

Stakeholder Perspectives on Resistance Management

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Methodology – Our Survey

- 2015 – 20 Respondents

- Online Qualtrics Survey
- Reps from ag retail and advising, farmer and commodity associations, pesticide/biotech companies
- Objective: Understand how stakeholder groups think about pest resistance management

- 2022 – 94 Respondents

- Online Qualtrics Survey
- Sent to participants in this meeting
- Replicate some questions from previous surveys
- Add some new questions
- Objective: Understand how this group thinks (differently?) about pest resistance management

Which stakeholder group(s) do you belong to? (Choose all that apply)

#	Answer	%	Count
1	Farmer	25.53%	24
2	Crop Advisor	12.77%	12
3	Agricultural Retailer	9.57%	9
4	Pesticide Manufacturer	3.19%	3
5	Seed Company	13.83%	13
6	University Scientist	4.26%	4
7	Extension Educator	4.26%	4
8	Land Management Firm	2.13%	2
9	Commercial Pesticide Applicator	9.57%	9

Which stakeholder group(s) do you belong to? (Choose all that apply)

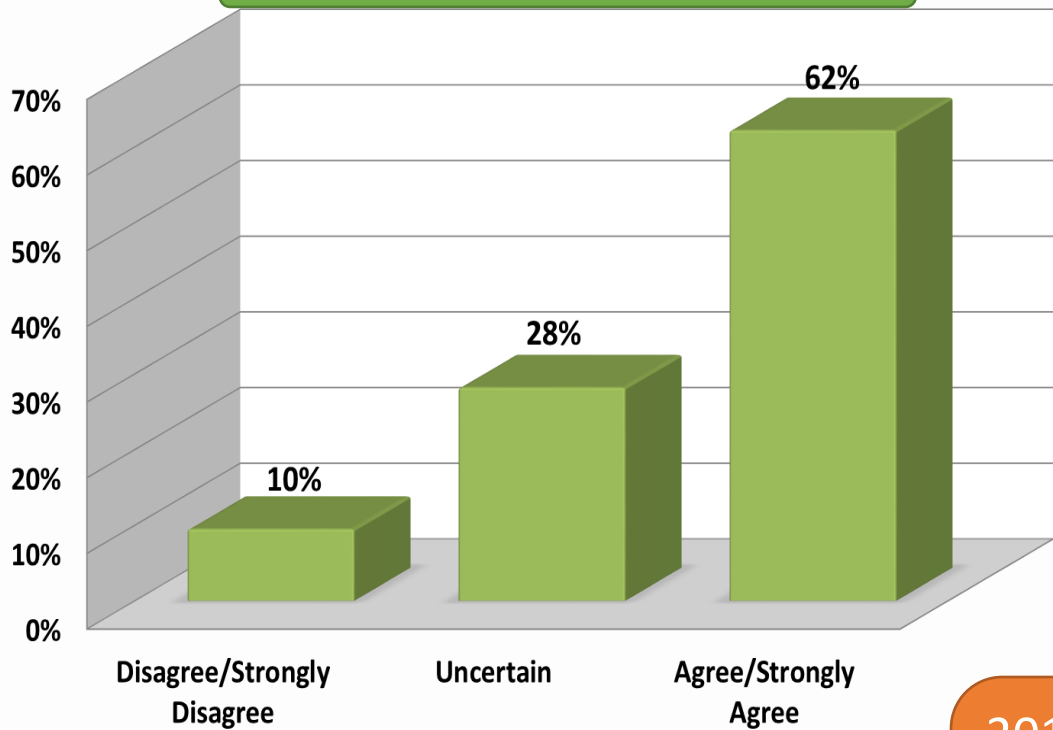
#	Answer	%	Count
10	Commodity Group	8.51%	8
11	Government	2.13%	2
12	Non-Governmental Organization (NGO)	2.13%	2
13	Local Community Representatives (i.e. bankers, county commissioner, etc)	2.13%	2
14	Other (please specify)	0.00%	0
	Total	100%	94

Methodology – Iowa Farm and Rural Life Poll

- Data from the Iowa Farm and Rural Life Poll
- Annual panel survey of ~1,200 Iowa farmers
- Questions in both 2014 and 2013 surveys
- Farmers who reported corn and/or soybean
- Objective: What do farmers think?

