Tart Cherry IPM

A Self-assessment Guide

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- RAMP management team
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Overview

- Background – RAMP I & II
- Tart Cherry IPM Framework
- Self-Assessment Guide
- IPM Scores

RAMP I & II

- Increase the likelihood of IPM adoption and self-reported use of IPM
- Test and refine innovative project evaluation system that measures the adoption of biointensive IPM

IPM Framework

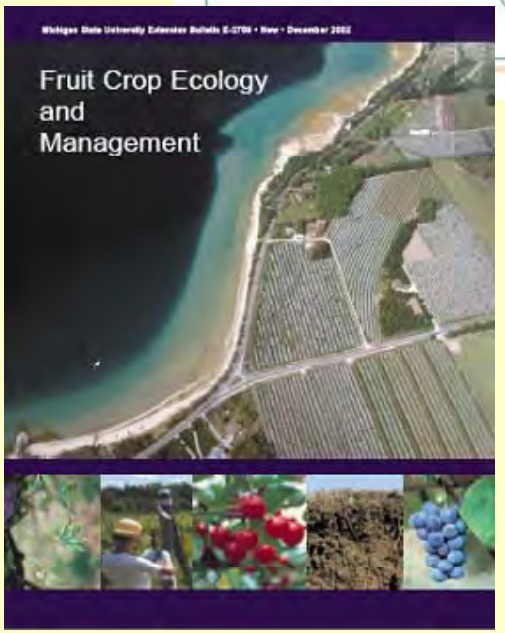
- Researched existing programs
- Defined the organizing structure
  - Strategies → Tactics → Tools
- Identify and weight practices
- Ground-truth
  - Grower & industry focus groups

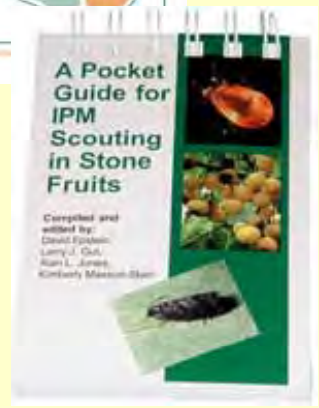
Self-assessment Guide

- Assess your level of IPM
- Compiled resource of tart cherry IPM practices
- Plan to improve your operation
- Resource for MAEAP and EQIP

Key Sources

- www.cherries.msu.edu
- 2012 Michigan Fruit Management Guide
- Fruit Crop Ecology and Management
- A Pocket Guide for IPM Scouting in Stone Fruit



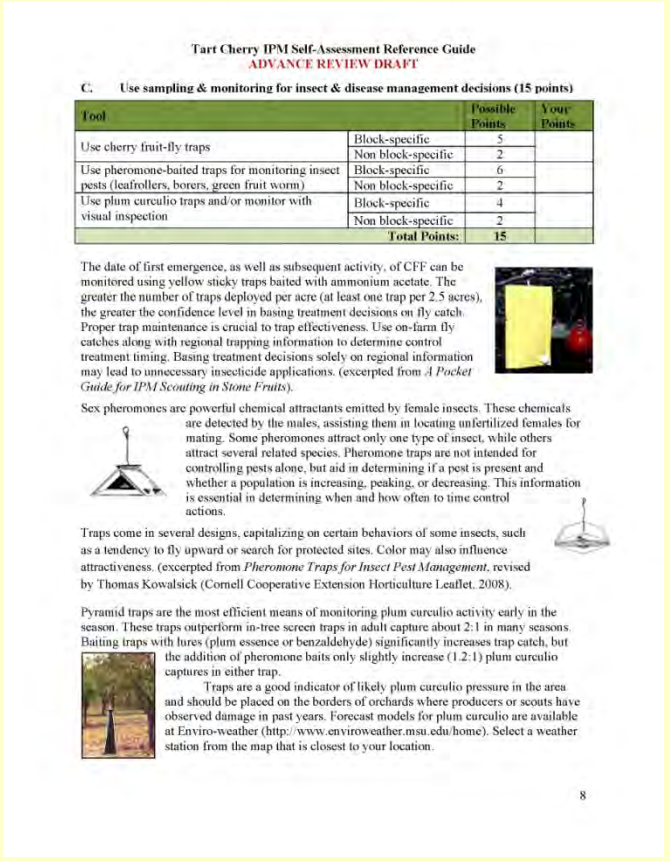


What's in it?

- Reference guide
  4 Strategies
  21 Tactics
  73 tools
- Tally sheets
- Additional Resources

Reference Guide

- 4 Chapters
- 1 tactic per page
- Tools and points



Tart Cherry IPM Self-Assessment Reference Guide
ADVANCE REVIEW DRAFT

C. Use sampling & monitoring for insect & disease management decisions (15 points)

Tool		Possible Points	Your Points
Use cherry fruit-fly traps	Block-specific	5	
	Non block-specific	2	
Use pheromone-baited traps for monitoring insect pests (leafrollers, borers, green fruit worm)	Block-specific	6	
	Non block-specific	2	
Use plum curculio traps and/or monitor with visual inspection	Block-specific	4	
	Non block-specific	2	
	Total Points:	**15**	

The date of first emergence, as well as subsequent activity, of CFF can be monitored using yellow sticky traps baited with ammonium acetate. The greater the number of traps deployed per acre (at least one trap per 2.5 acres), the greater the confidence level in basing treatment decisions on fly catch. Proper trap maintenance is crucial to trap effectiveness. Use on-farm fly catches along with regional trapping information to determine control treatment timing. Basing treatment decisions solely on regional information may lead to unnecessary insecticide applications. (excerpted from *A Pocket Guide for IPM Scouting in Stone Fruits*).

