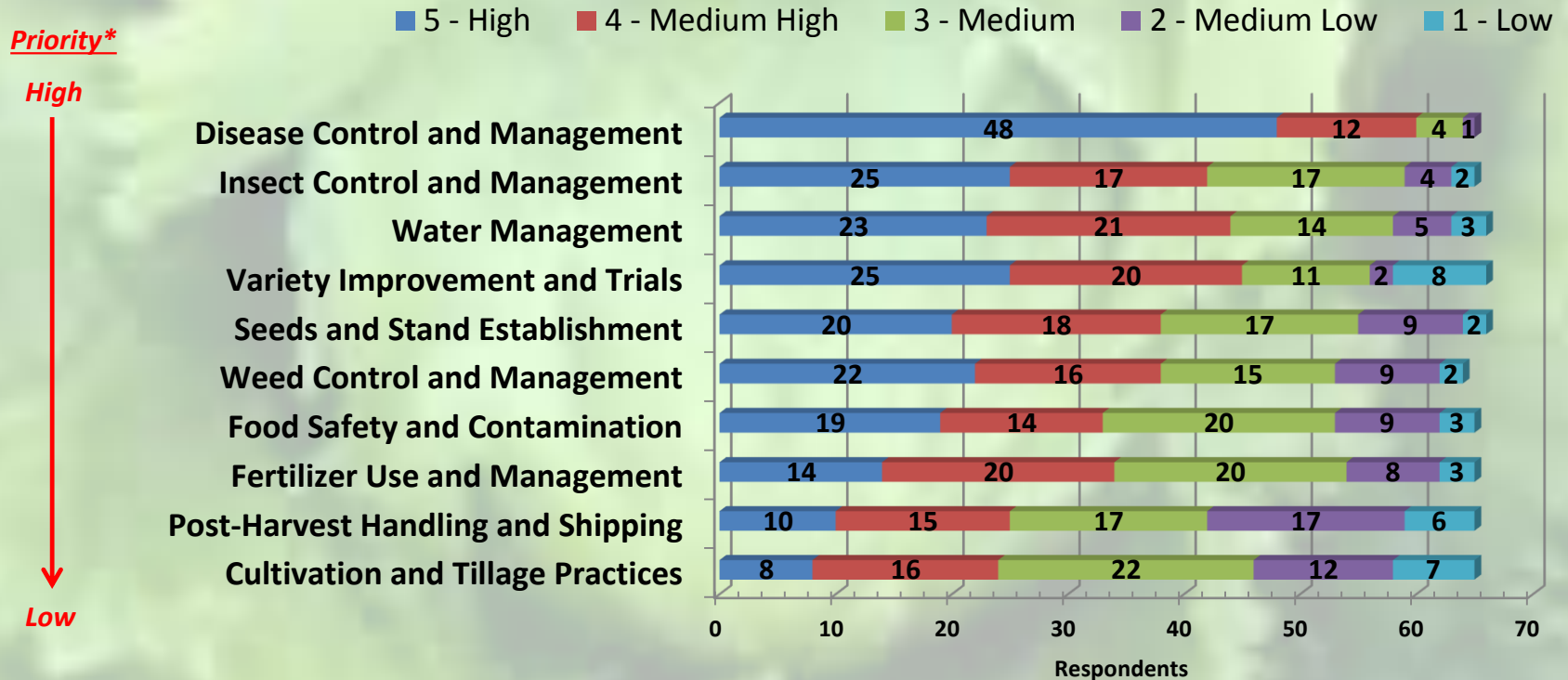
- 66 usable surveys
- 17 equipment companies, PCAs, consulting, etc.
- 14 seed companies
- 35 iceberg lettuce producer surveys
(representing 21 producers)
- 2018 data set for 66 total usable surveys
- 2018 data set for 35 producer only surveys
- 2012 data set for comparison

Survey Categories

1. Areas of Research
2. Diseases and Disorders
3. Soil and Water Management
4. Technology
5. Insects and Nematodes
6. Food Safety
7. Organic
8. Other

Areas of Research

All 2018 Surveys (66)



