

# Opportunities for IPM

Thomas Green, president, Ph.D., CCA, TSP  
IPM Institute of North America, Inc.



The IPM Institute  
of North America, Inc.

2012, 2009 US EPA Sustained Excellence in IPM Award

2009, 2008, 2005, 2004 National Champion, US EPA Pesticide Environmental Stewardship Program

2005 Children's Environmental Health Recognition Award, US EPA Office of Children's Health Protection



*Advocating for progressive integrated pest management to improve environmental, social and economic conditions through the application of scientific principles.*



- New IPM advocacy organization, formed in 2010 to respond to IPM funding crisis.
- Led successful fight to restore funding for IPM Centers.
- Succeeded in adding authorizing language for the IPM Centers to the 2014 Farm Bill.
- Renewing board of directors: Jerry Baron, IR-4; Jim Farrar, Western IPM Center; Larry Gut, Michigan State University; Michael Rozyne, Red Tomato
- Recruiting grower organizations.

**Join IPM Voice!**  
Visit [www.ipmvoice.org](http://www.ipmvoice.org) for  
more information

# NRCS and IPM

Provides financial and technical assistance to private landowners, farmers, ranchers to protect, enhance resources.

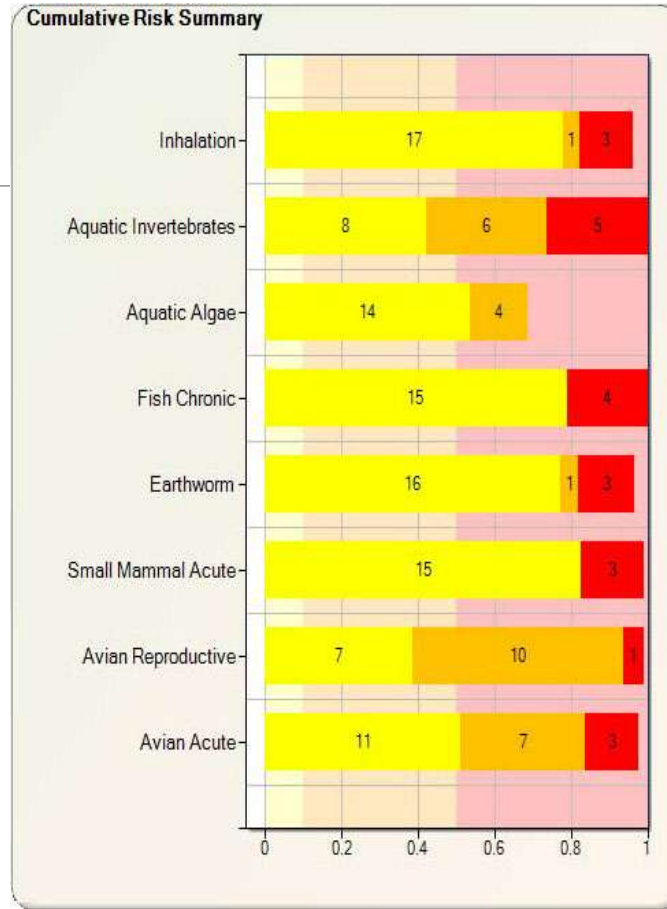


## Opportunities

- Traditional: Implementation contracts.
  - 590 IPM Standard
- New: Planning contracts. Conservation Activity Plans.
  - IPM, Herbicide-resistant weeds, transition to organic

# Wisconsin Apples, 2002

Product	EPA Reg. No.	App Rate	Active Ingredient(s) App Rate
Penncozeb 75 DF	70506-185	2.400 lb/ac	[Mancozeb 1.800 lb/acre]
Flint	264-777	1.600 oz/ac	[Trifloxystrobin 5.000E-002 lb/acre]
Dormant Oil	34704-805	2.500 gal/ac	[Mineral oil 17.640 lb/acre]
Penncozeb 75 DF	70506-185	2.570 lb/ac	[Mancozeb 1.928 lb/acre]
Penncozeb 75 DF	70506-185	2.400 lb/ac	[Mancozeb 1.800 lb/acre]
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Penncozeb 75 DF	70506-185	2.400 lb/ac	[Mancozeb 1.800 lb/acre]
Captan 80	66222-58	1.600 lb/ac	[Captan 1.251 lb/acre]
Flint	264-777	1.200 oz/ac	[Trifloxystrobin 3.750E-002 lb/acre]
Round up	524-549	3.000 quart/ac	[Glyphosate, potassium salt 4.139 lb/acre]
Captan 80	66222-58	1.600 lb/ac	[Captan 1.251 lb/acre]
Indar	62719-416	3.200 floz/ac	[Fenbuconazole 5.147E-002 lb/acre]
Avaunt	352-597	2.400 oz/ac	[Indoxacarb, S-isomer 4.500E-002 lb/acre]
Rimon	66222-35	32.000 floz/ac	[Novaluron 0.207 lb/acre]
Captan 80	66222-58	1.600 lb/ac	[Captan 1.251 lb/acre]
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Delegate	62719-541	3.900 lb/ac	[Spinetoram (XDE-175-J) 0.975 lb/acre]
Captan 80	66222-58	1.600 lb/ac	[Captan 1.251 lb/acre]
Delegate	62719-541	3.900 oz/ac	[Spinetoram (XDE-175-J) 6.094E-002 lb/acre]
Captan 80	66222-58	1.800 lb/ac	[Captan 1.408 lb/acre]
Assail	8033-23	6.400 oz/ac	[Acetamiprid 0.280 lb/acre]
Envirdor 2.5 EC	264-831	14.000 floz/ac	[Spirodiclofen 0.222 lb/acre]
Captan 80	66222-58	1.875 lb/ac	[Captan 1.466 lb/acre]
Assail	8033-23	7.100 oz/ac	[Acetamiprid 0.311 lb/acre]
Avaunt	352-597	4.500 oz/ac	[Indoxacarb, S-isomer 8.438E-002 lb/acre]
Captan 80	66222-58	1.690 lb/ac	[Captan 1.322 lb/acre]
Imidan	10163-169	1.020 lb/ac	[Phosmet 0.714 lb/acre]
Captan 80	66222-58	1.700 lb/ac	[Captan 1.329 lb/acre]