I am concerned that Bt-resistant insects will become a problem in my area/Iowa

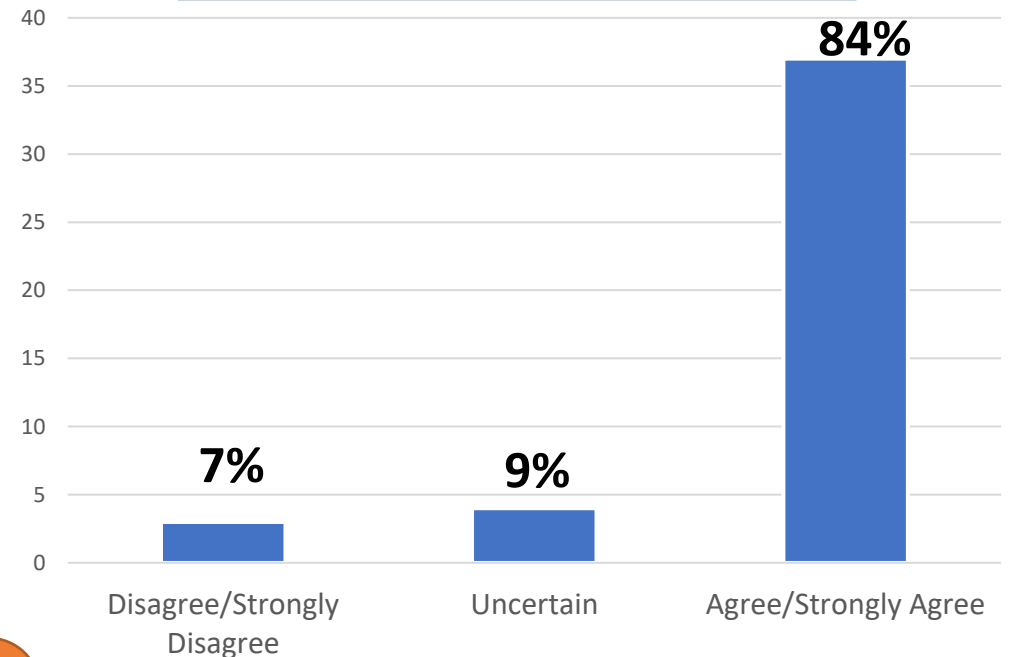
Iowa Farm and Rural Life Poll



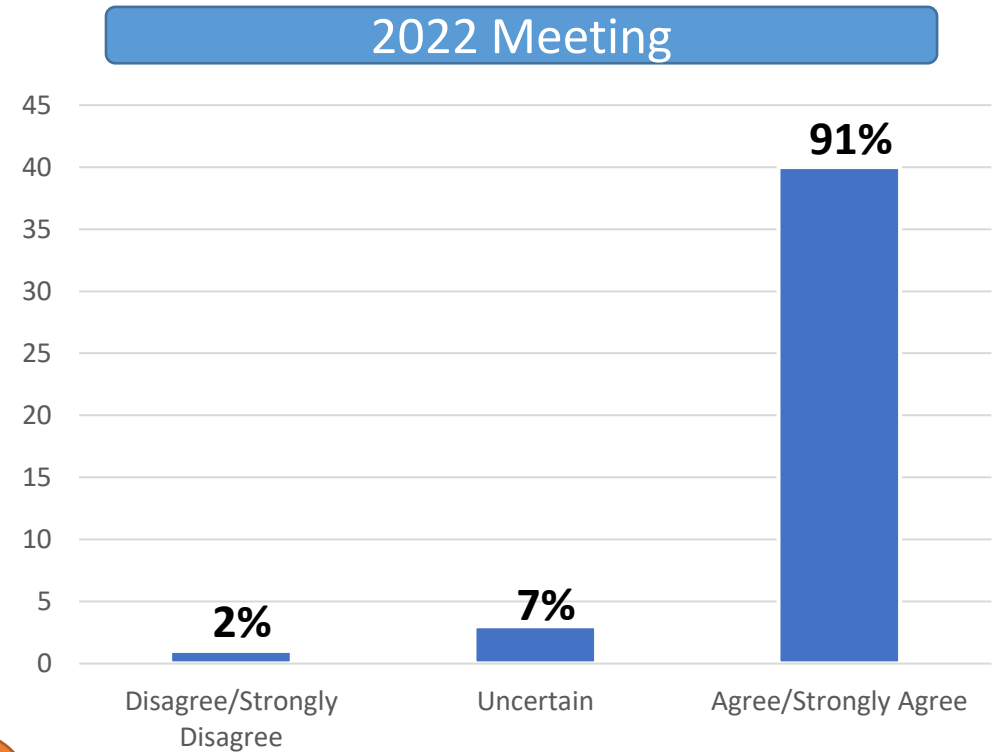
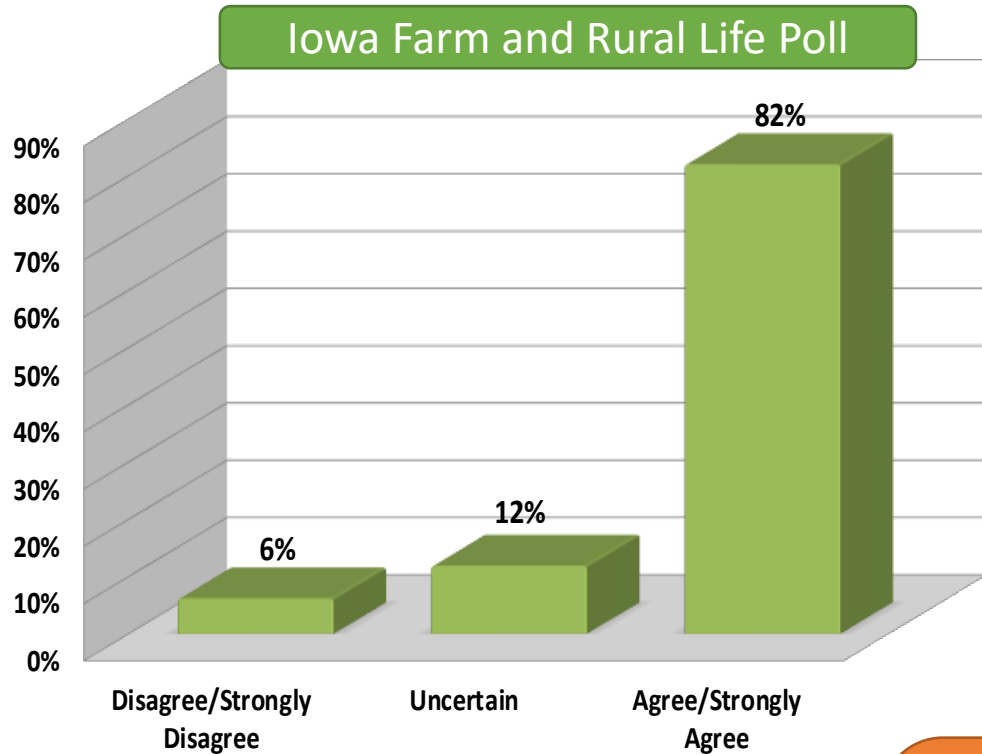
2015 Meeting:

- 5% Disagree
- 5% Uncertain
- 90% Agree

2022 Meeting



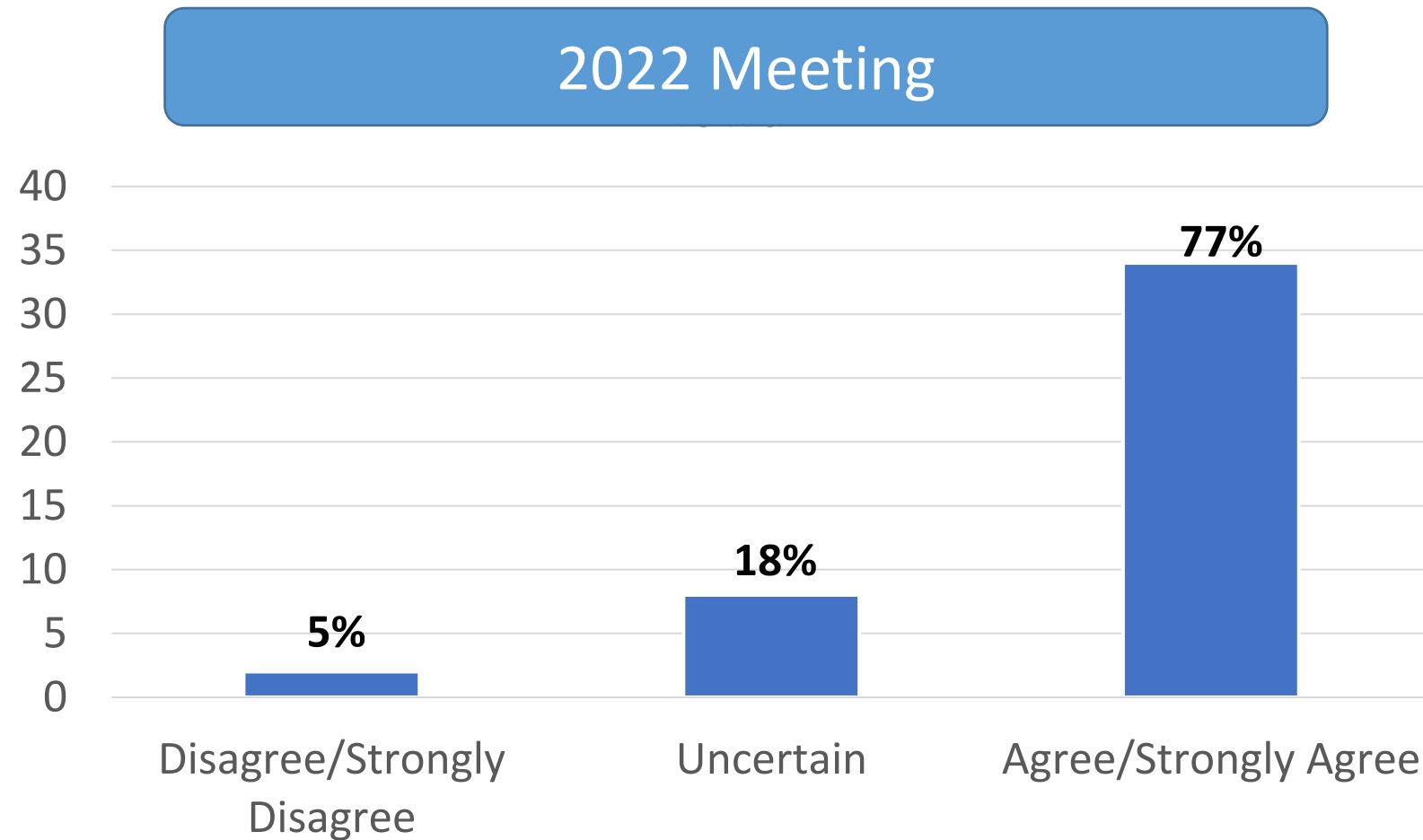
I am concerned that herbicide-resistant weeds will become a problem in my area