*Priority ranking based on a weighted average

Areas of Research

2018 Producers Only (35)

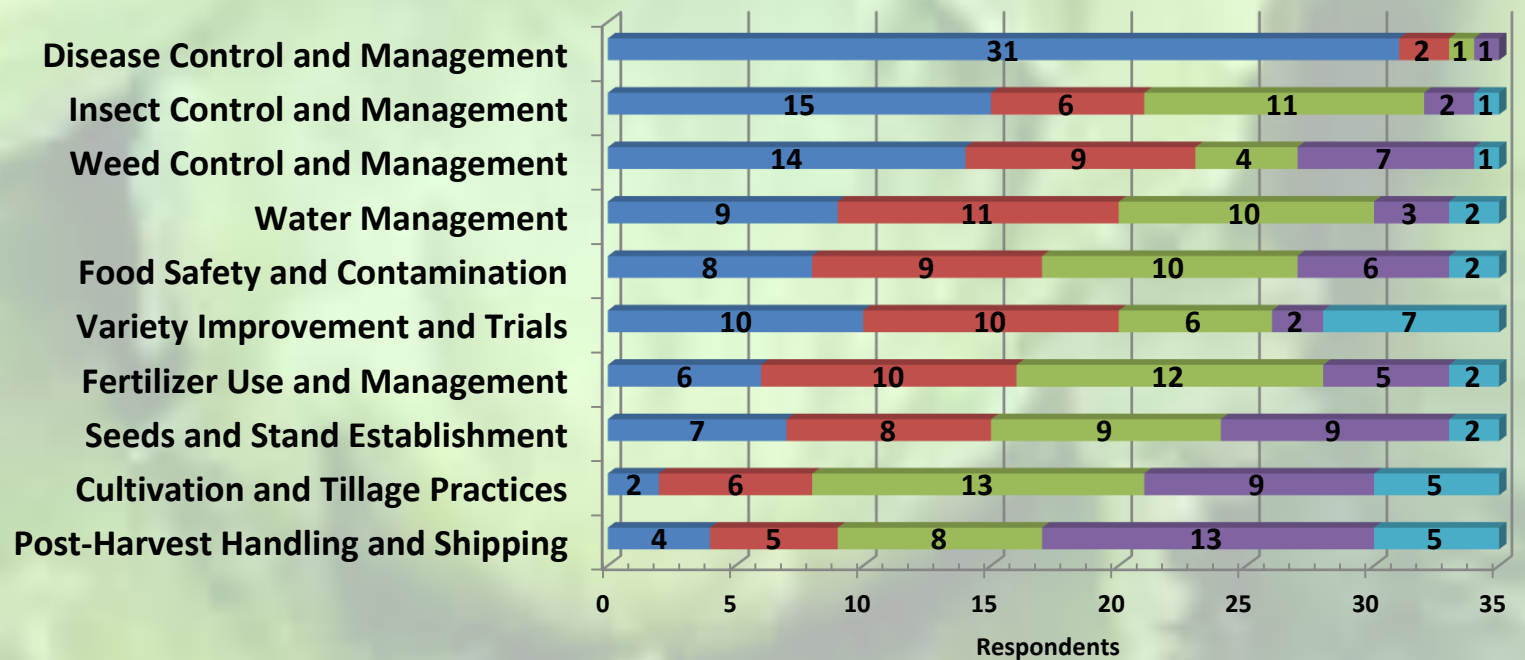
Priority*

High



Low

■ 5 - High ■ 4 - Medium High ■ 3 - Medium ■ 2 - Medium Low ■ 1 - Low



*Priority ranking based on a weighted average

Areas of Research

2012 Producers	2018 All	2018 Producers Only
Disease Control and Management	Disease Control and Management	Disease Control and Management
Food Safety and Contamination	Insect Control and Management	Insect Control and Management
Insect Control and Management	Water Management	Weed Control and Management
Weed Control and Management	Variety Improvement and Trials	Water Management
Fertilizer Use and Management	Seeds and Stand Establishment	Food Safety and Contamination
Water Management	Weed Control and Management	Variety Improvement and Trials
Post-Harvest Handling and Shipping	Food Safety and Contamination	Fertilizer Use and Management
Seeds and Stand Establishment	Fertilizer Use and Management	Seeds and Stand Establishment
Variety Improvement and Trials	Post-Harvest Handling and Shipping	Cultivation and Tillage Practices
Cultivation and Tillage Practices	Cultivation and Tillage Practices	Post-Harvest Handling and Shipping

Diseases and Disorders

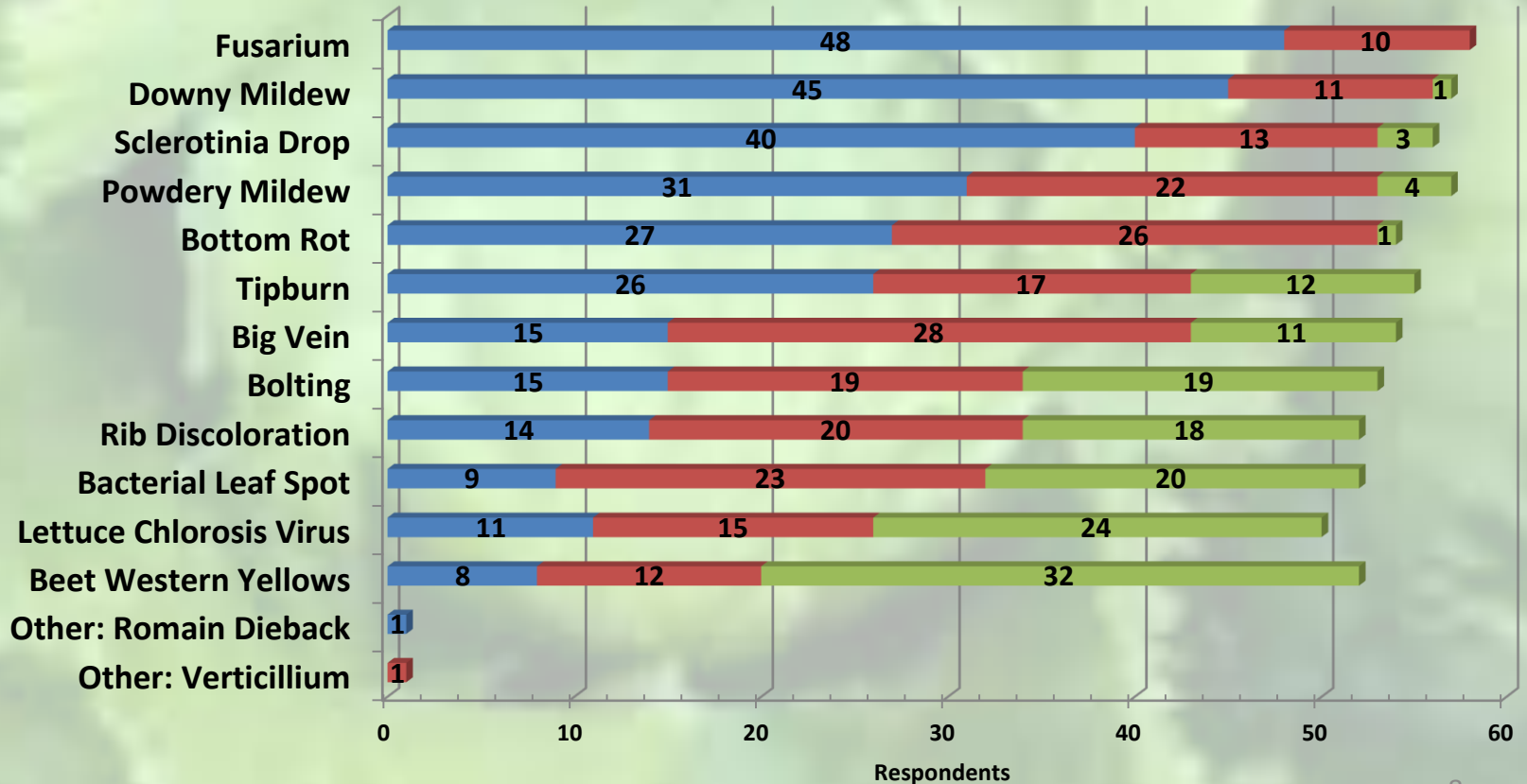
All 2018 Surveys (66)