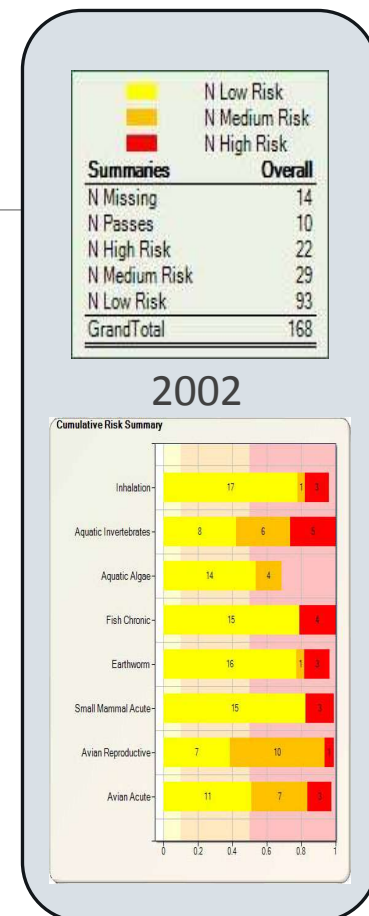
Summaries	Overall
N Low Risk	93
N Medium Risk	29
N High Risk	22
N Passes	10
N Missing	14
<b>GrandTotal</b>	<b>168</b>

# Same orchard, 2012

Product	EPA Reg. No.	Product App Rate	Active Ingredient(s) App Rate
Altacor	352-730	3.200 oz/ac	[Chlorantraniliprole 7.000E-002 lb/acre]
Assail 30SG	8033-36	8.000 oz/ac	[Acetamiprid 0.150 lb/acre]
Assail 30SG	8033-36	8.000 oz/ac	[Acetamiprid 0.150 lb/acre]
Avaunt	352-597	6.000 oz/ac	[Indoxacarb, S-isomer 0.113 lb/acre]
Avaunt	352-597	5.000 oz/ac	[Indoxacarb, S-isomer 9.375E-002 lb/acre]
Avaunt	352-597	5.000 oz/ac	[Indoxacarb, S-isomer 9.375E-002 lb/acre]
Biocover Oil	34704-805	4.000 gal/ac	[Mineral oil 28.224 lb/acre]
Captan 80WDG	66222-58	3.000 lb/ac	[Captan 2.346 lb/acre]
Captan 80WDG	66222-58	3.000 lb/ac	[Captan 2.346 lb/acre]
Captan 80WDG	66222-58	2.500 lb/ac	[Captan 1.955 lb/acre]
Captan 80WDG	66222-58	2.000 lb/ac	[Captan 1.564 lb/acre]
COCS WDG	34704-326	4.000 lb/ac	[Copper sulfate (basic) 0.568 lb/acre][Copper oxychloride (Cu2Cl(OH)3) 2.992 lb/acre][Copper oxychloride sulfate 2.992 lb/acre]
Delegate	62719-541	4.350 oz/ac	[Spinetoram (XDE-175-J) 6.797E-002 lb/acre]
Esteem 35 WP	59639-115	5.000 oz/ac	[Pyriproxyfen 0.109 lb/acre]
Esteem 35 WP	59639-115	5.000 oz/ac	[Pyriproxyfen 0.109 lb/acre]
Penncozeb 75DF	70506-185	3.200 lb/ac	[Mancozeb 2.400 lb/acre]
Penncozeb 75DF	70506-185	3.000 lb/ac	[Mancozeb 2.250 lb/acre]
Rally 40 WSP	62719-410	6.400 oz/ac	[Myclobutanil 0.160 lb/acre]
Serenade Max	69592-11	2.000 lb/ac	[QST 713 strain of dried Bacillus subtilis 0.292 lb/acre]
Surround WP	61842-18	10.000 lb/ac	[Kaolin 9.500 lb/acre]
Topsin M 70WP	73545-11	1.000 lb/ac	[Thiophanate-methyl 0.700 lb/acre]
Topsin M 70WP	73545-11	1.000 lb/ac	[Thiophanate-methyl 0.700 lb/acre]



Summaries	Overall
N Missing	24
N Passes	29
N High Risk	11
N Medium Risk	18
N Low Risk	110
GrandTotal	192