2015 Meeting:

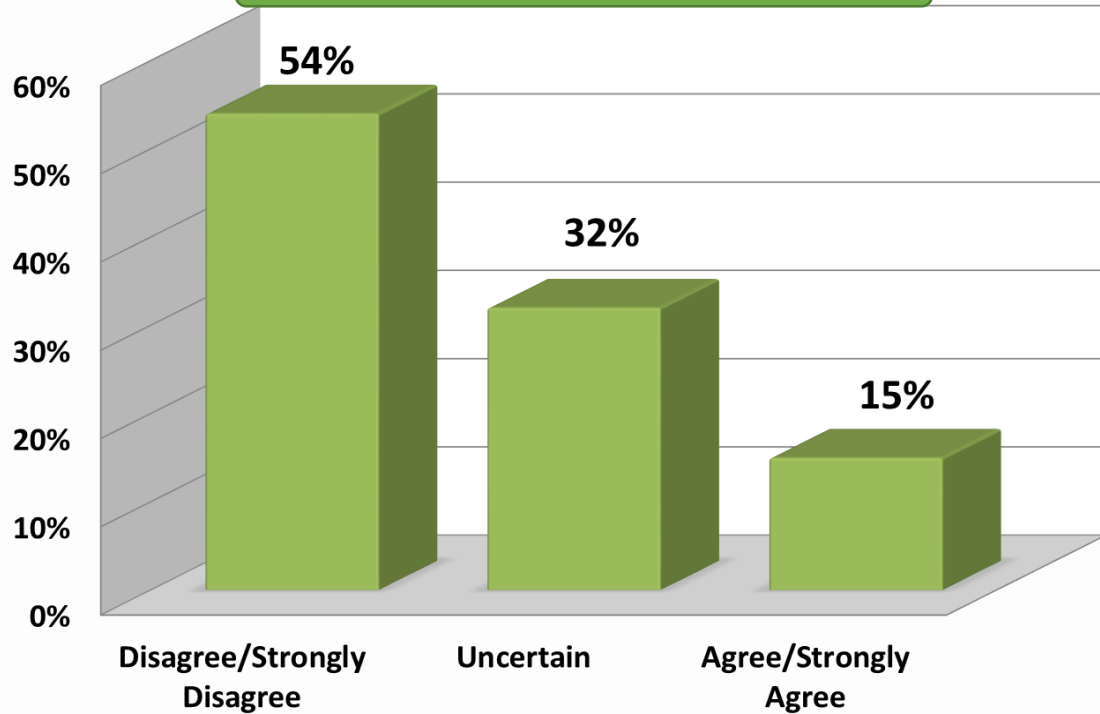
- 0% Disagree
- 5% Uncertain
- 95% Agree

I am concerned that fungicide-resistant pathogens will become a problem in my area

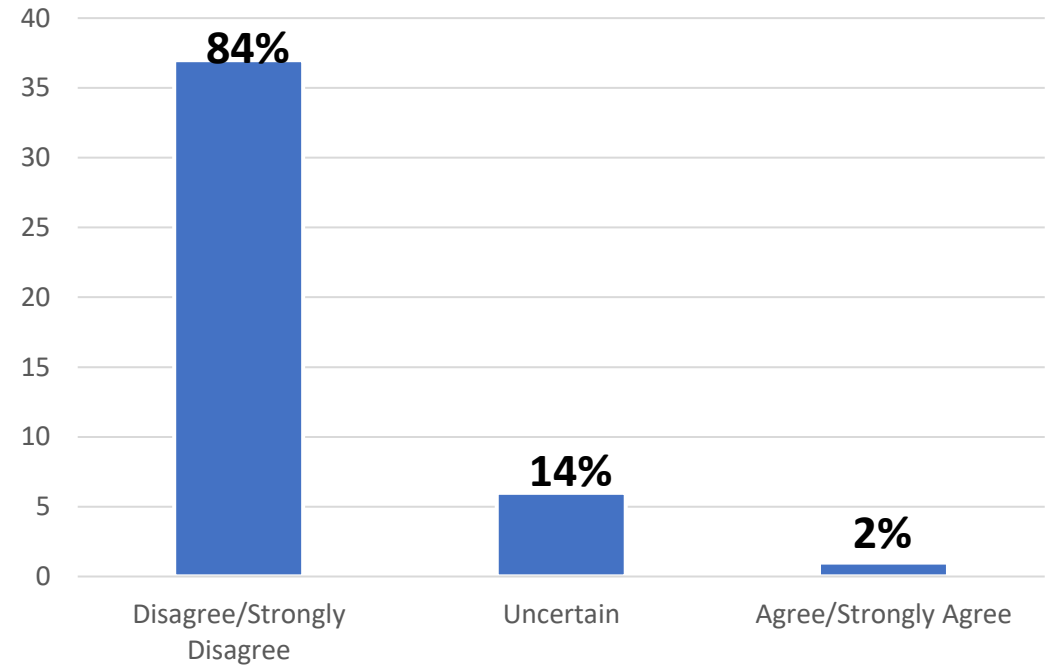


Bt-resistant insect pests are not a major concern because new technologies will be developed to manage them

Iowa Farm and Rural Life Poll



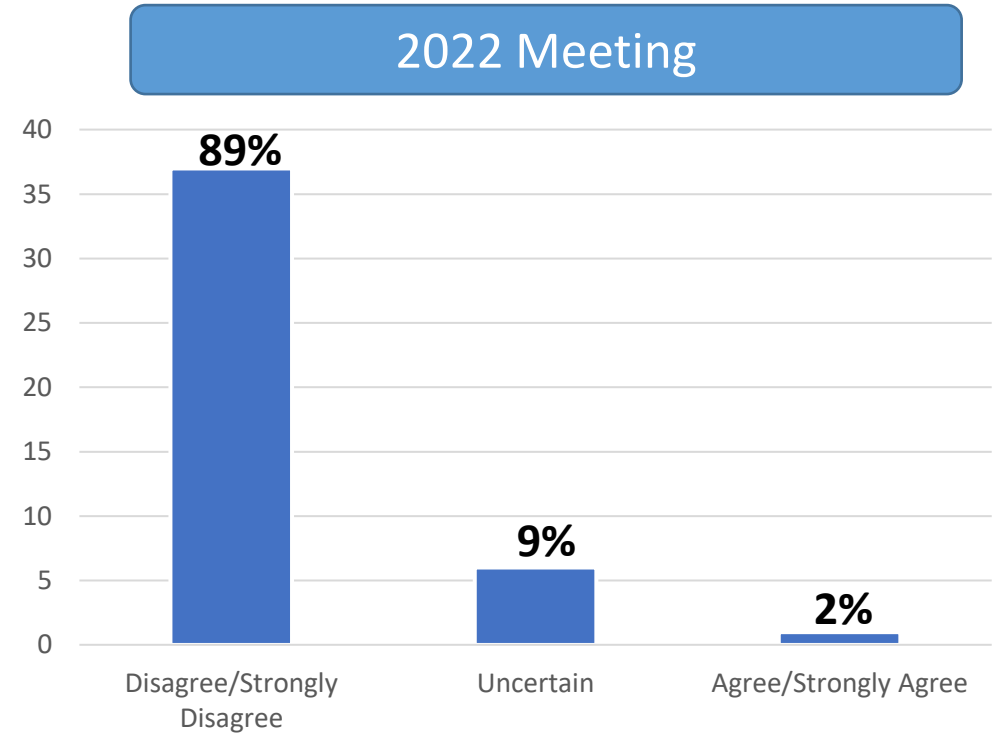
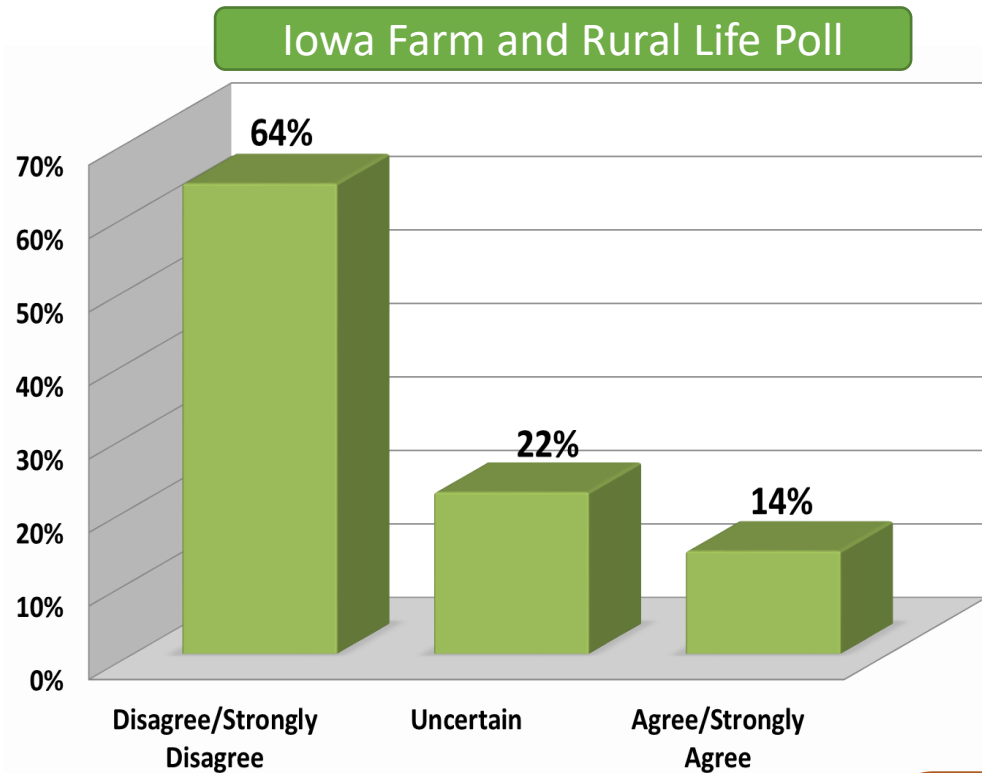
2022 Meeting