Priority*

■ High ■ Medium ■ Low

High

Low



*Priority ranking based on a weighted average

Diseases and Disorders

2018 Producers Only (35)

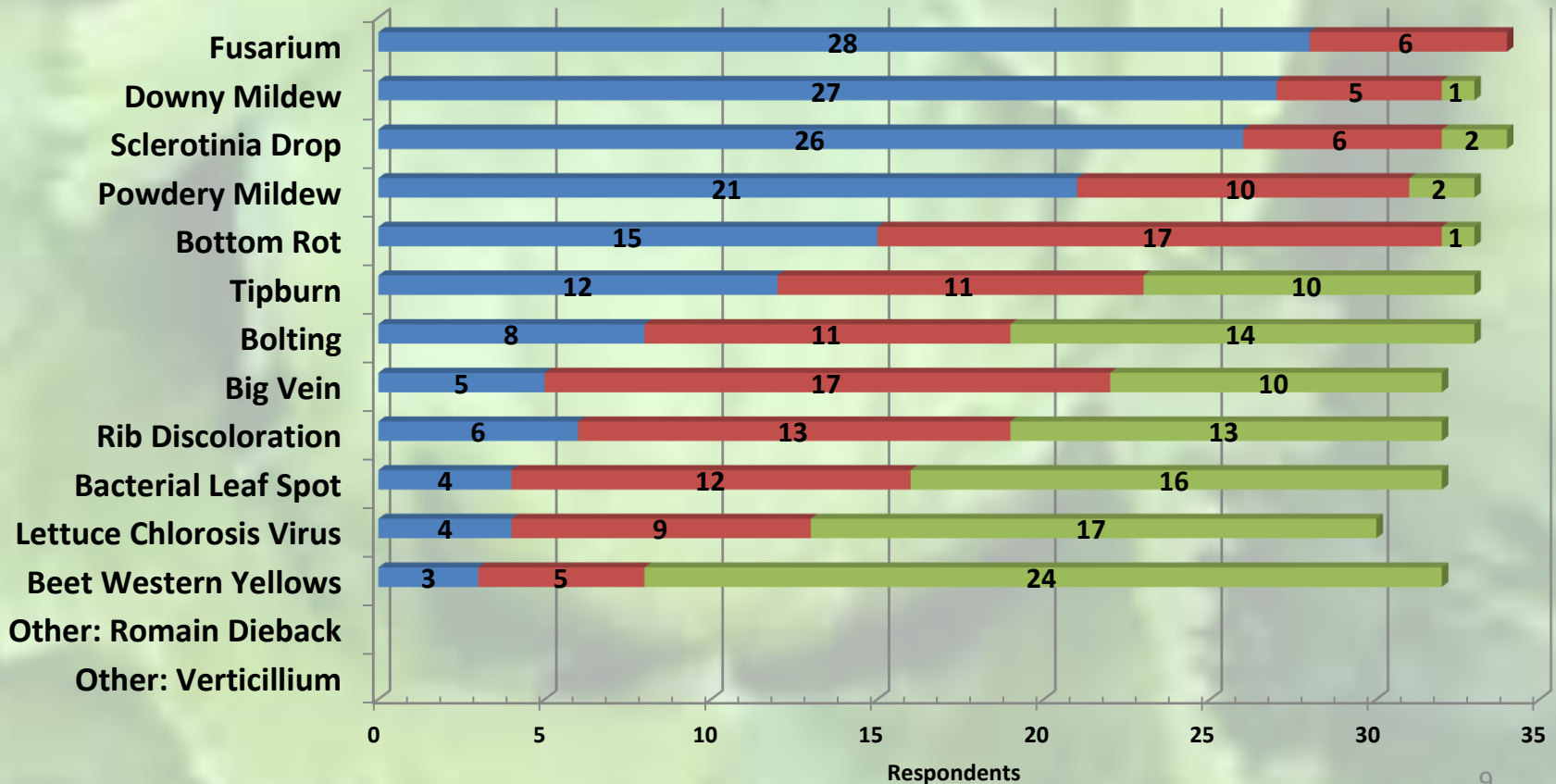
Priority*

High



Low

■ High ■ Medium ■ Low



*Priority ranking based on a weighted average

Diseases and Disorders

2012 Producers	2018 All	2018 Producers Only
Sclerotinia Drop	Fusarium	Fusarium
Powdery Mildew	Downy Mildew	Downy Mildew
Fusarium	Sclerotinia Drop	Sclerotinia Drop
Bottom Rot	Powdery Mildew	Powdery Mildew
Downy Mildew	Bottom Rot	Bottom Rot
Tipburn	Tipburn	Tipburn
Big Vein	Big Vein	Bolting
Rib Discoloration	Bolting	Big Vein
Lettuce Chlorosis Virus	Rib Discoloration	Rib Discoloration
Bolting	Bacterial Leaf Spot	Bacterial Leaf Spot
Bacterial Leaf Spot	Lettuce Chlorosis Virus	Lettuce Chlorosis Virus
Beet Western Yellows	Beet Western Yellows	Beet Western Yellows
Other: Major sclero	Other: Romain Dieback	
	Other: Verticillium	

Soil and Water Management

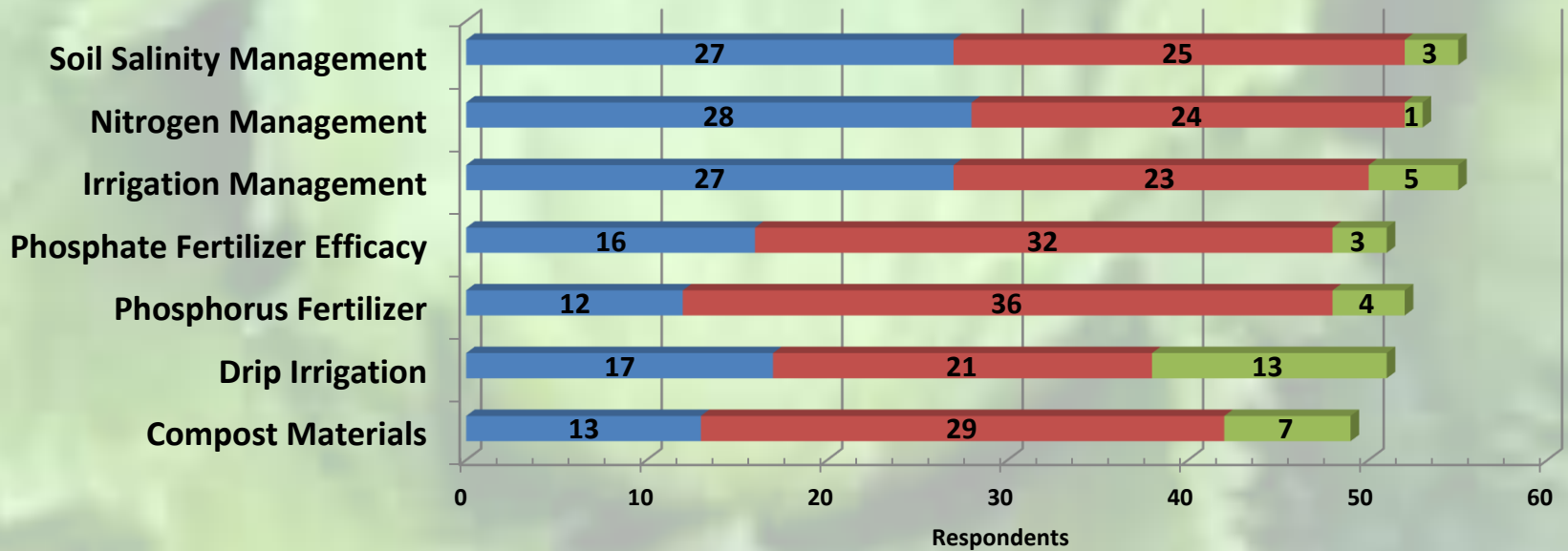
All 2018 Surveys (66)