Sex pheromones are powerful chemical attractants emitted by female insects. These chemicals are detected by the males, assisting them in locating unfertilized females for mating. Some pheromones attract only one type of insect, while others attract several related species. Pheromone traps are not intended for controlling pests alone, but aid in determining if a pest is present and whether a population is increasing, peaking, or decreasing. This information is essential in determining when and how often to time control actions.

Traps come in several designs, capitalizing on certain behaviors of some insects, such as a tendency to fly upward or search for protected sites. Color may also influence attractiveness. (excerpted from *Pheromone Traps for Insect Pest Management*, revised by Thomas Kowalsick (Cornell Cooperative Extension Horticulture Leaflet, 2008).

Pyramid traps are the most efficient means of monitoring plum curculio activity early in the season. These traps outperform in-tree screen traps in adult capture about 2:1 in many seasons. Baiting traps with lures (plum essence or benzaldehyde) significantly increases trap catch, but the addition of pheromone baits only slightly increase (1.2:1) plum curculio captures in either trap.

Traps are a good indicator of likely plum curculio pressure in the area and should be placed on the borders of orchards where producers or scouts have observed damage in past years. Forecast models for plum curculio are available at Enviro-weather (http://www.enviroweather.msu.edu/home). Select a weather station from the map that is closest to your location.

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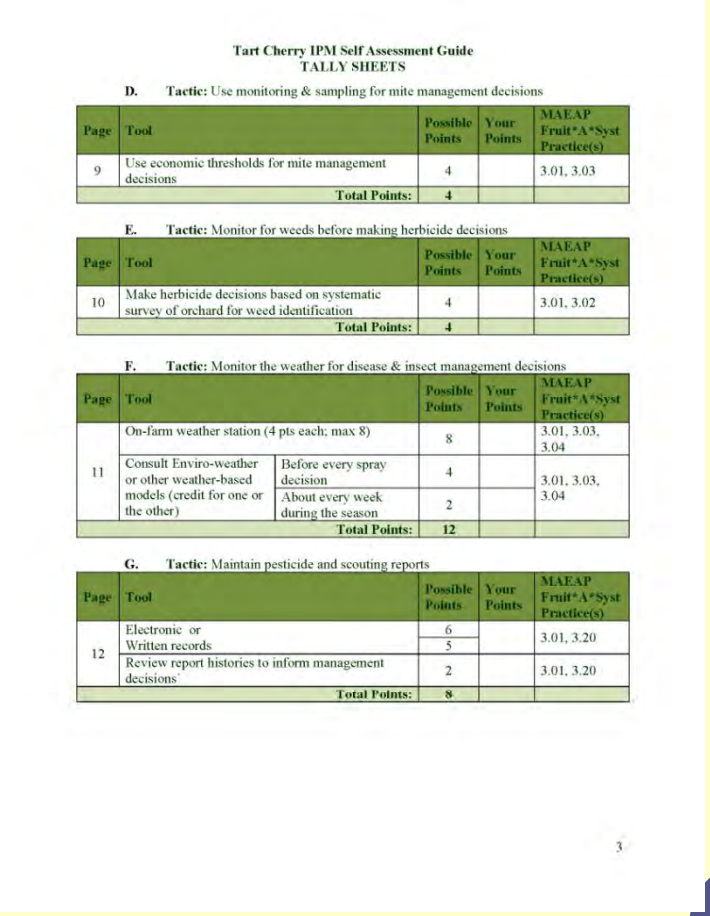
Tally Sheets

- Facilitates scoring
- Reference guide page numbers
- Points
- MAEAP Fruit*A*Syst practices



Tart Cherry IPM Self Assessment Guide
TALLY SHEETS

D. Tactic: Use monitoring & sampling for mite management decisions

Page	Tool	Possible Points	Your Points	MAEAP Fruit*A*Syst Practice(s)
9	Use economic thresholds for mite management decisions	4		3.01, 3.03
	Total Points:	**4**		

E. Tactic: Monitor for weeds before making herbicide decisions

Page	Tool	Possible Points	Your Points	MAEAP Fruit*A*Syst Practice(s)
10	Make herbicide decisions based on systematic survey of orchard for weed identification	4		3.01, 3.02
	Total Points:	**4**		

F. Tactic: Monitor the weather for disease & insect management decisions

Page	Tool		Possible Points	Your Points	MAEAP Fruit*A*Syst Practice(s)
11	On-farm weather station (4 pts each; max 8)		8		3.01, 3.03, 3.04
	Consult Enviro-weather or other weather-based models (credit for one or the other)	Before every spray decision	4		3.01, 3.03, 3.04
		About every week during the season	2		
	Total Points:		**12**		

G. Tactic: Maintain pesticide and scouting reports

Page	Tool	Possible Points	Your Points	MAEAP Fruit*A*Syst Practice(s)
12	Electronic or Written records	6 5		3.01, 3.20
	Review report histories to inform management decisions	2		3.01, 3.20
	Total Points:	**8**		