2015 Meeting:

- 90% Disagree
- 5% Uncertain
- 5% Agree

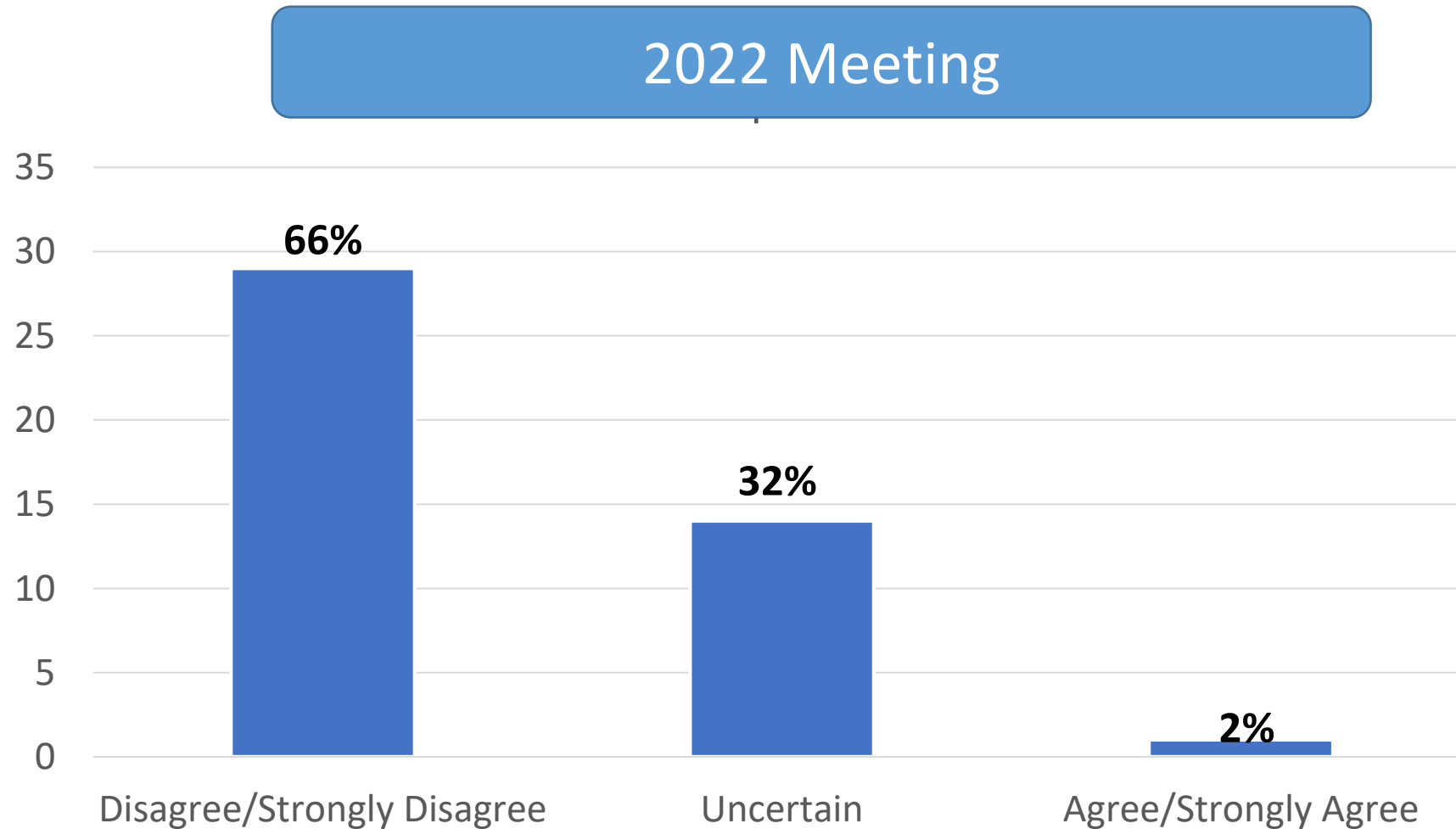
Herbicide-resistant weeds are not a major concern because new technologies will be developed to manage them