Priority*

High

Low

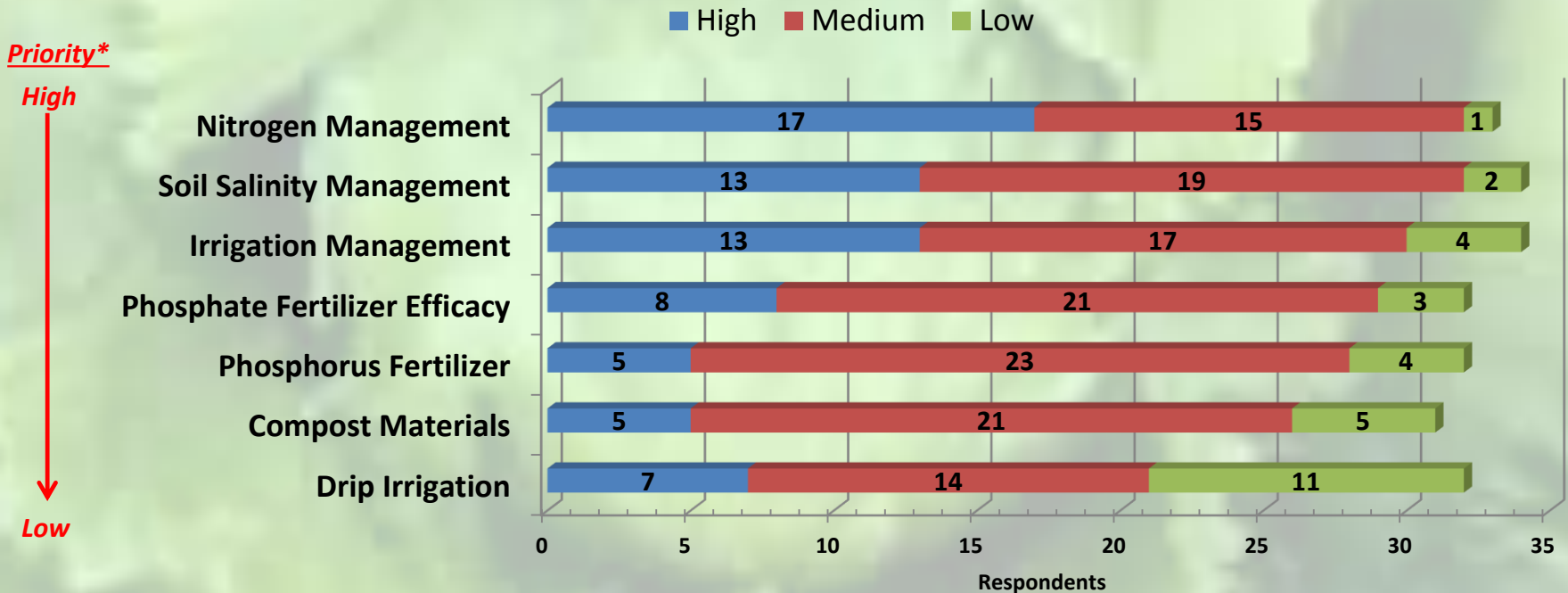
■ High ■ Medium ■ Low



*Priority ranking based on a weighted average

Soil and Water Management

2018 Producers Only (35)



*Priority ranking based on a weighted average

Soil and Water Management

2012 Producers	2018 All	2018 Producers Only
Nitrogen Management	Soil Salinity Management	Nitrogen Management
Phosphate Fertilizer Efficacy	Nitrogen Management	Soil Salinity Management
Phosphorus Fertilizer	Irrigation Management	Irrigation Management
Compost Materials	Phosphate Fertilizer Efficacy	Phosphate Fertilizer Efficacy
Drip Irrigation	Phosphorus Fertilizer	Phosphorus Fertilizer
	Drip Irrigation	Compost Materials
	Compost Materials	Drip Irrigation

Technology

All 2018 Surveys (66)

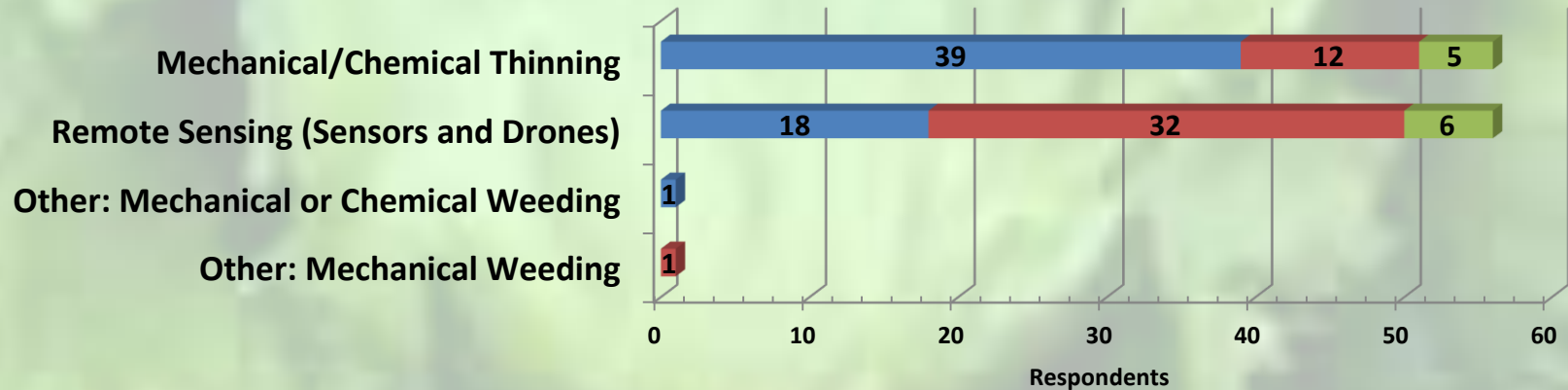
Priority*

High



Low

■ High ■ Medium ■ Low



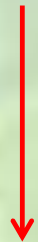
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Technology