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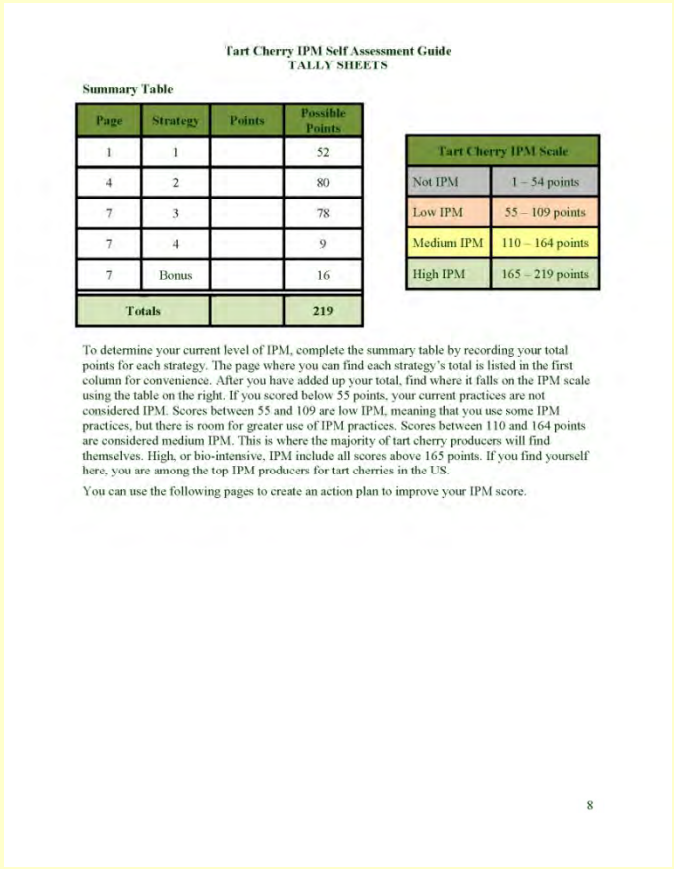
Tally Sheets – page 8

- Summary Table
- IPM Scale



Tart Cherry IPM Self Assessment Guide
TALLY SHEETS

Summary Table

Page	Strategy	Points	Possible Points
1	1		52
4	2		80
7	3		78
7	4		9
7	Bonus		16
Totals			219

Tart Cherry IPM Scale	
Not IPM	1 – 54 points
Low IPM	55 – 109 points
Medium IPM	110 – 164 points
High IPM	165 – 219 points

To determine your current level of IPM, complete the summary table by recording your total points for each strategy. The page where you can find each strategy's total is listed in the first column for convenience. After you have added up your total, find where it falls on the IPM scale using the table on the right. If you scored below 55 points, your current practices are not considered IPM. Scores between 55 and 109 are low IPM, meaning that you use some IPM practices, but there is room for greater use of IPM practices. Scores between 110 and 164 points are considered medium IPM. This is where the majority of tart cherry producers will find themselves. High, or bio-intensive, IPM include all scores above 165 points. If you find yourself here, you are among the top IPM producers for tart cherries in the US.

You can use the following pages to create an action plan to improve your IPM score.

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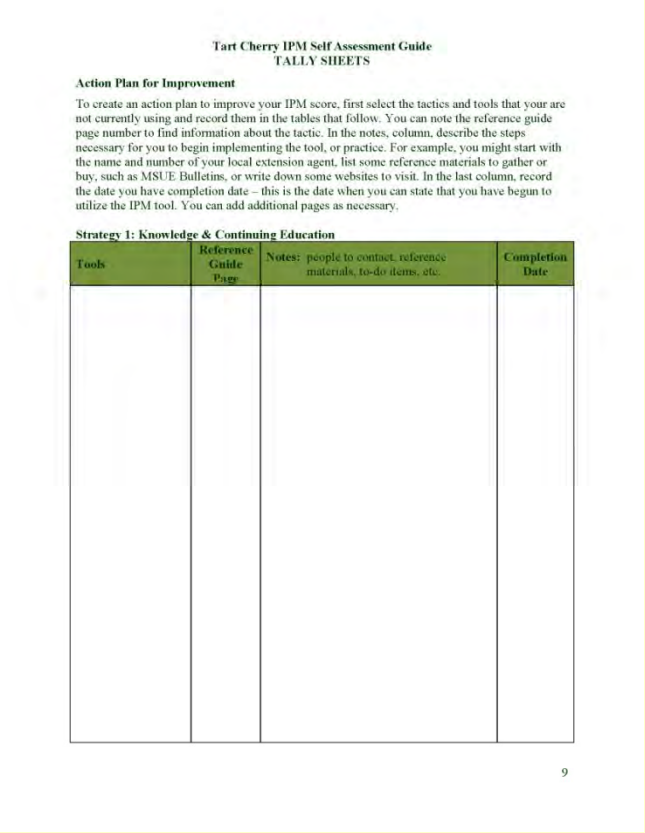
TALLY SHEETS – PAGE 9

- Action Plan for Improvement
- Tools: "Receive advanced IPM training"
- Reference guide: p 2
- Notes: contact NWMHRS, find out dates & cost, sign up, go to training
- Completion Date: February 20-21, 2012



Tart Cherry IPM Self Assessment Guide
TALLY SHEETS

Action Plan for Improvement

To create an action plan to improve your IPM score, first select the tactics and tools that your are not currently using and record them in the tables that follow. You can note the reference guide page number to find information about the tactic. In the notes, column, describe the steps necessary for you to begin implementing the tool, or practice. For example, you might start with the name and number of your local extension agent, list some reference materials to gather or buy, such as MSUE Bulletins, or write down some websites to visit. In the last column, record the date you have completion date – this is the date when you can state that you have begun to utilize the IPM tool. You can add additional pages as necessary.