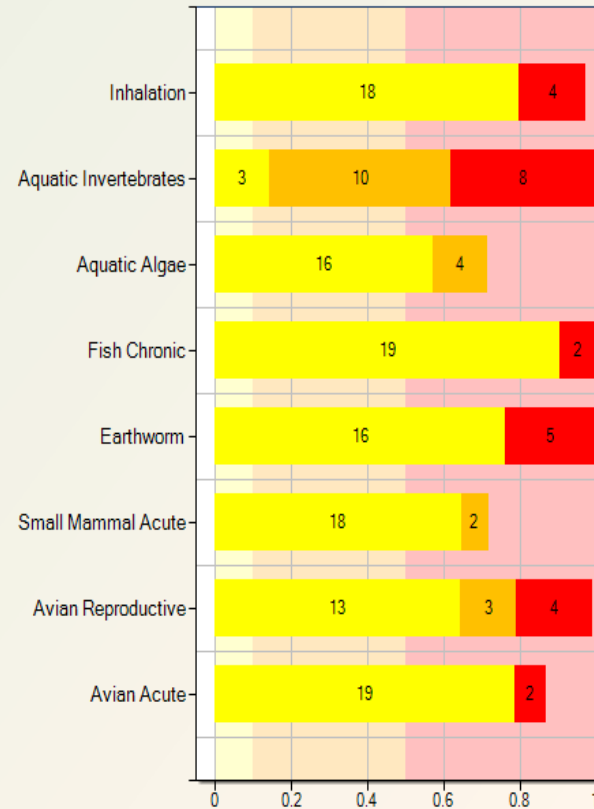


Summaries	Overall
N Missing	14
N Passes	10
N High Risk	22
N Medium Risk	29
N Low Risk	93
GrandTotal	168

# Second orchard, 2011, pre EQIP

Product	EPA Reg. No.	App Rate	Active Ingredient(s) App Rate
Manzate 75 DF	1812-414	1.940 lb/ac	[Mancozeb 1.455 lb/acre]
Dormant Oil	19713-123	2.500 gal/ac	[Kerosene 17.371 lb/acre]
Manzate 75 DF	1812-414	2.630 lb/ac	[Mancozeb 1.973 lb/acre]
Manzate 75 DF	1812-414	2.630 lb/ac	[Mancozeb 1.973 lb/acre]
Penncozeb	70506-185	2.630 lb/ac	[Mancozeb 1.973 lb/acre]
Danitol	59639-35	0.260 quart/ac	[Fenpropathrin 0.165 lb/acre]
Captan 80	66222-58	1.580 lb/ac	[Captan 1.236 lb/acre]
Delegate	62719-541	2.740 oz/ac	[Spinetoram (XDE-175-J) 4.281E-002 lb/acre]
Sevin XLR	264-333	1.050 quart/ac	[Carbaryl 1.053 lb/acre]
Flint	264-777	2.110 oz/ac	[Trifloxystrobin 6.594E-002 lb/acre]
Captan 80	66222-58	1.580 lb/ac	[Captan 1.236 lb/acre]
Assail	8033-36	0.210 lb/ac	[Acetamiprid 6.300E-002 lb/acre]
Captan 80	66222-58	1.580 lb/ac	[Captan 1.236 lb/acre]
Captan 80	66222-58	1.500 lb/ac	[Captan 1.173 lb/acre]
Rimon	66222-35	32.000 floz/ac	[Novaluron 0.207 lb/acre]
Captan 80	66222-58	1.600 lb/ac	[Captan 1.251 lb/acre]
Imidan	10163-169	1.600 lb/ac	[Phosmet 1.120 lb/acre]
Zeal	59639-123	1.200 oz/ac	[Etoxazole 5.400E-002 lb/acre]
Captan 80	66222-58	1.680 lb/ac	[Captan 1.314 lb/acre]
Imidan	10163-169	1.680 lb/ac	[Phosmet 1.176 lb/acre]
Captan 80	66222-58	2.000 lb/ac	[Captan 1.564 lb/acre]
Assail	8033-36	0.250 lb/ac	[Acetamiprid 7.500E-002 lb/acre]