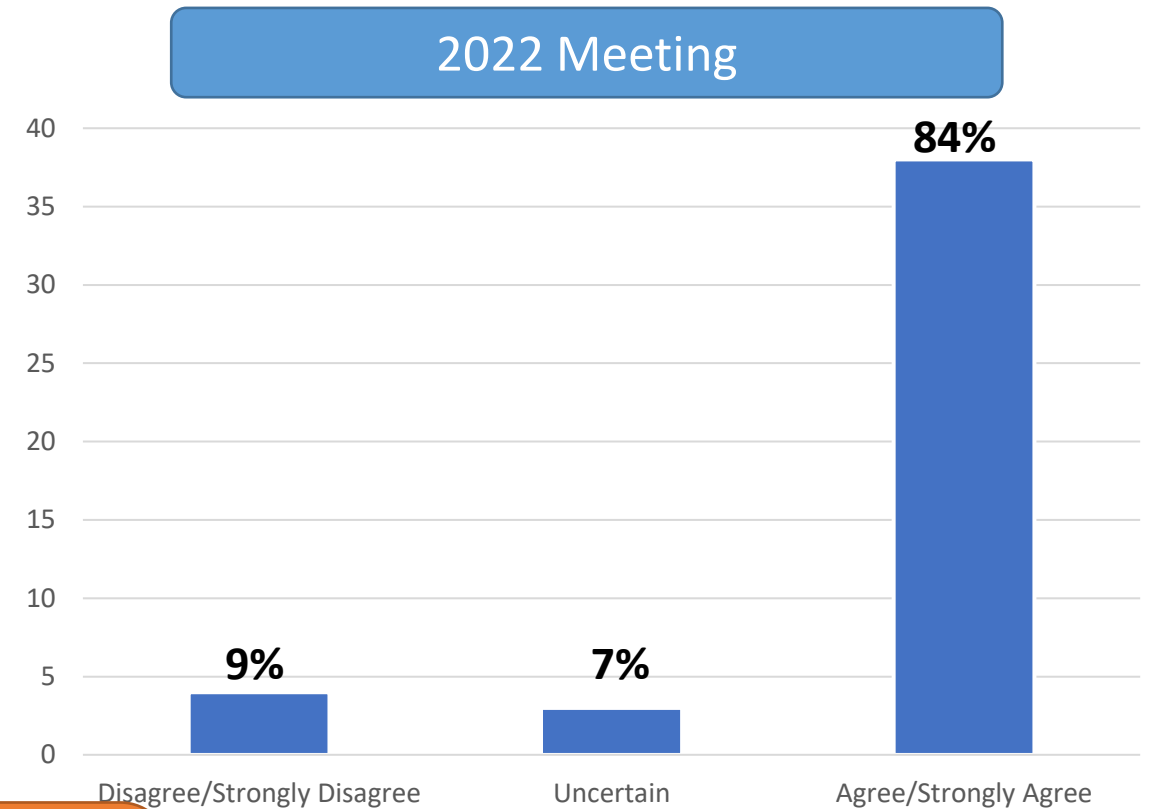
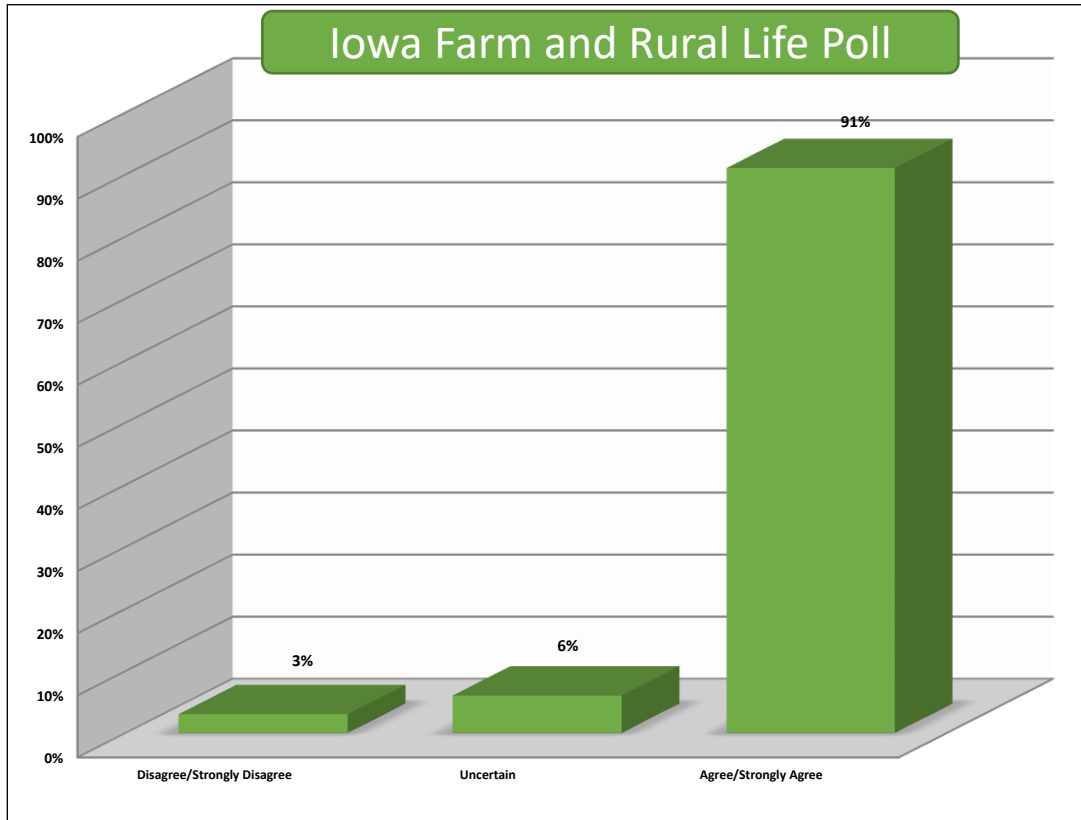
2015 Meeting:

- 95% Disagree
- 5% Uncertain
- 0% Agree

Fungicide-resistant pathogens are not a major concern because new technologies will be developed to manage them



I feel like pest (weed, disease, and insect) management is a never-ending technology treadmill