Strategy 1: Knowledge & Continuing Education

Tools	Reference Guide Page	Notes: people to contact, reference materials, to-do items, etc.	Completion Date

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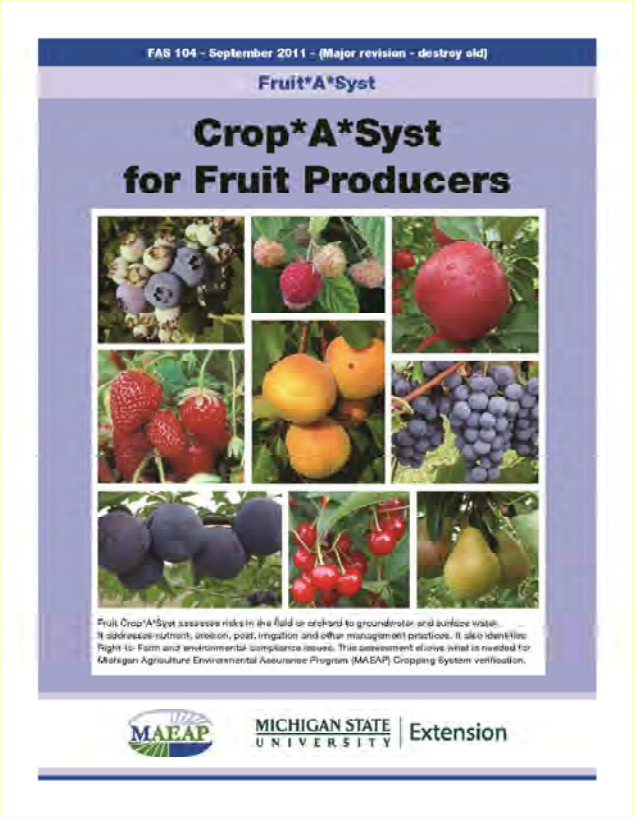
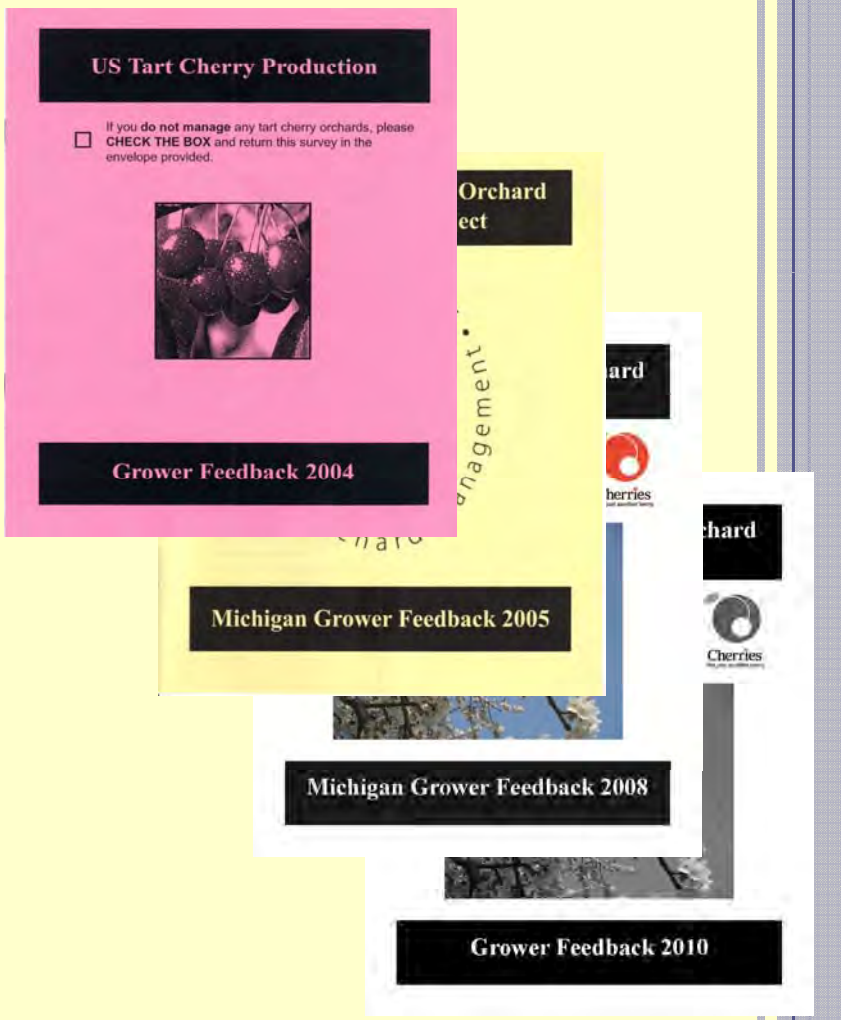
Additional Resources

- Websites & publications
- EQIP references
- MDA GAAMPS for Pest Utilization and Pest Control
- MAEAP Crop*A*Syst for Fruit Producers