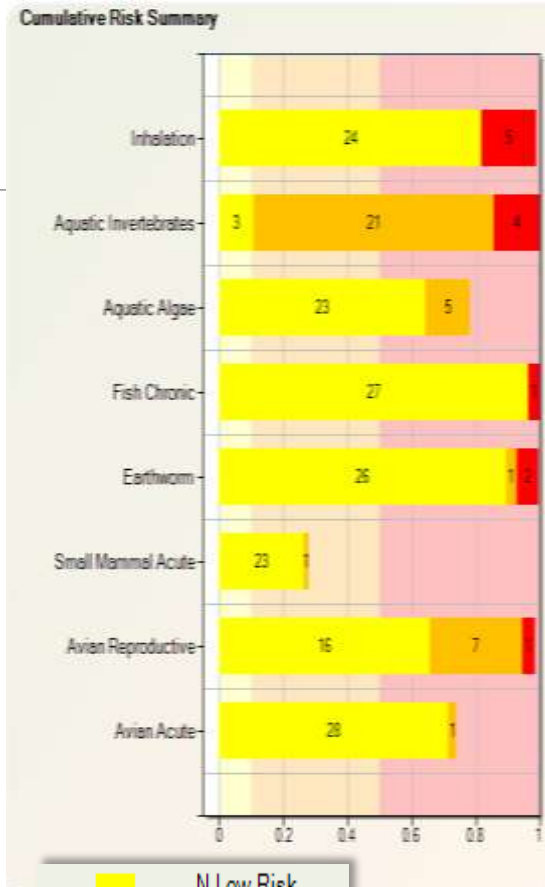
Cumulative Risk Summary



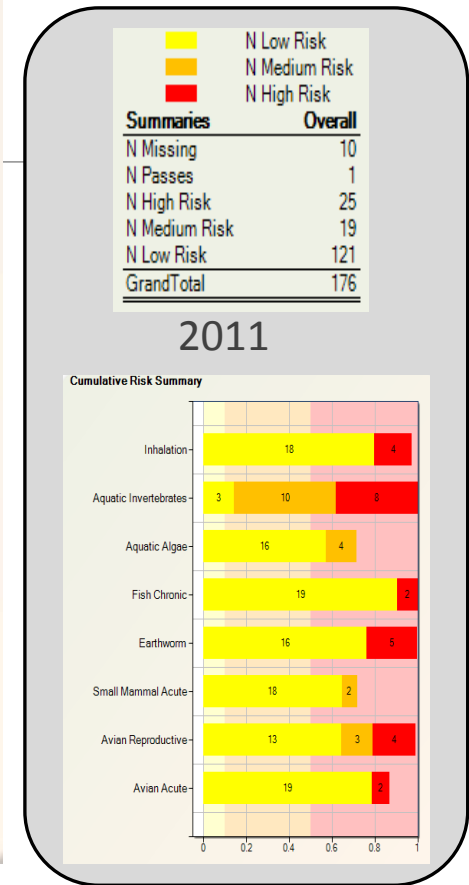
Summaries	Overall
N Missing	10
N Passes	1
N High Risk	25
N Medium Risk	19
N Low Risk	121
<b>GrandTotal</b>	<b>176</b>

# 2012, After EQIP IPM contract

Product	EPA Reg. No.	App Rate	Active Ingredient(s) App Rate
Penncozeb 75 DF	70506-185	2.400 lb/ac	[Mancozeb 1.800 lb/acre]
Flint	264-777	1.600 oz/ac	[Trifloxystrobin 5.000E-002 lb/acre]
Dormant Oil	34704-805	2.500 gal/ac	[Mineral oil 17.640 lb/acre]
Penncozeb 75 DF	70506-185	2.570 lb/ac	[Mancozeb 1.928 lb/acre]
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Flint	264-777	1.200 oz/ac	[Trifloxystrobin 3.750E-002 lb/acre]
Round up	524-549	3.000 quart/ac	[Glyphosate, potassium salt 4.139 lb/acre]
Captan 80	66222-58	1.600 lb/ac	[Captan 1.251 lb/acre]
Indar	62719-416	3.200 foz/ac	[Fenbuconazole 5.147E-002 lb/acre]
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Summaries	Overall
N Missing	13
N Passes	6
N High Risk	13
N Medium Risk	36
N Low Risk	164
GrandTotal	232



# Additional outcomes

- Off-label applications
  - 2013 analysis of 14 grower records in the upper Mississippi River Valley
  - Benlate (benomyl), cancelled registration
  - Two applications of Polyram (metiram) which violated pre-harvest intervals
- Calibration
  - Outreach with EPA-SAI funds
  - Established actual vs. calculated application of water (Gallons Per Acre)
  - 75% of scenarios exceeded target GPA.
  - Average of 52% over application.





# AppleTalk regional grower calls

“The apple talks are the single most important resource that I use for growing apples in a safe way and also cost effective way. They are invaluable !”