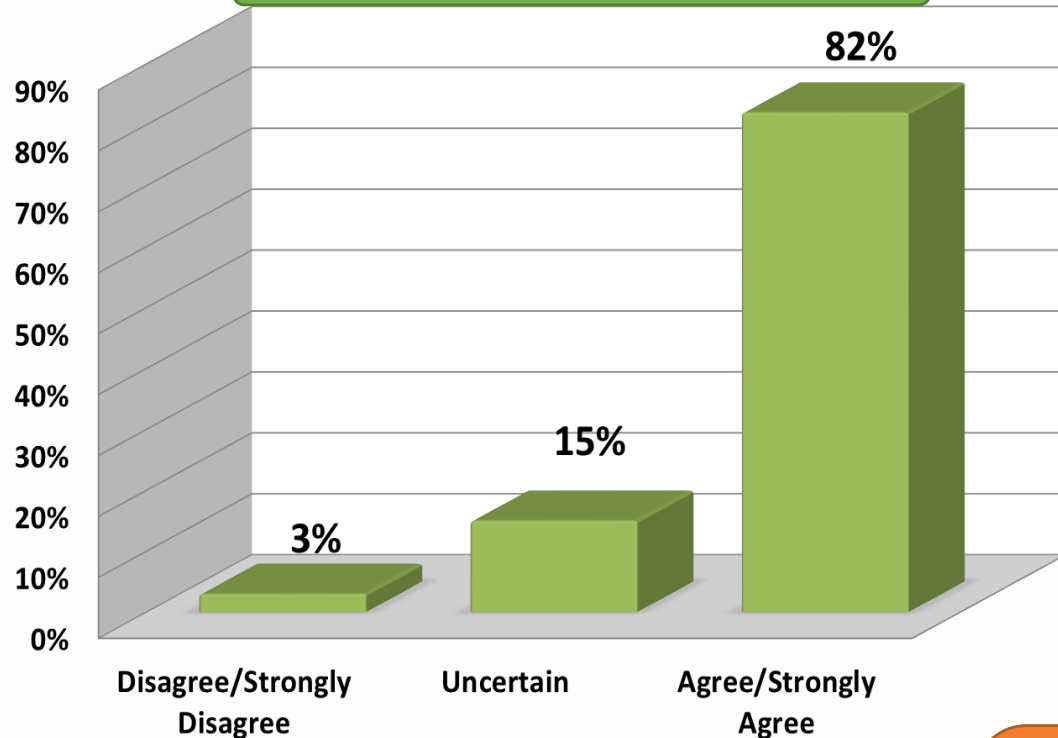


2015 Meeting:

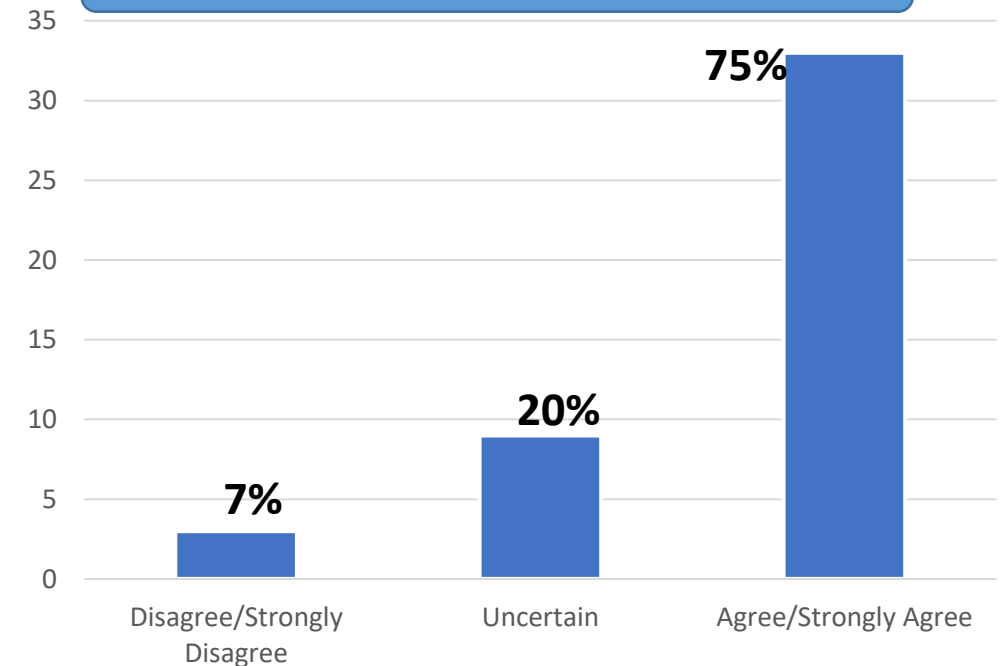
- 20% Disagree
- 15% Uncertain
- 65% Agree

When new pest management technologies are introduced, it is only a matter of time before pests evolve resistance

Iowa Farm and Rural Life Poll



2022 Meeting

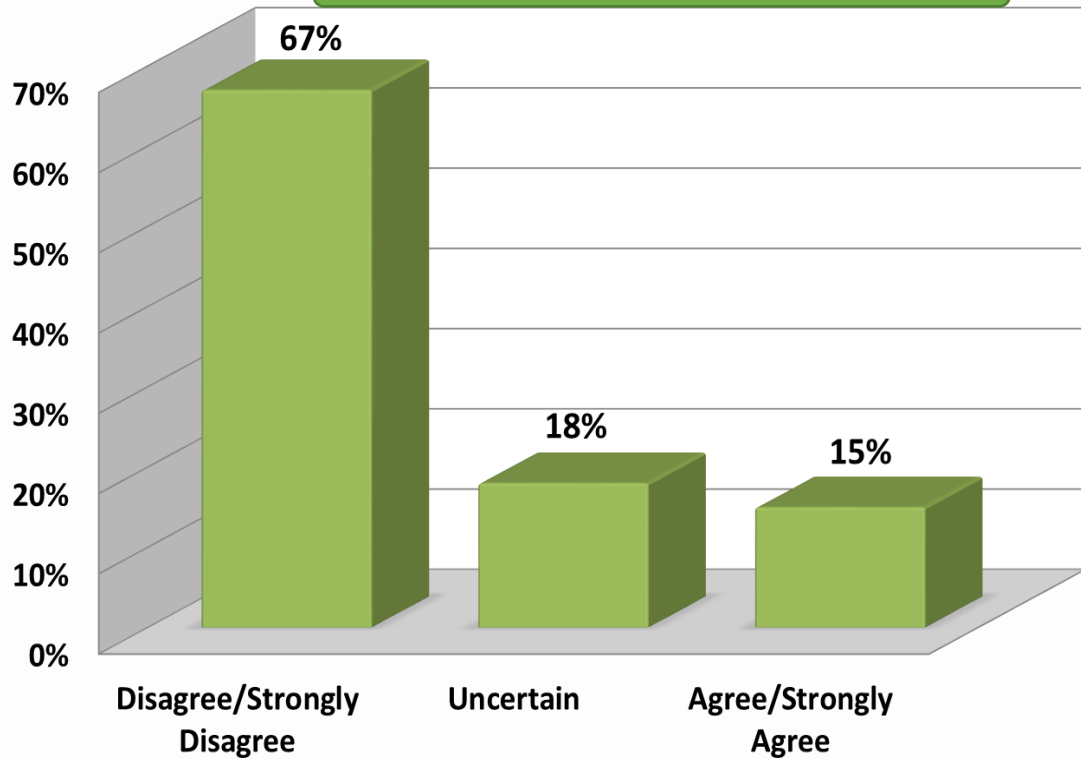


2015 Meeting:

- 25% Disagree
- 10% Uncertain
- 65% Agree

The way that farmers use pest management technologies does not really impact the rate at which resistance evolves