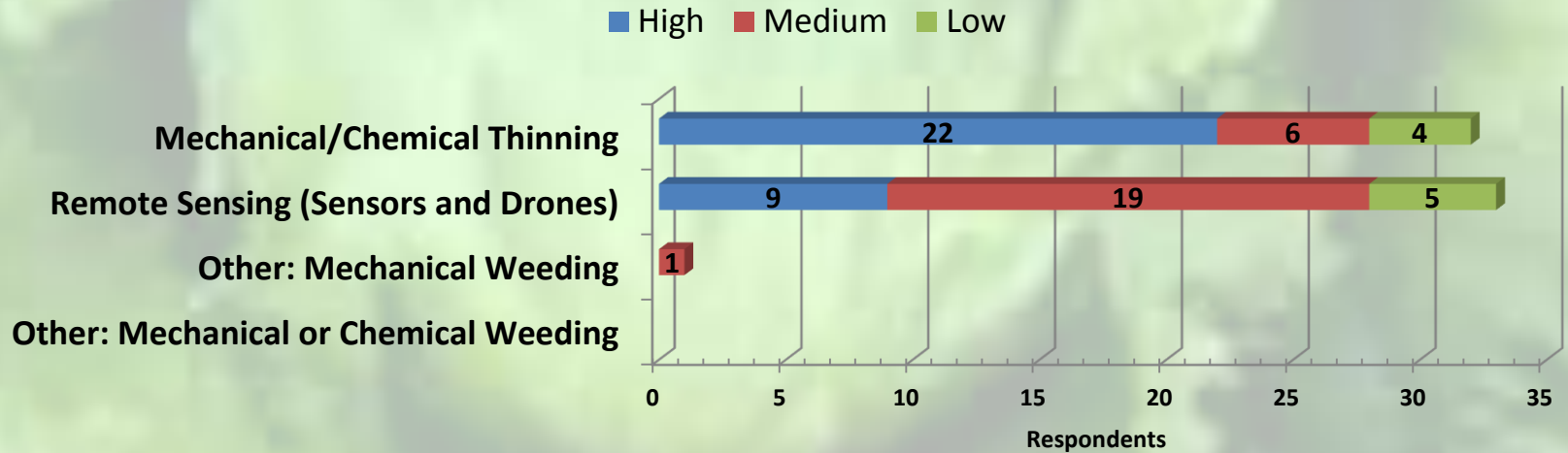
2018 Producers Only (35)

Priority*

High



Low



*Priority ranking based on a weighted average

Technology

2012 Producers	2018 All	2018 Producers Only
Mechanical/Chemical Thinning	Mechanical/Chemical Thinning	Mechanical/Chemical Thinning
	Remote Sensing (Sensors and Drones)	Remote Sensing (Sensors and Drones)
	Other: Mechanical or Chemical Weeding	Other: Mechanical Weeding
	Other: Mechanical Weeding	

Insects and Nematodes

All 2018 Surveys (66)