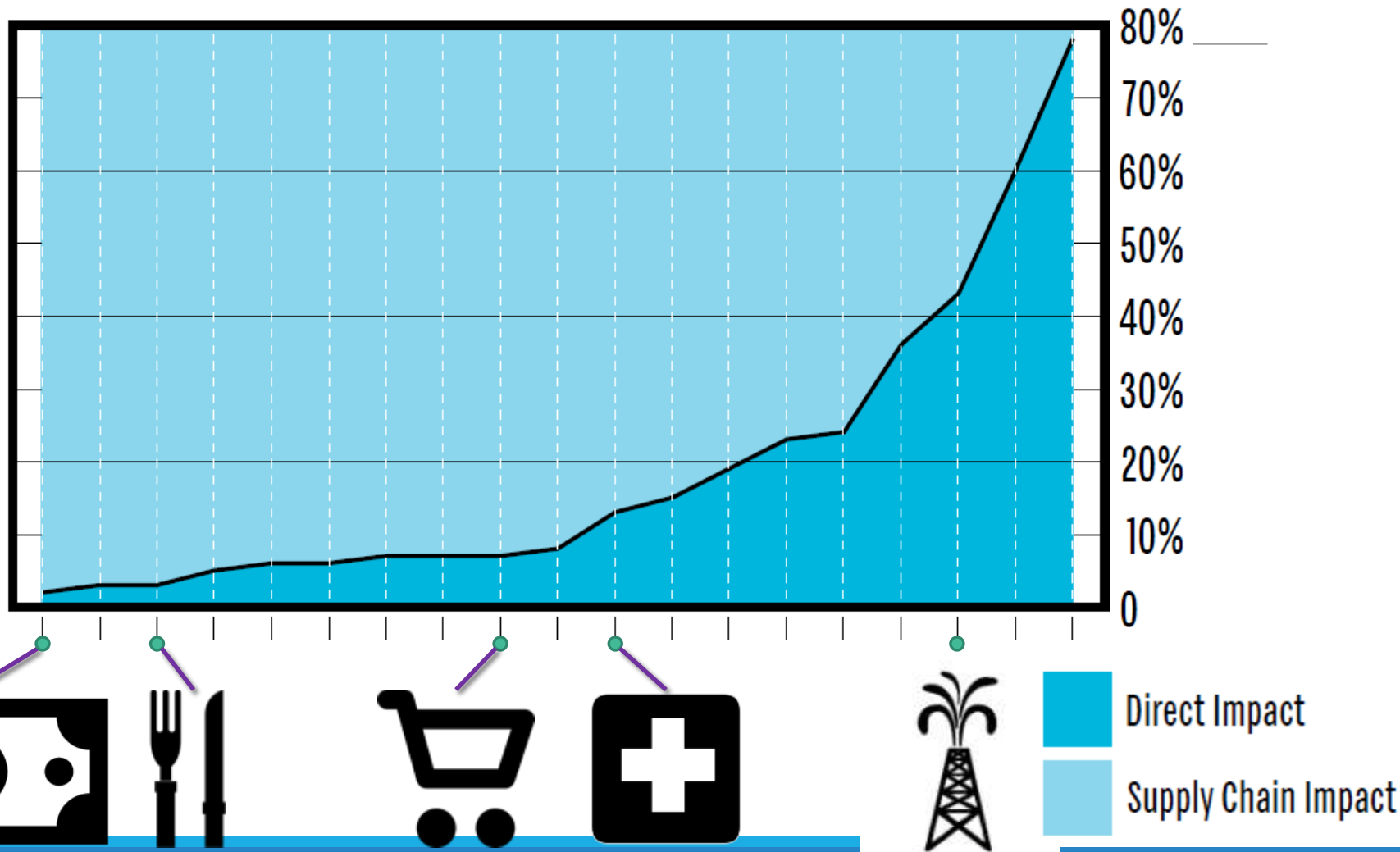
“I think the calls are very important, organized and well run. I hope they can continue. It is helpful to have a weekly support group to stay on track through the season. Thank you for the efforts and resources well spent.”

“We really appreciated the pictures of insects to help identify insects, would like more information on beneficials, creating a positive environment for the orchard.”

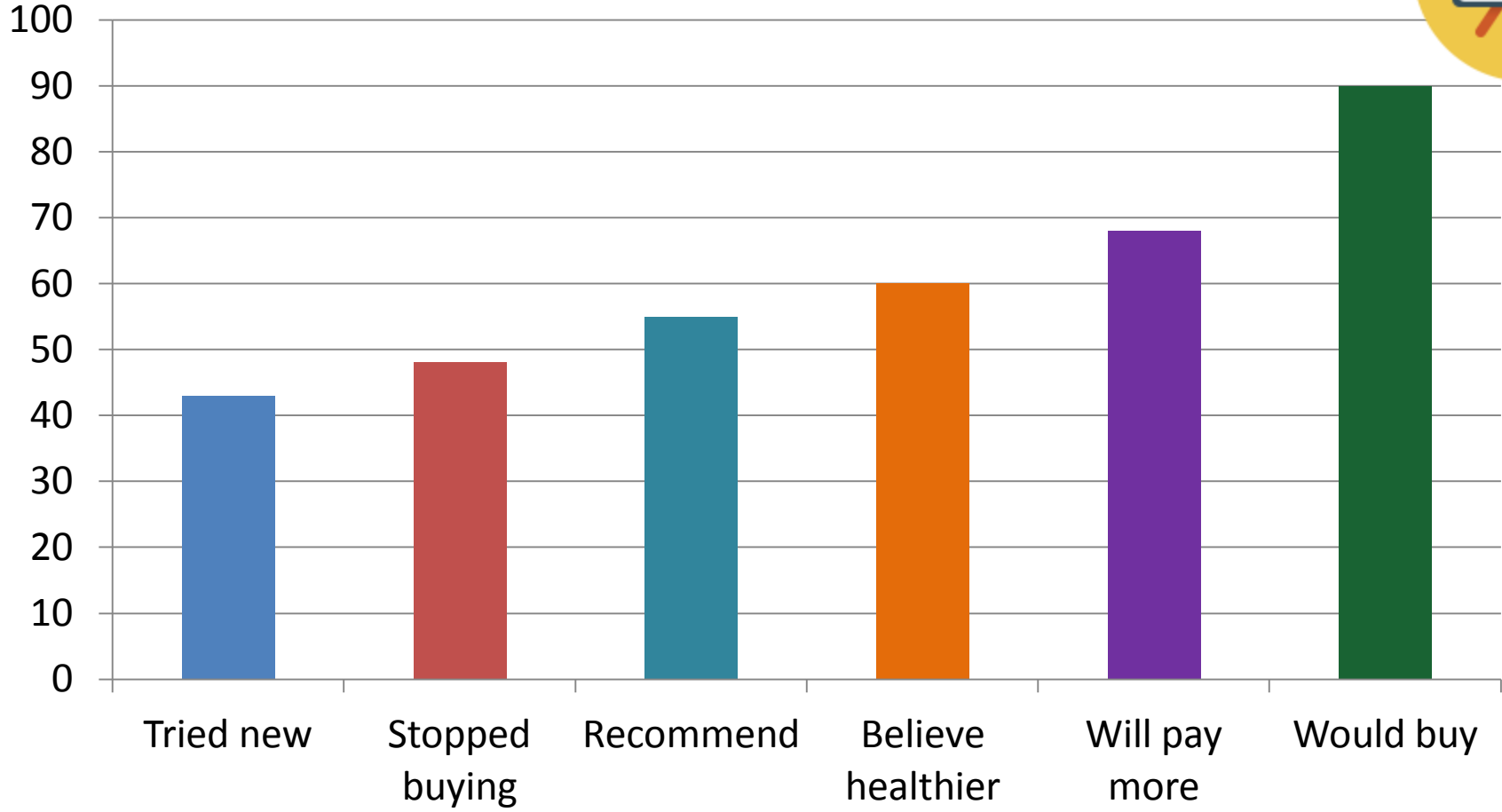
*Will be 100% supported by grower contributions in 2014.*