Survey Methods

- Pilot test
- Mailed to growers
- Reminder postcard
- 2nd Mailing

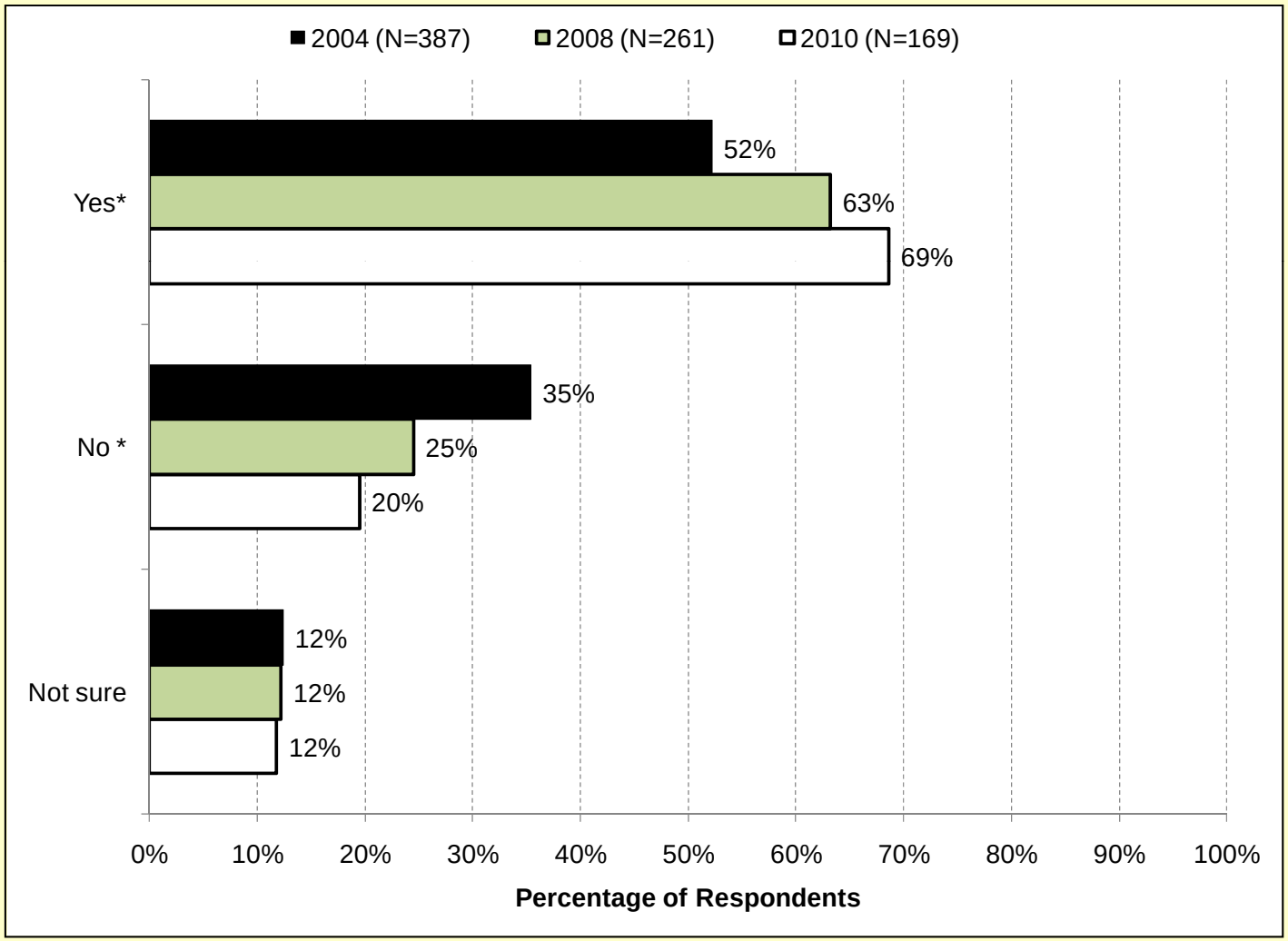


Response Rates

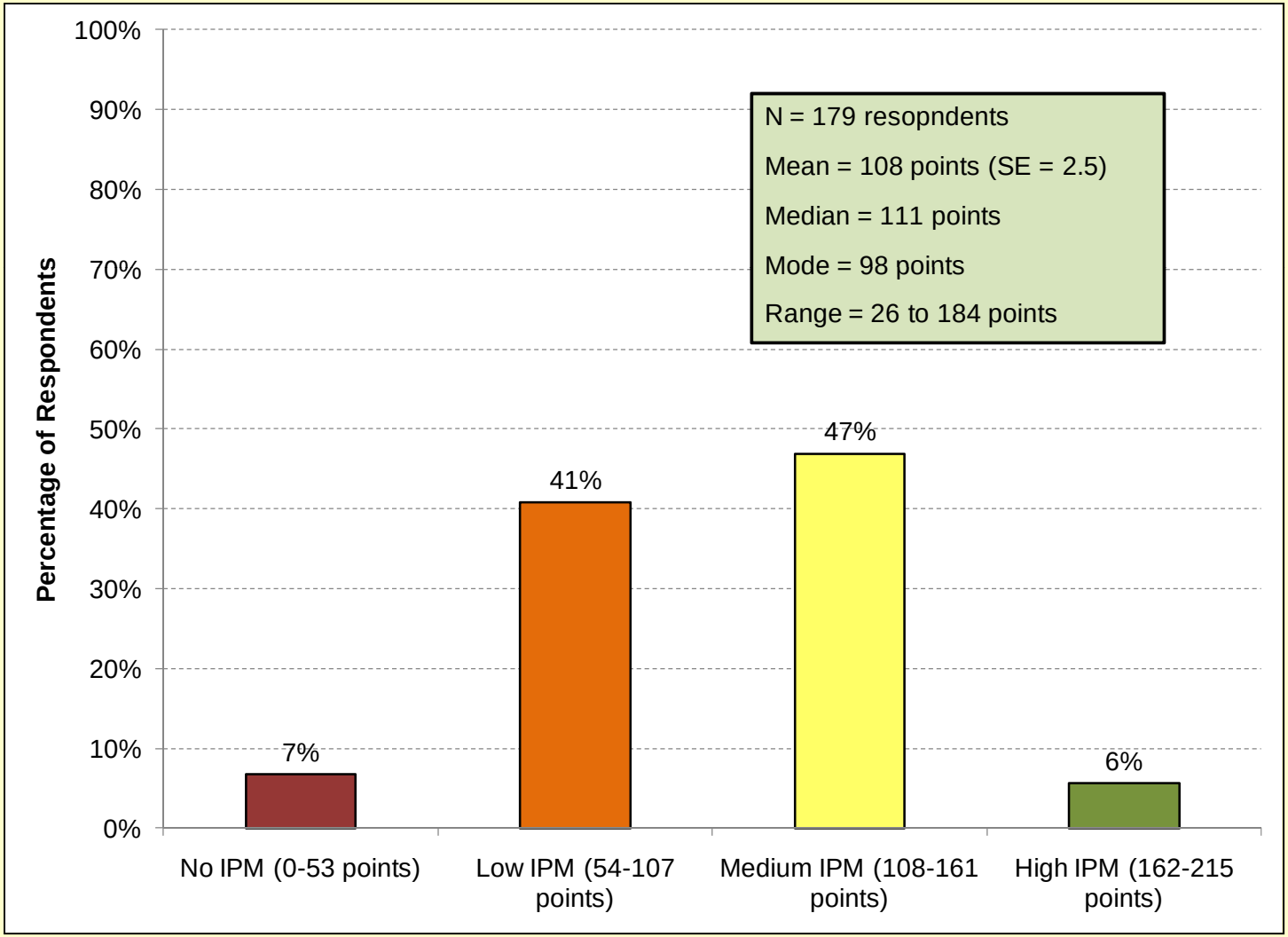
State	2004 (N=757)	2008 (N=599)	2010 (N=517)
Utah	81%	57%	50%
Wisconsin	60%	61%	49%
Michigan	54%	44%	32%
NY	44%	40%	28%
Overall	**54%**	**45%**	**35%**