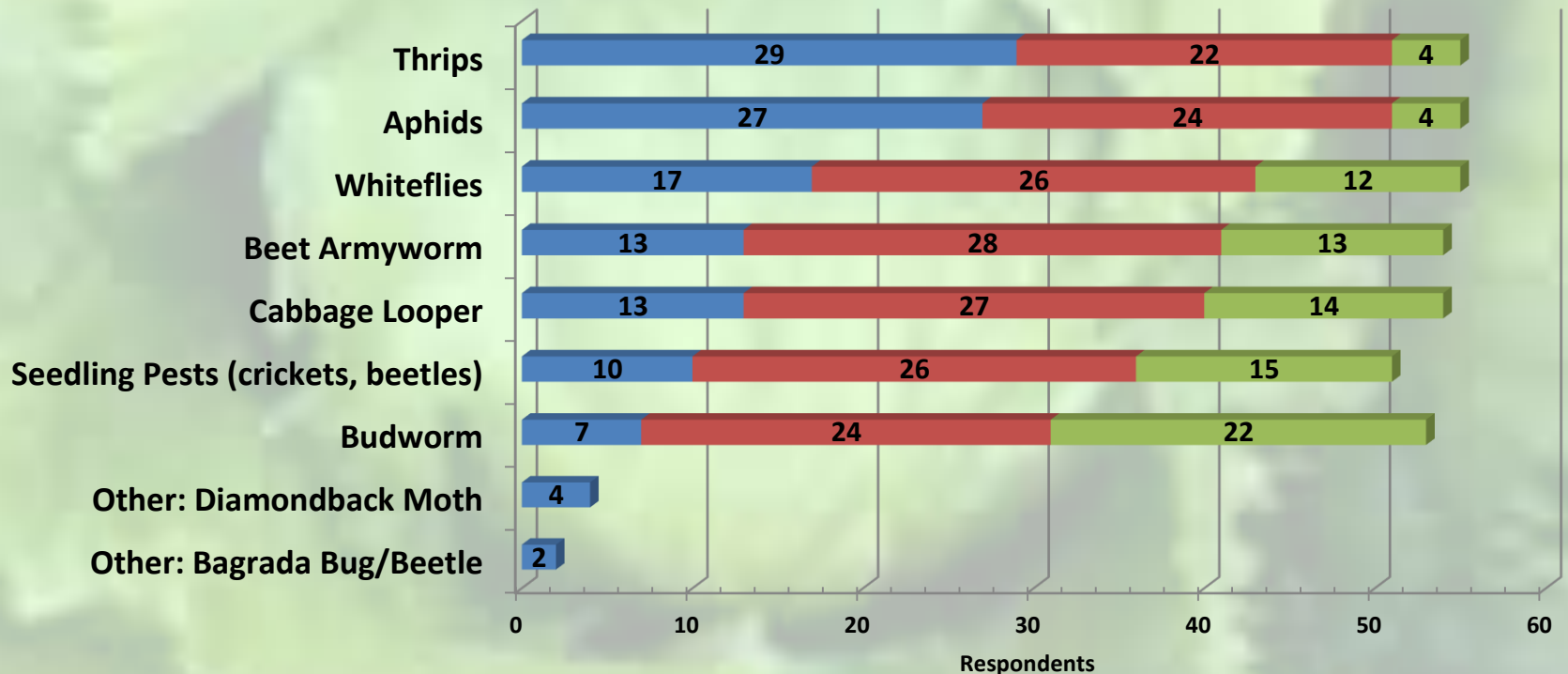
Priority*

High



Low

■ High ■ Medium ■ Low



*Priority ranking based on a weighted average

Insects and Nematodes

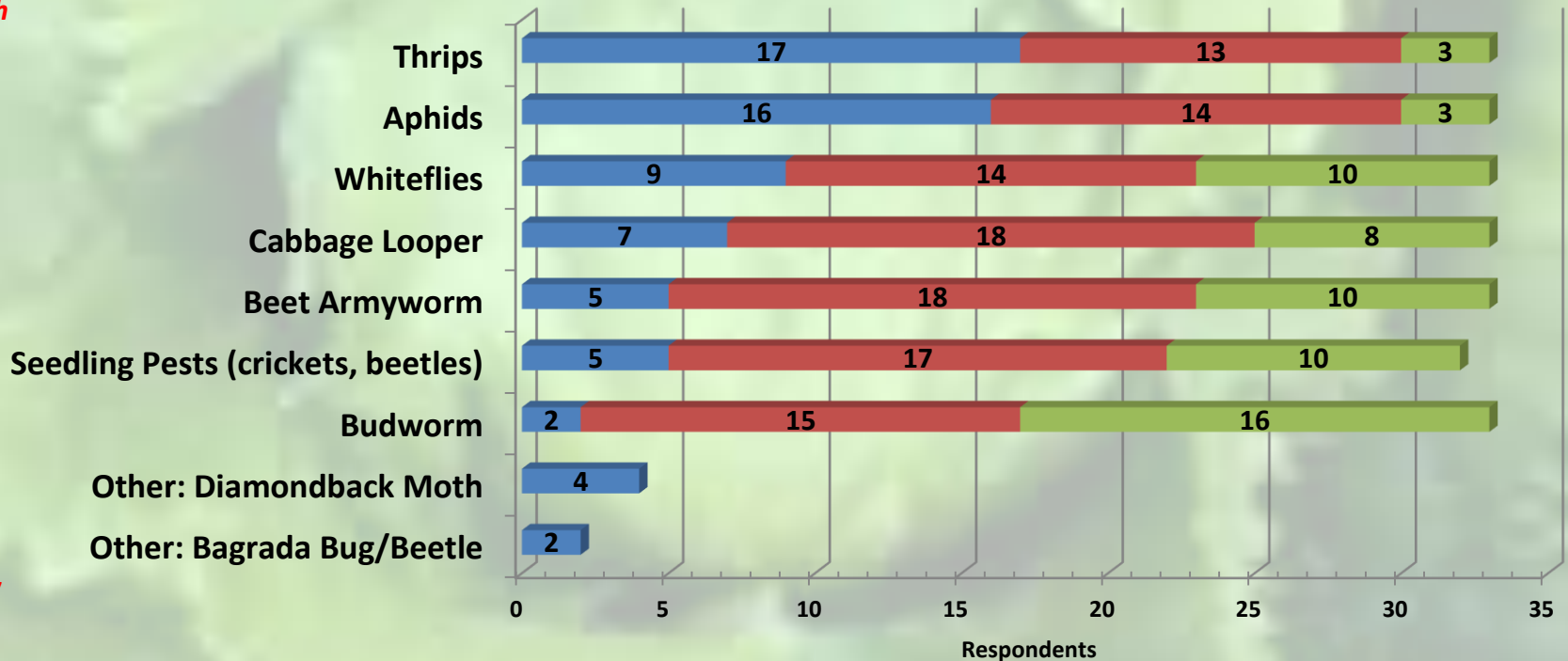
2018 Producers Only (35)

Priority*

High Medium Low

High

Low



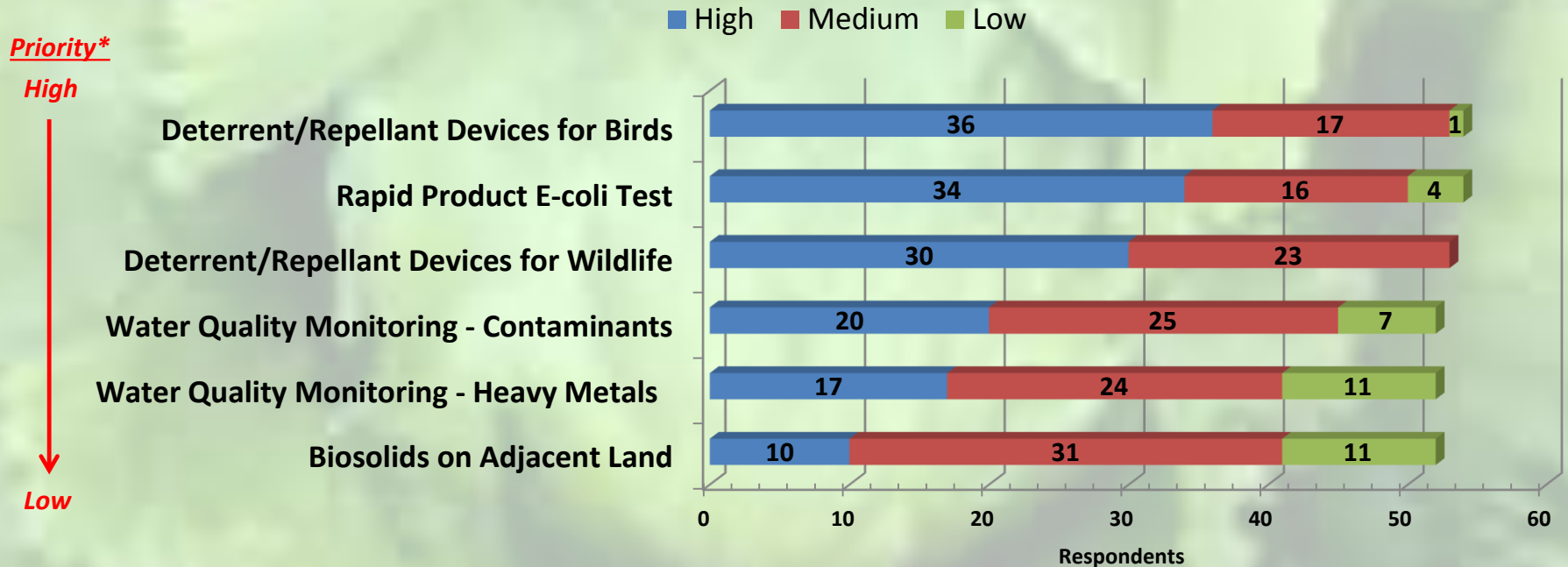
*Priority ranking based on a weighted average

Insects and Nematodes

2012 Producers	2018 All	2018 Producers Only
Thrips	Thrips	Thrips
Aphids	Aphids	Aphids
Whiteflies	Whiteflies	Whiteflies
Beet Armyworm	Beet Armyworm	Cabbage Looper
Seedling Pests (crickets, beetles)	Cabbage Looper	Beet Armyworm
Budworm	Seedling Pests (crickets, beetles)	Seedling Pests (crickets, beetles)
Cabbage Looper	Budworm	Budworm
Other: Bird Control	Other: Diamondback Moth	Other: Diamondback Moth
	Other: Bagrada Bug/Beetle	Other: Bagrada Bug/Beetle