# Food/Bev Supply Chain

Direct vs. Supply Chain Impacts by Super Sector

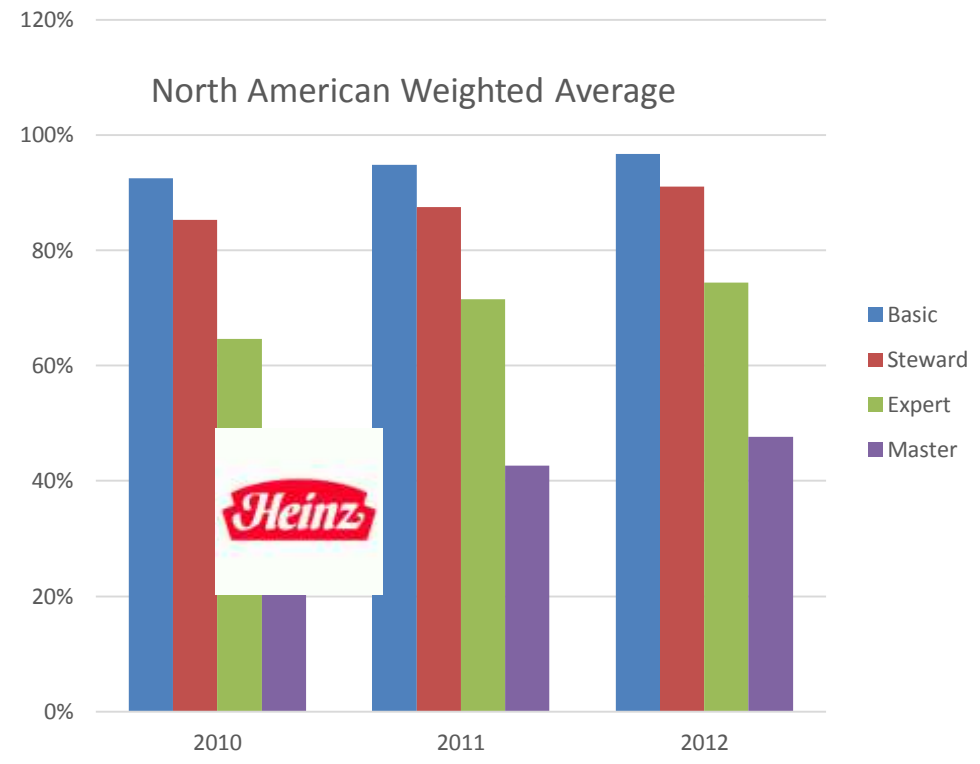


# Customers Choosing Green



# Potato Sustainability Initiative

- Online grower performance survey.
- Ranks growers from basic to master.
- Incorporating performance metrics for 2014, audit component for 2015.



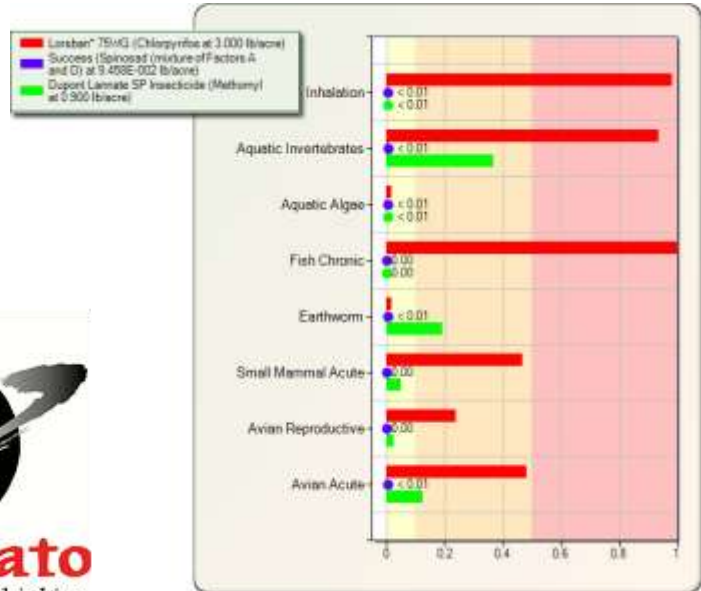
# EcoApple

Eco Apple™ Program: Brochures, Totes, Bi-Divide Boxes



Born & Raised Here™ Programs for Peaches, Heirloom Tomatoes

Eco-label recognized by the White House and by the International IPM Symposium.