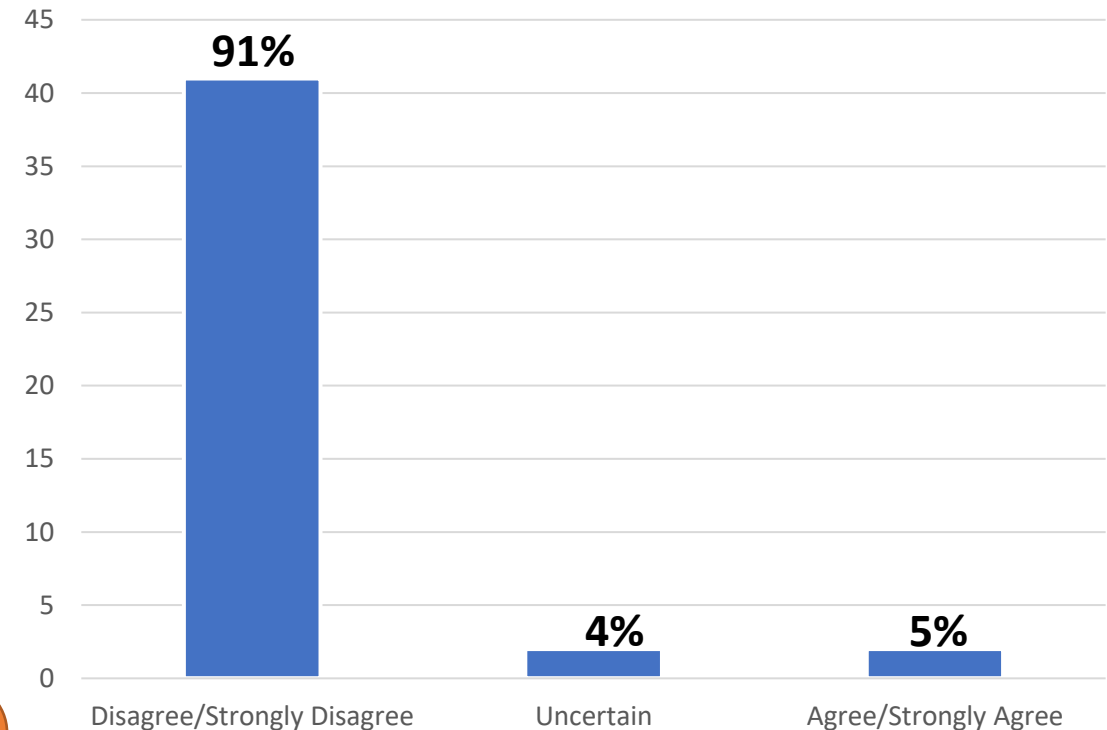
Iowa Farm and Rural Life Poll



2015 Meeting:

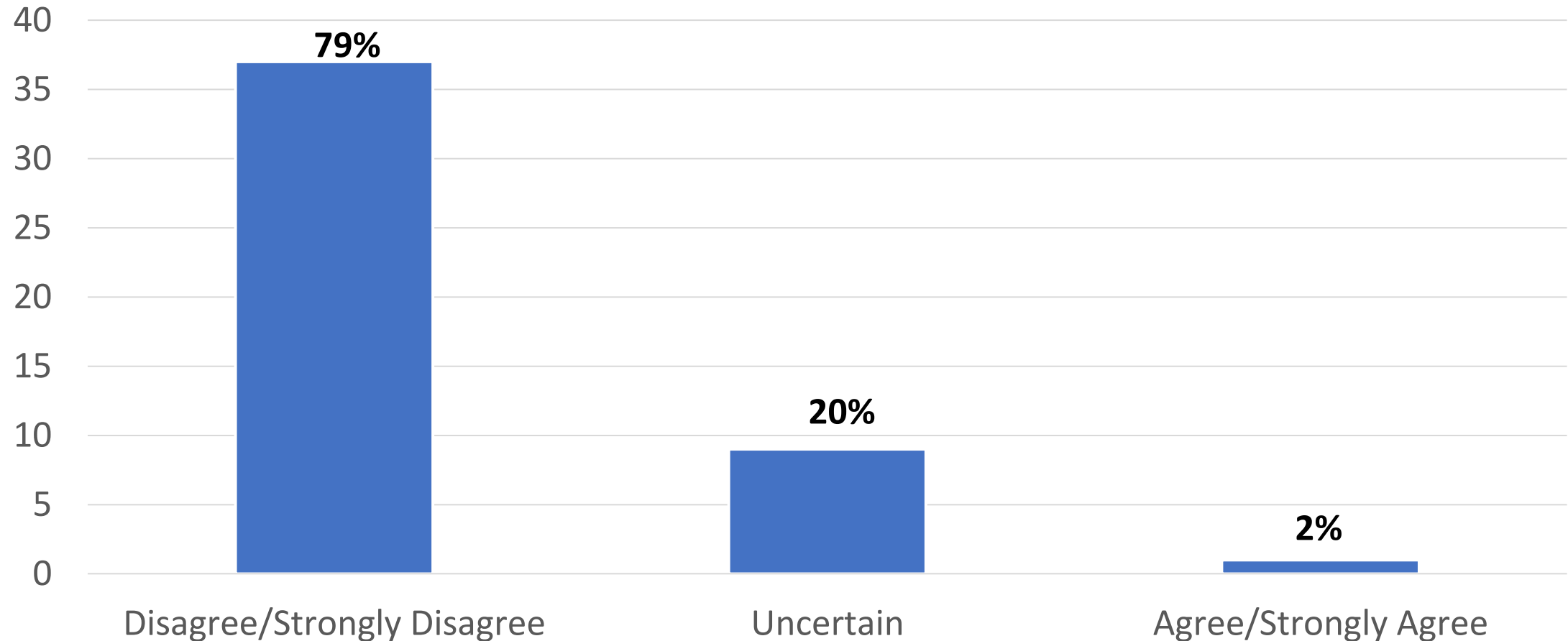
- 95% Disagree
- 5% Uncertain
- 0% Agree

2022 Meeting



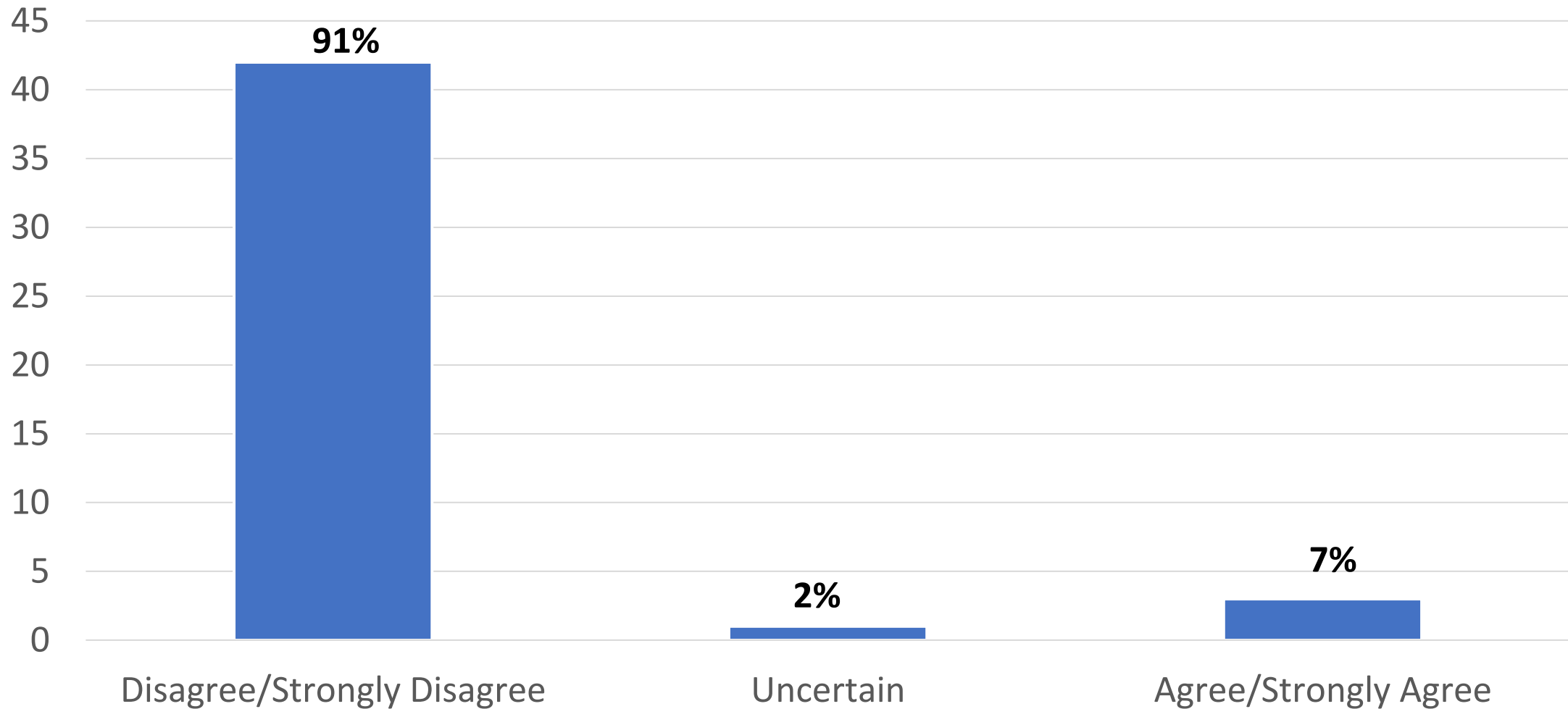
Realistically, the ONLY thing that can effectively manage pest resistance problems is the development of new pesticides/products