Growing Season	2003 (N=401)	2007 (N=265)	2009 (N=174)
Survey total acres	32,405	27,072	21,373
NASS acres	37,300	37,412	37,412
Survey % of NASS	**87%**	**72%**	**57%**

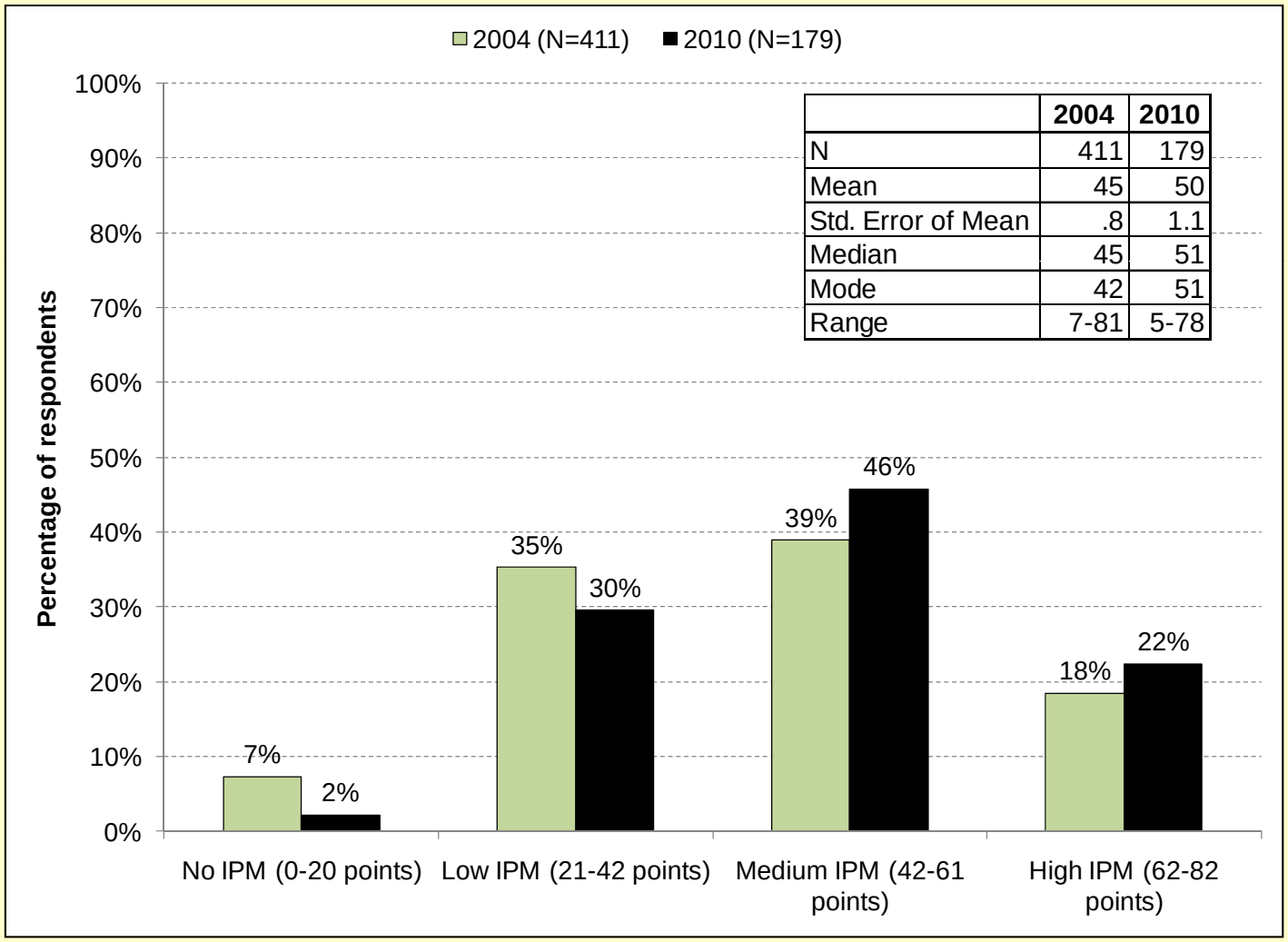