Food Safety

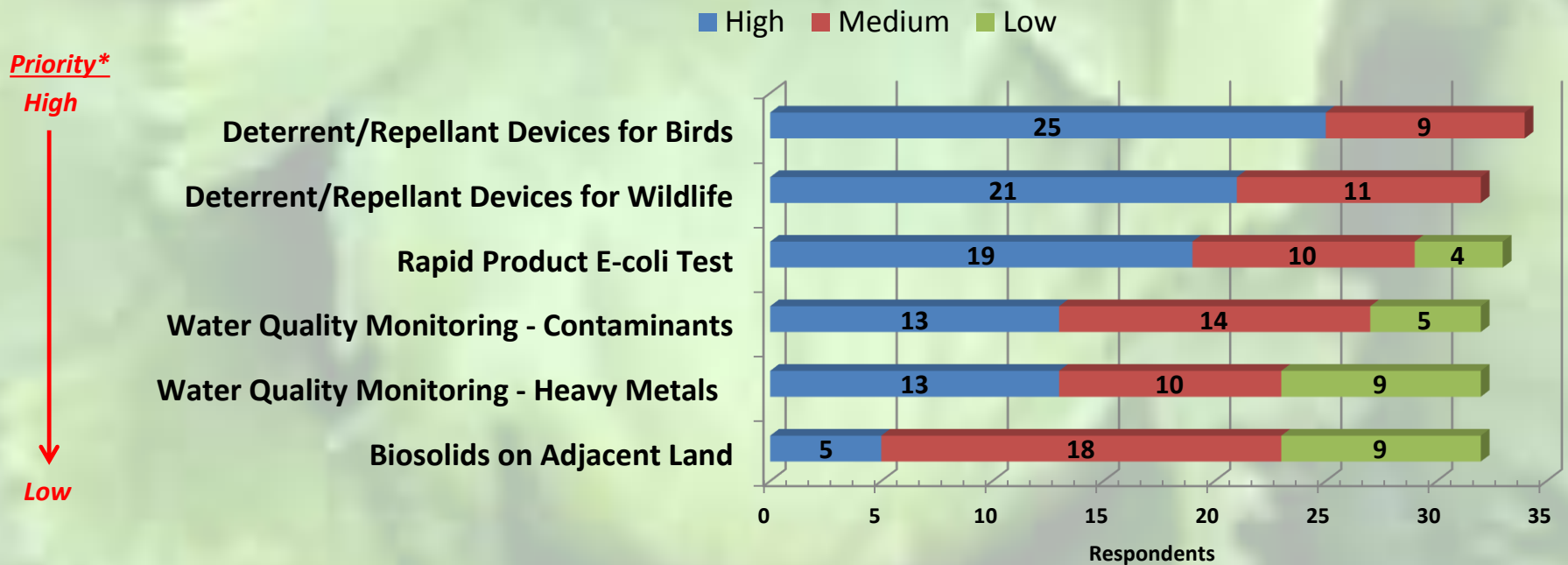
All 2018 Surveys (66)



*Priority ranking based on a weighted average

Food Safety

2018 Producers Only (35)



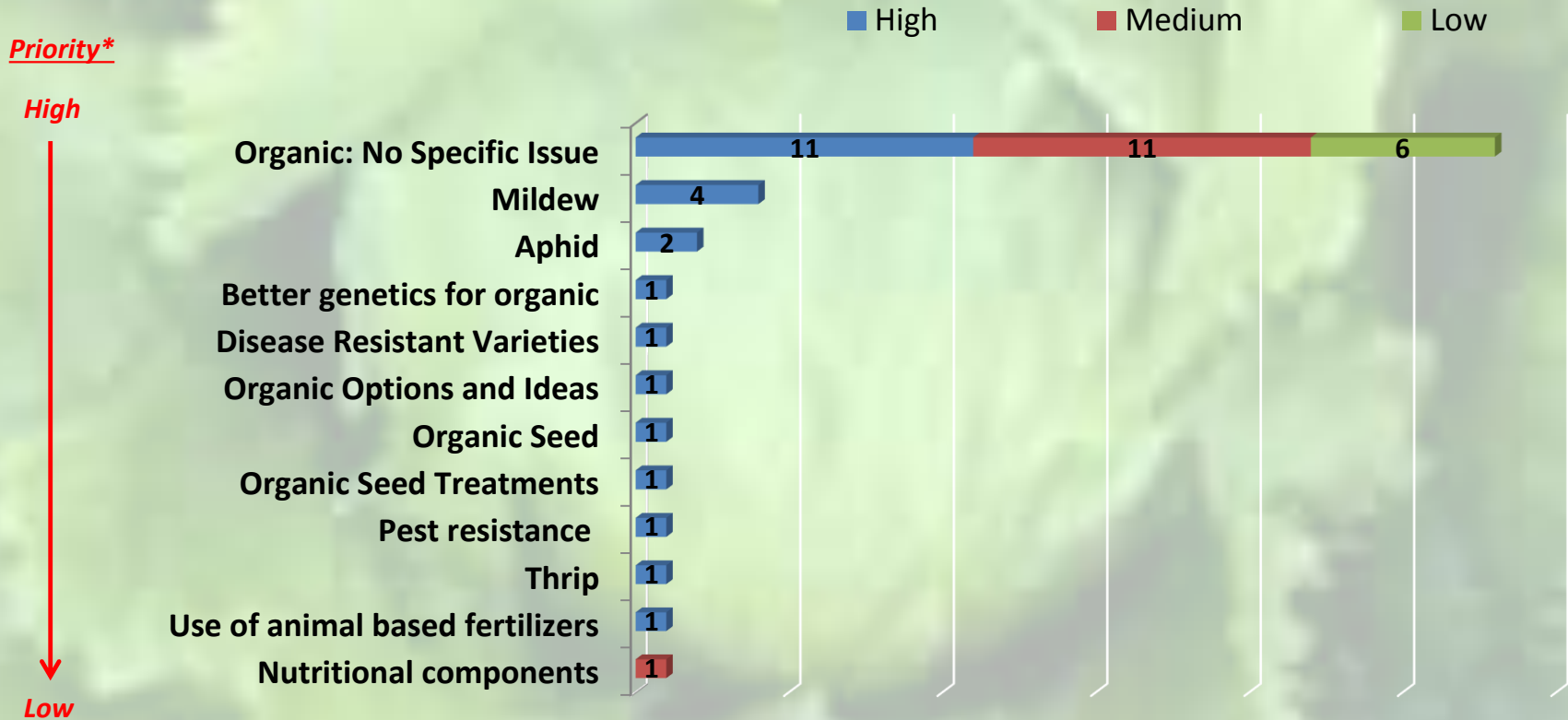
*Priority ranking based on a weighted average