2022 Meeting



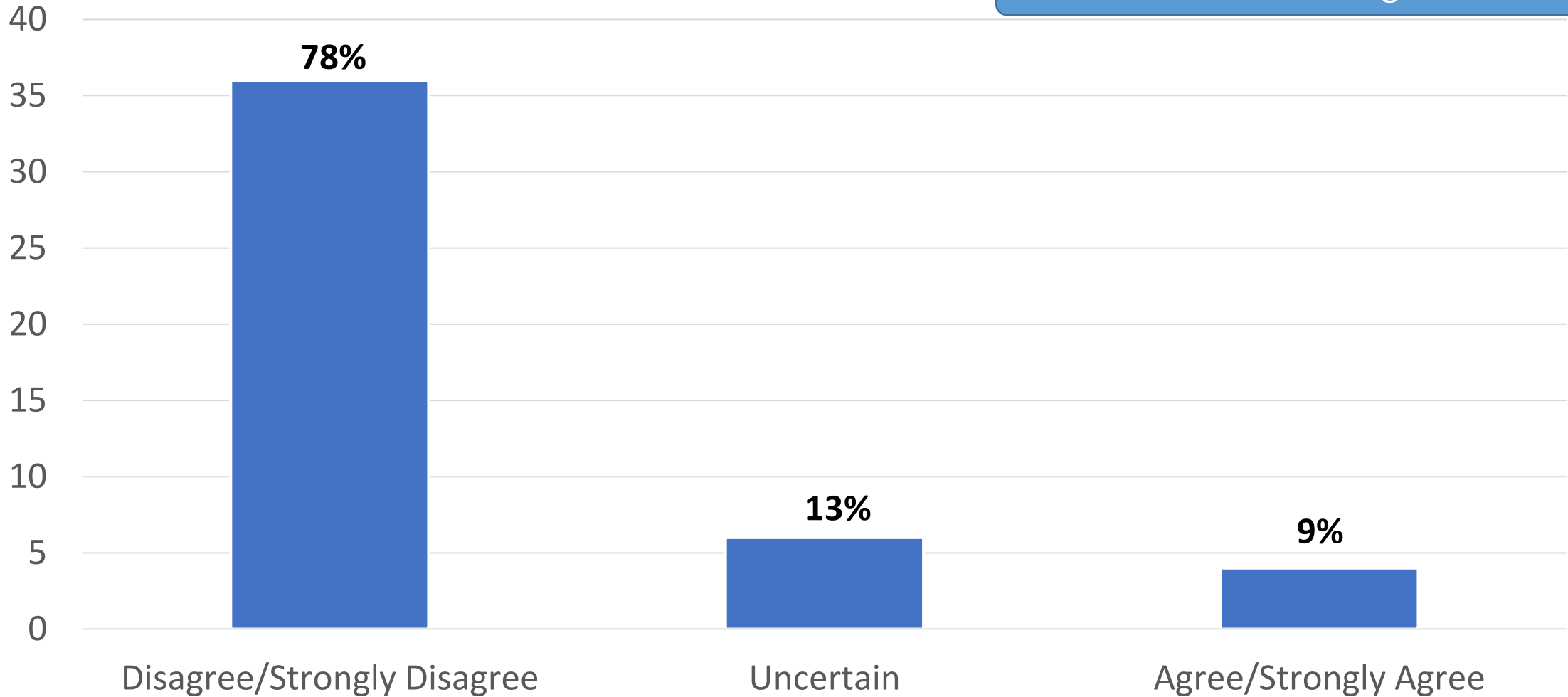
Pest resistance can be effectively managed by single farmers, i.e. without cooperation among farmers in a community

2022 Meeting



Pest resistance can be effectively managed by farmers alone, i.e. without cooperation from other non-farmer stakeholders

2022 Meeting



How important are the following sources of information for developing pest resistance management approaches for your farming operation?

- **Extremely Important**

- Fertilizer or Ag Chemical Dealer
- Private Crop Consultant
- ISU Extension
- Family or Co-Owners

- **Very Important**

- Seed Dealers
- Other Growers

- **Moderately Important**

- USDA/NRCS/SWCD
- Other Growers
- Commodity Organization
- Farmer Organization

- **Unimportant**

- USDA/NRCS/SWCD
- Commodity Organization

2015 Meeting:

- Fertilizer or Ag Chemical Dealer
- Seed Dealer
- Private Crop Consultant

How much responsibility do each of the following bear in efforts to reduce the evolution of resistance?

- Much Responsibility

- Farmers
- Crop Advisors
- Pesticide Manufacturers
- Ag Retailers
- Seed Companies
- University Scientists

- Some Responsibility

- Government (e.g. EPA, USDA)
- Land Management Firms
- Commercial Applicators

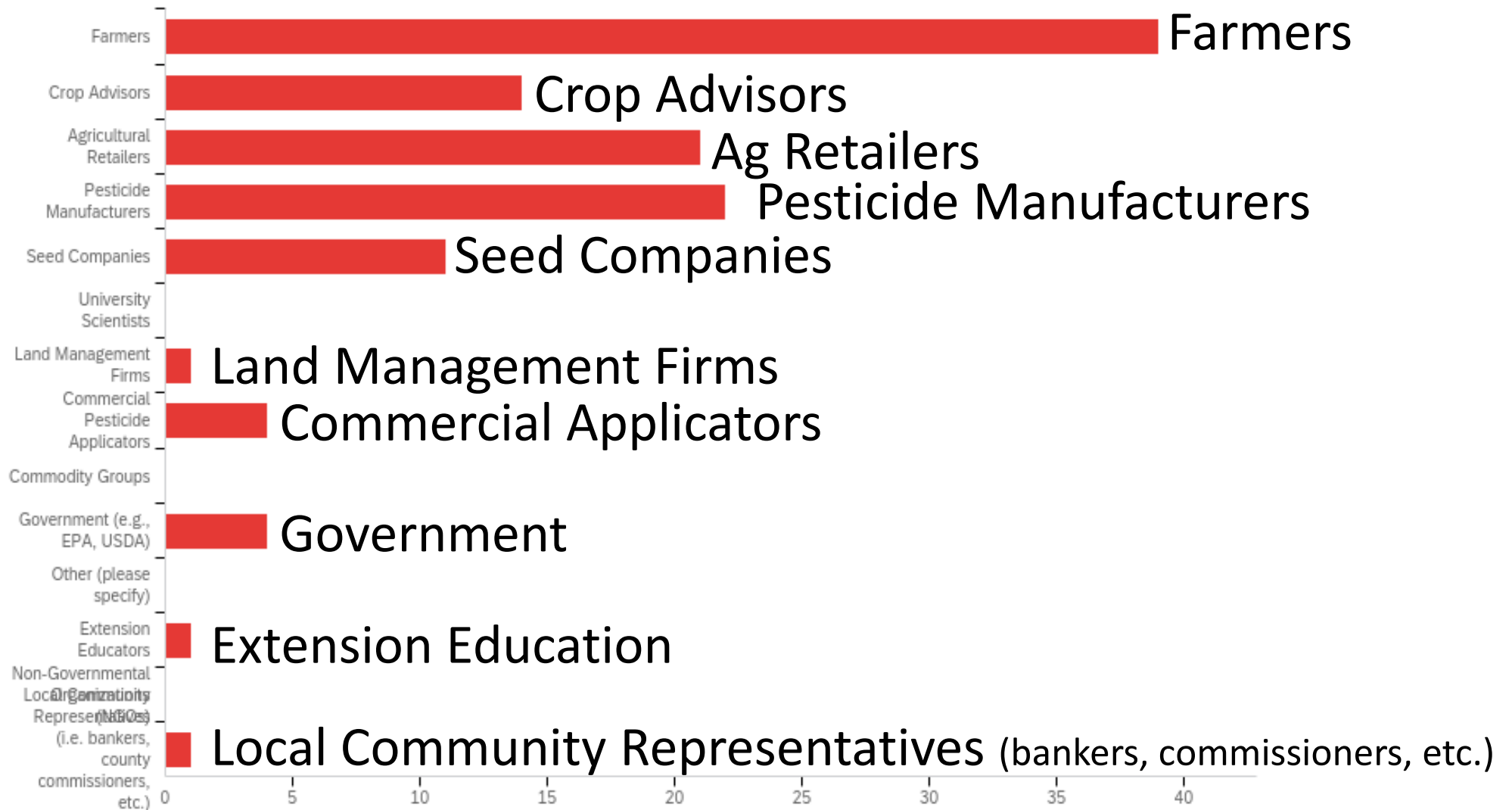
- Little Responsibility

- Commodity Groups

2015 Meeting:

- Farmers
- Crop Advisors
- Ag retailers
- Pesticide Manufacturers

Which of the following groups do you believe bears the most responsibility to manage resistance evolution?



Summary

- Concern
 - Highest to Lowest: Weeds → Insects → Pathogens
 - Concern highest in 2015 and 2022 meetings
- Confidence in New Tech
 - Highest in Iowa Farm and Rural Life Poll
 - Then 2022, then 2015
 - How do we define tech? Impact of respondent roles?
- Collective Management
 - 1 farmer alone not effective
 - Just farmers somewhat effective
- Information Sources
 - Fertilizer or Ag Chemical Dealer
 - Private Crop Consultant
 - ISU Extension
 - Family or Co-Owners
- Who's Problem?
 - Farmers
 - Crop Advisors
 - Pesticide Manufacturers
 - Ag Retailers
 - Seed Companies