Self-reported IPM Use



IPM Scores 2010

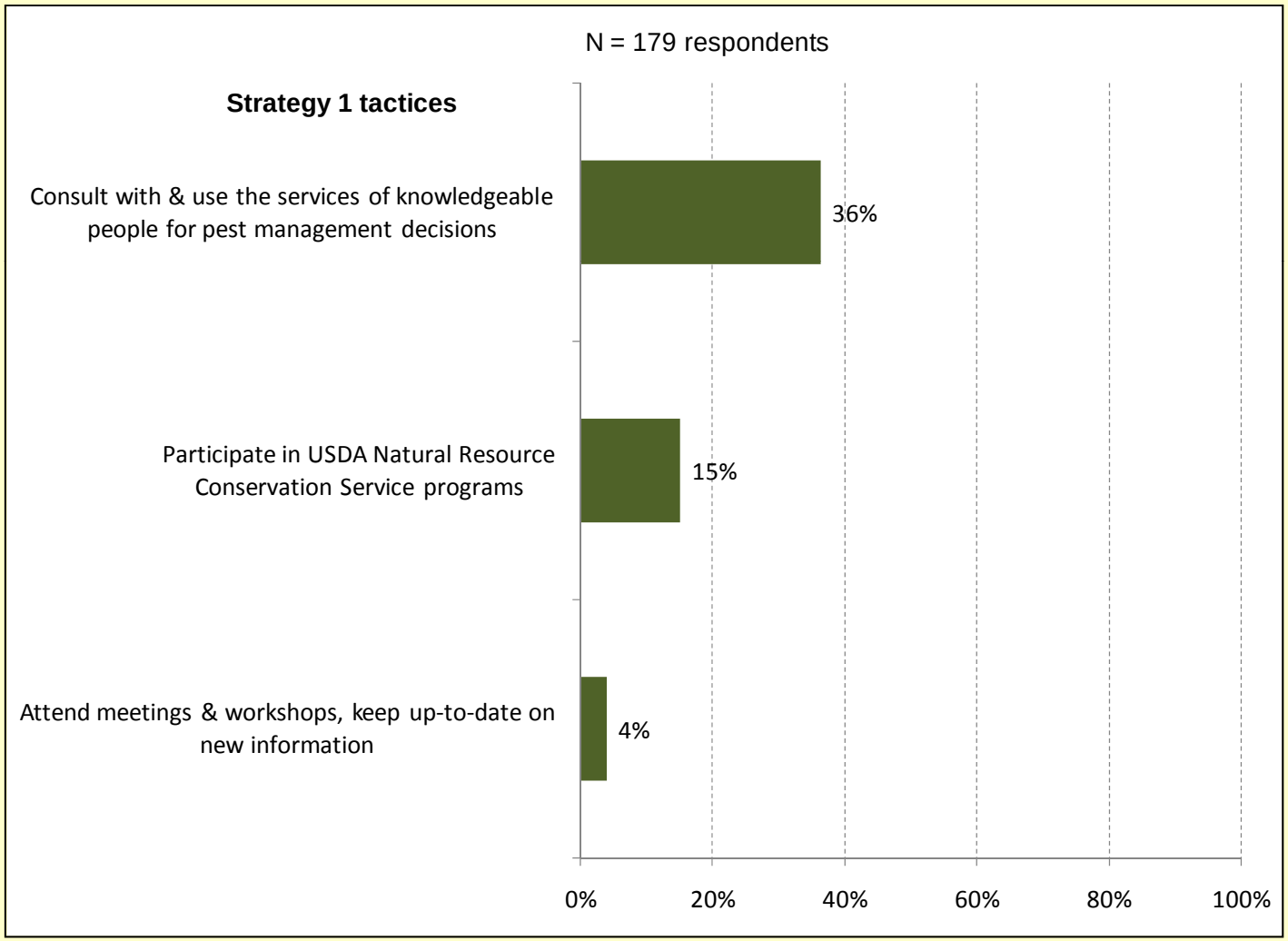


IPM Scores 2004 – 2010

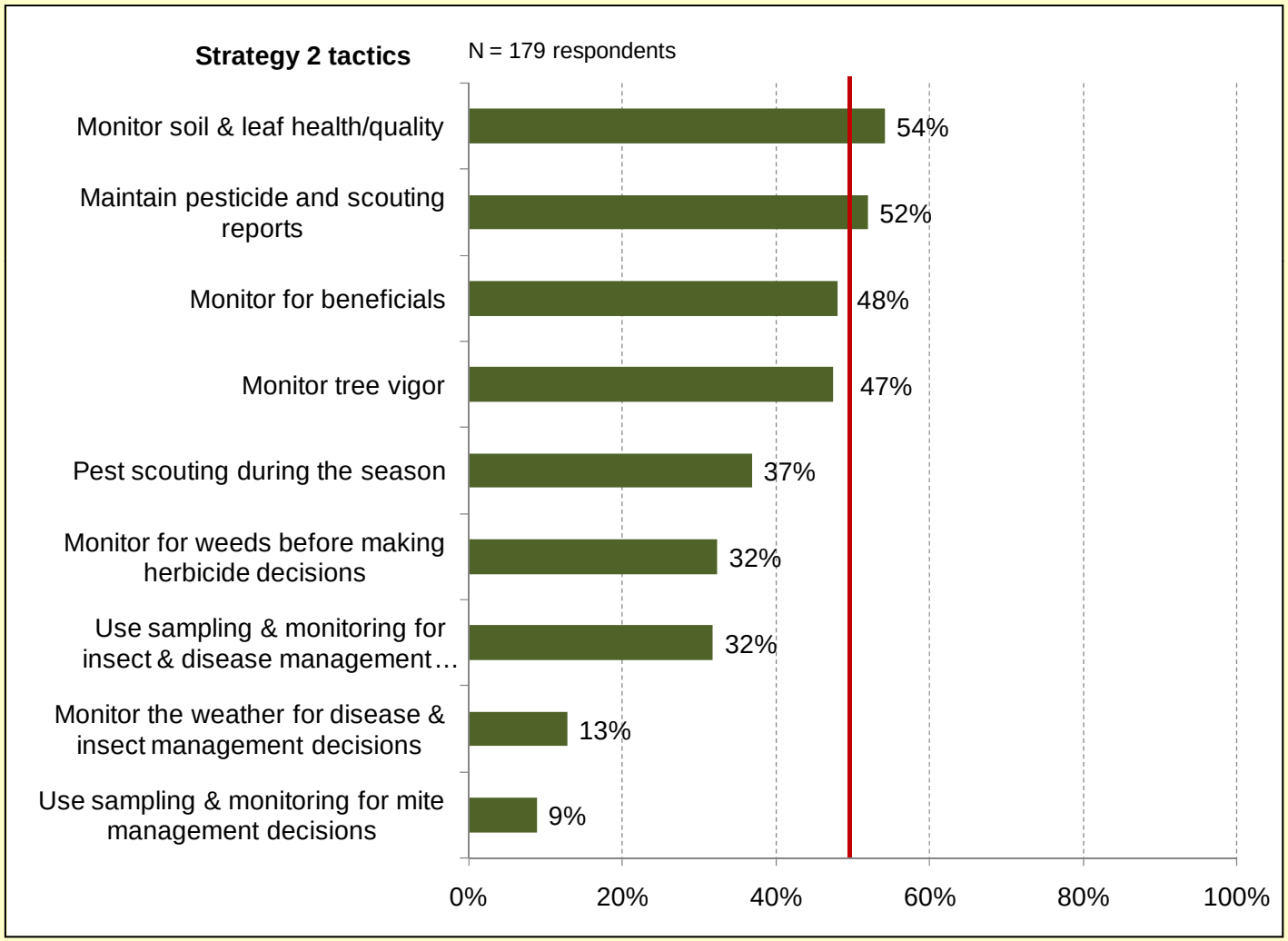


	2004	2010
N	411	179
Mean	45	50
Std. Error of Mean	.8	1.1
Median	45	51