Food Safety

2012 Producers	2018 All	2018 Producers Only
Deterrent/Repellant Devices for Birds	Deterrent/Repellant Devices for Birds	Deterrent/Repellant Devices for Birds
Deterrent/Repellant Devices for Wildlife	Rapid Product E-coli Test	Deterrent/Repellant Devices for Wildlife
Water Quality Monitoring - Contaminants	Deterrent/Repellant Devices for Wildlife	Rapid Product E-coli Test
Rapid Product E-coli Test	Water Quality Monitoring - Contaminants	Water Quality Monitoring - Contaminants
Biosolids on Adjacent Land	Water Quality Monitoring - Heavy Metals	Water Quality Monitoring - Heavy Metals
Water Quality Monitoring - Heavy Metals	Biosolids on Adjacent Land	Biosolids on Adjacent Land

Organic

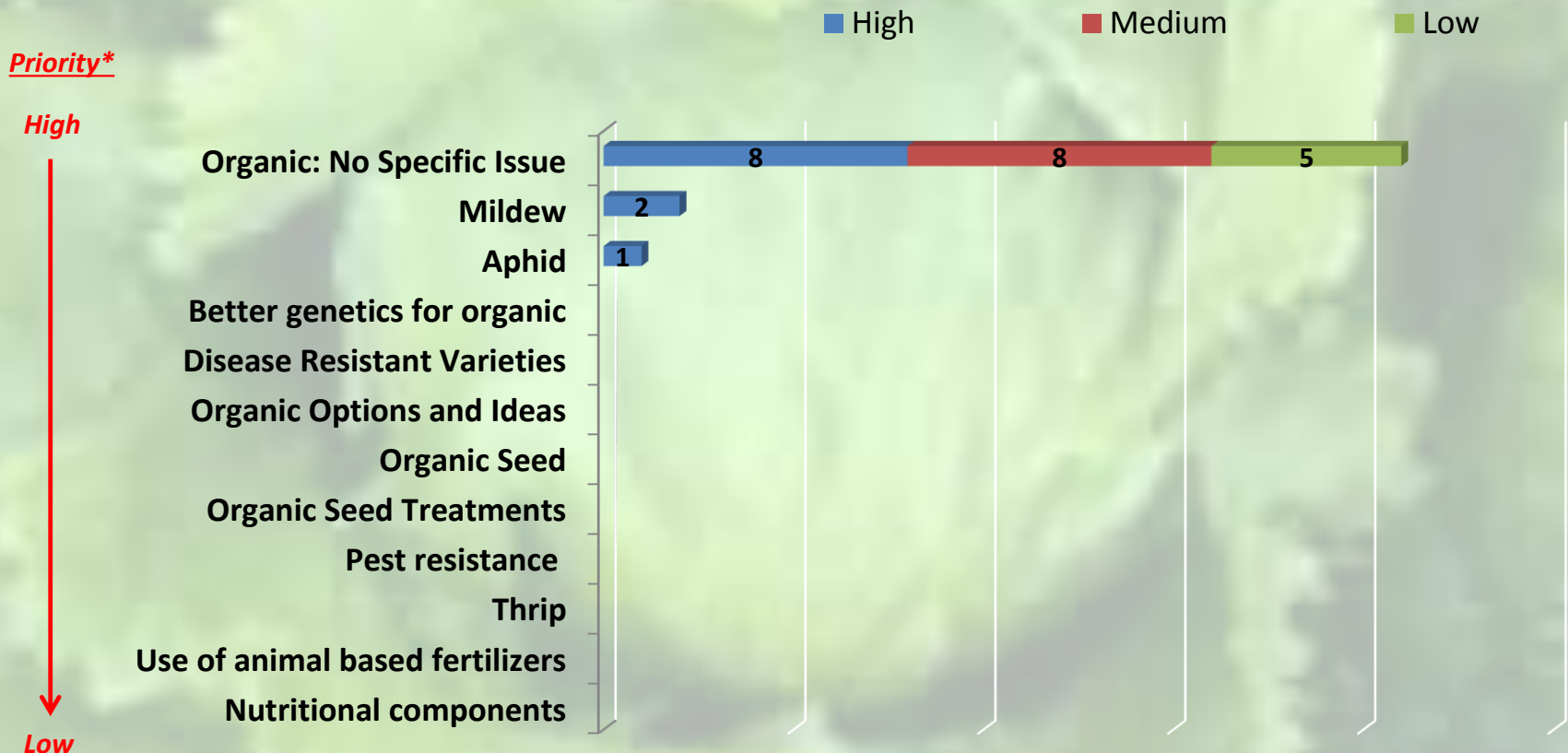
All 2018 Surveys (66)



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Organic

2018 Producers Only (35)



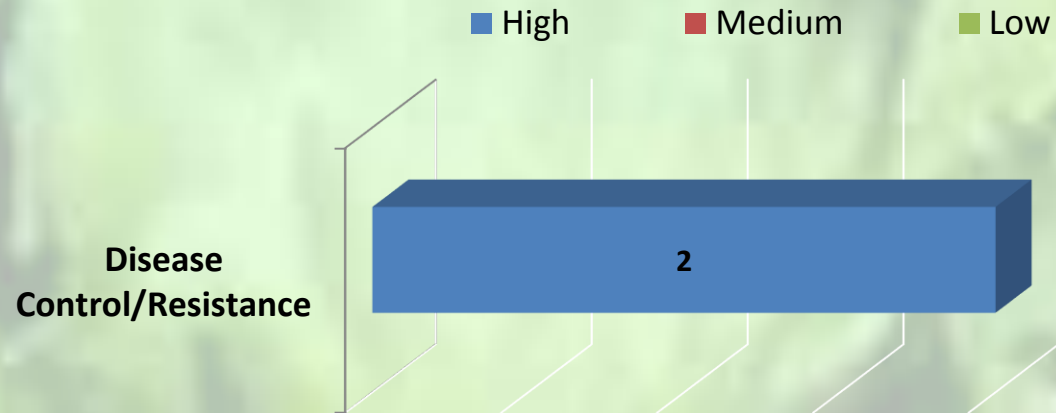
*Priority ranking based on a weighted average

Organic

2012 Producers	2018 All	2018 Producers Only
Beetles	Organic: No Specific Issue	Organic: No Specific Issue
Post harvest and handling	Mildew	Mildew
	Aphid	Aphid
	Better genetics for organic	
	Disease Resistant Varieties	
	Nutritional components	
	Organic Options and Ideas	
	Organic Seed	
	Organic Seed Treatments	
	Pest resistance	
	Thrip	
	Use of animal based fertilizers	

Other

Total and Producer Only



Other

2012 Producers	2018 All	2018 Producers Only
Fertilizer	Disease Control/Resistance	Disease Control/Resistance
Labor		
Pest management		
Pre-harvesting and harvesting		