# EquiTable Food Initiative

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Bringing together workers, growers and retailers in the effort to produce better fruits and vegetables. As produce farms comply with the EFI Standard—for improved working conditions, pesticide management, and food safety—the entire food system sees benefits, all the way from farm worker to consumers.



**OXFAM**

# Whole Foods Market



First-of-a-kind rating system for fresh produce and floral supply that will reach 300+ suppliers, 20,000+ farms.



# IPM IN **ALL** US SCHOOLS

## **Big Hairy Audacious Goal!**

Set in 2006, IPM In all schools by 2015:

- Coordinate, collaborate, end duplication of effort.
- Infiltrate, recruit the infrastructure already working in schools.
- More than 240 National School IPM Working Group Members working towards the goal.

## **Three online surveys:**

### • **State IPM Report Card.**

- 2012 follow-up to 2008 survey.
- Completed by knowledgeable state leaders.

### • ***School District Survey***

- *2012 – 2013, distributed with the help of partners in 42 states.*
- *Eight states conducting independent surveys.*

### • **Coalition Survey**

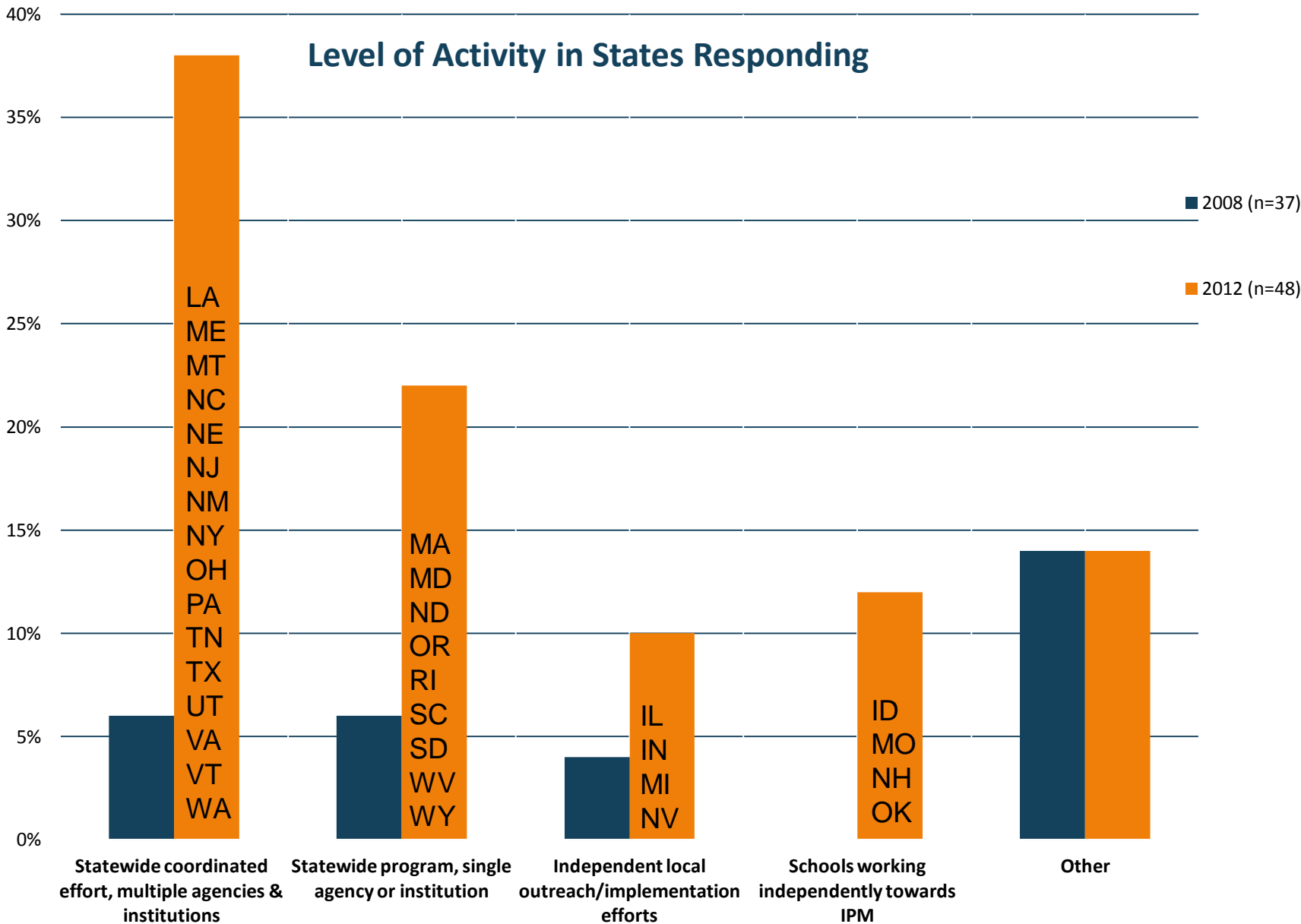
- Advanced metrics: pest complaints, pesticide applications, costs.
- Ongoing, distributed by coalition leaders.