Mode	42	51
Range	7-81	5-78

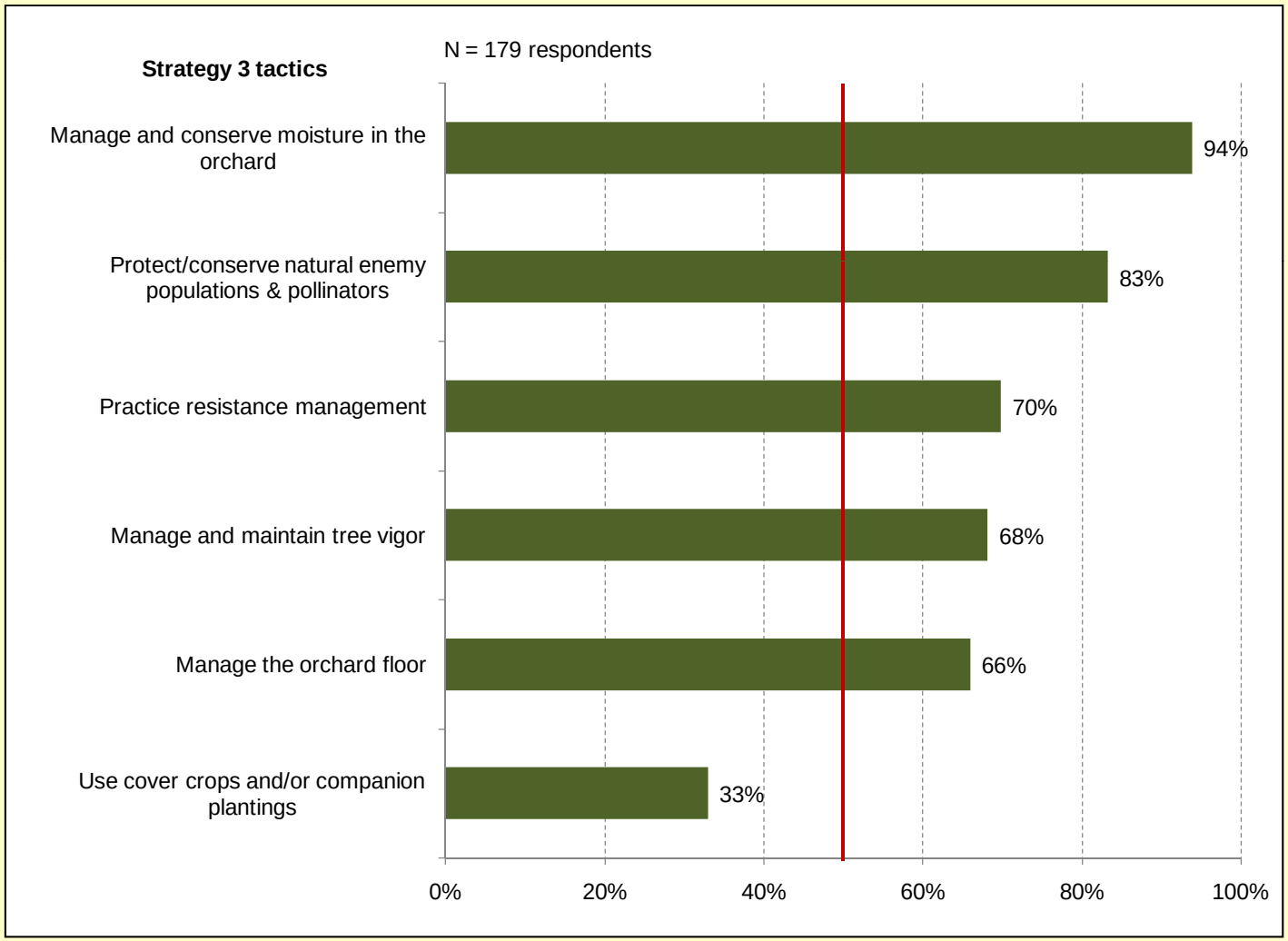
Strategy 1 Knowledge & Education



Strategy 2 - Monitoring



Strategy 3 – Pest Suppression



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