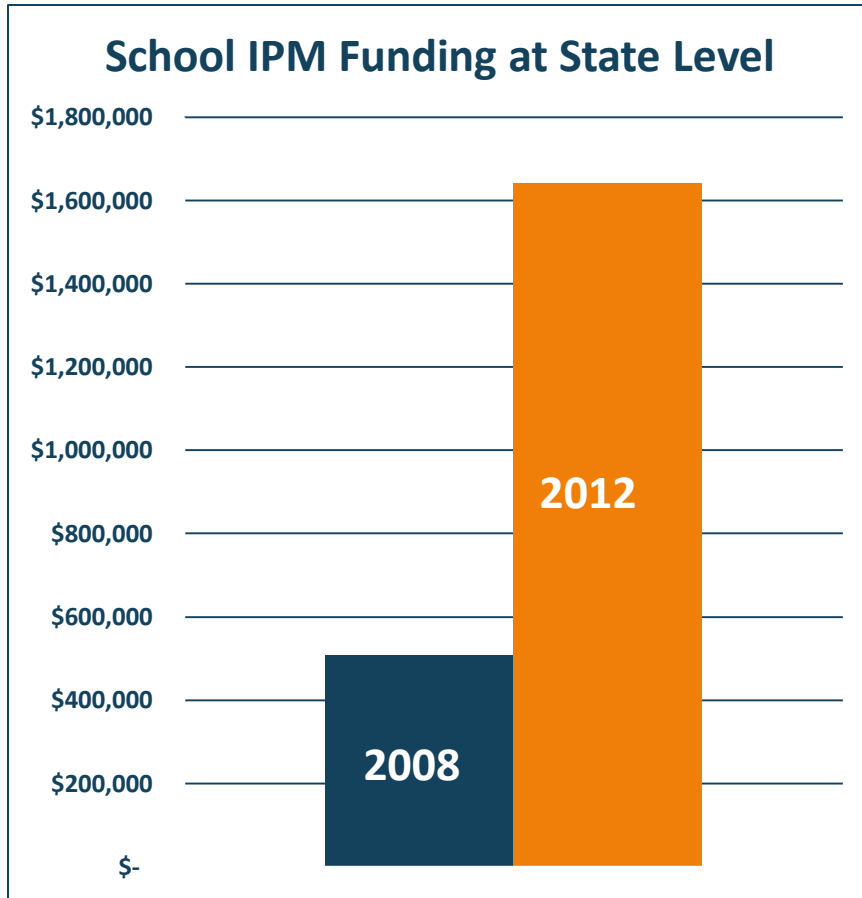
# 2008 vs. 2012 State Report Card Survey

## Level of Activity in States Responding

Percent of states responding



# More Outcomes



[www.schoolipm2015.com](http://www.schoolipm2015.com)

**Since 2006:**  
**Number students and staff impacted  
by demonstrations: 613,284**

**by coalitions: 3,327,920**

**69% avg. pesticide use reduction**

**31% avg. pest complaint reduction**

**166 meetings and workshops**

**Contact database to > 20,000  
professionals working in schools**

**34 publications**

**\$4,496,315 funding leveraged:**  
**US EPA, USDA, USDA IPM CENTERS,  
CDC**

# DISTRICT LEVEL SURVEY NATIONAL RESULTS

	Yes	No	Don't know	N
Written IPM policy?	50.9%	38.0%	11.1%	2672
Written IPM plan?	46.5%	49.4%	4.2%	2672
IPM coordinator?	52.7%	42.0%	5.4%	2672
- more than two years of experience?	81.1%	19.0%		1398
- are you the IPM coordinator?	69.2%	30.8%		1385
Do you have a school committee for IPM?	15.7%	78.1%	6.1%	2672
Do you track pest complaints?	41.6%	58.4%		2644
Do you track pest mgt costs?	43.5%	36.8%	19.7%	2672
Do you track number of pesticide applications?	53.6%	29.3%	17.1%	2479
Any contracted pest services? (vs. in house)				2672
- general structural	81.7%			
- general grounds	64.4%			
Only contracted pest services? (vs. in house)				2479
- general structural	50.2%			
- general grounds	34.1%			

**2672 DISTRICTS ~ 25%**  
**41 STATES**

# Thank You, Questions?

National Institute of Food and  
Agriculture Regional IPM  
Grants Program

- IPM Center
- US EPA
- UW Center for Integrated  
Agricultural Systems
- Threshold IPM Services
- > 240 school IPM working  
group members

## Contact

Thomas Green  
IPM Institute of North America  
(608) 209-8298 (cell)  
[ipmworks@ipminstitute.org](mailto:ipmworks@ipminstitute.org)

## Resources for more information

- [www.ecofruit.wisc.edu/appletalk/](http://www.ecofruit.wisc.edu/appletalk/)
- [www.cias.wisc.edu/](http://www.cias.wisc.edu/)
- [www.ipminstitute.org](http://www.ipminstitute.org)

## Join IPM Voice!

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