School IPM and Pesticide Reduction

Northwest Center for Alternatives to Pesticides
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Who is NCAP?

The Northwest Center for Alternatives to Pesticides (NCAP) works to protect community and environmental health and inspire the use of ecologically sound solutions to reduce the use of pesticides.

NCAP works to protect those who are most vulnerable from harm caused by pesticides, while also striving to educate and help identify healthier, more ecologically sound solutions to common pest issues. We focus our campaigns in three main areas:

- Healthy People and Communities
- Healthy Water and Wildlife
- Healthy Food and Farms

"Children encounter pesticides daily and have unique susceptibilities to their potential toxicity….Epidemiologic evidence demonstrates associations between early life exposure to pesticides and pediatric cancers, decreased cognitive function, and behavioral problems."

American Academy of Pediatrics

Policy Statement

Pesticide Exposure in Children

Why IPM in Schools?

The American Academy of Pediatrics: children are much more vulnerable to environmental chemicals and should avoid ANY exposure to pesticides.

EPA: Poor indoor air quality, caused in part by pests and pesticides, leads to increased asthma attacks, lower test scores and lower attendance rates.

EPA: IPM policies have been found to reduce school costs over time.

National PTA: support reducing pesticide use in schools to improve improving indoor air quality.

Oregon School IPM Law (ORS 634.700-634.750)

Passed in 2009 and implemented in 2012.

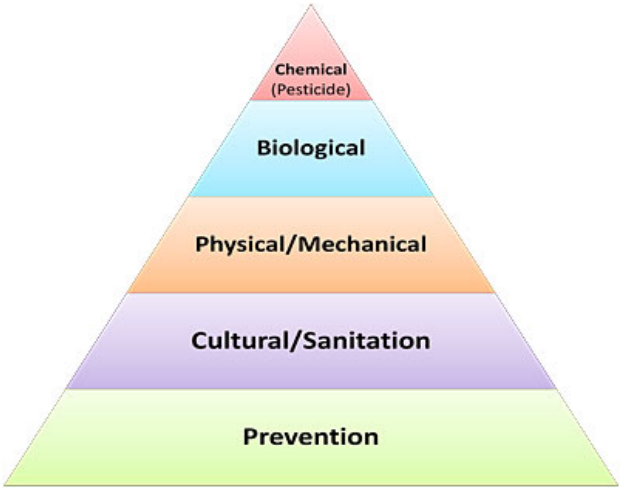
Helps to ensure the health of students and employees in 1,295 public schools, community colleges, Head Start centers, and other campuses covered under the law.

Oregon School IPM Law

- Proactive approach to pest management to achieve long-term pest prevention and suppression.
- Protects health and safety of humans, the campus grounds and structures, and the ecosystem by opting for reduced risk approaches to managing and preventing pests.
- Prefers non-chemical methods to the use of pesticides, including sanitation and physical change.
- Campuses must not apply pesticides for purely aesthetic purposes.


Markers
Scissors

Oregon's IPM Law



- Effective July 1, 2012
- Schools must have IPM plans
- Only "low impact" pesticides can be used.
- Pesticides are a "last resort"
- Only licensed professionals can use pesticides
  Must notify if pesticides will be applied
- Must keep records of pesticides applied

Citation: Oregon School IPM Law (ORS 634.700-634.750)

IPM Image from University of Nevada.

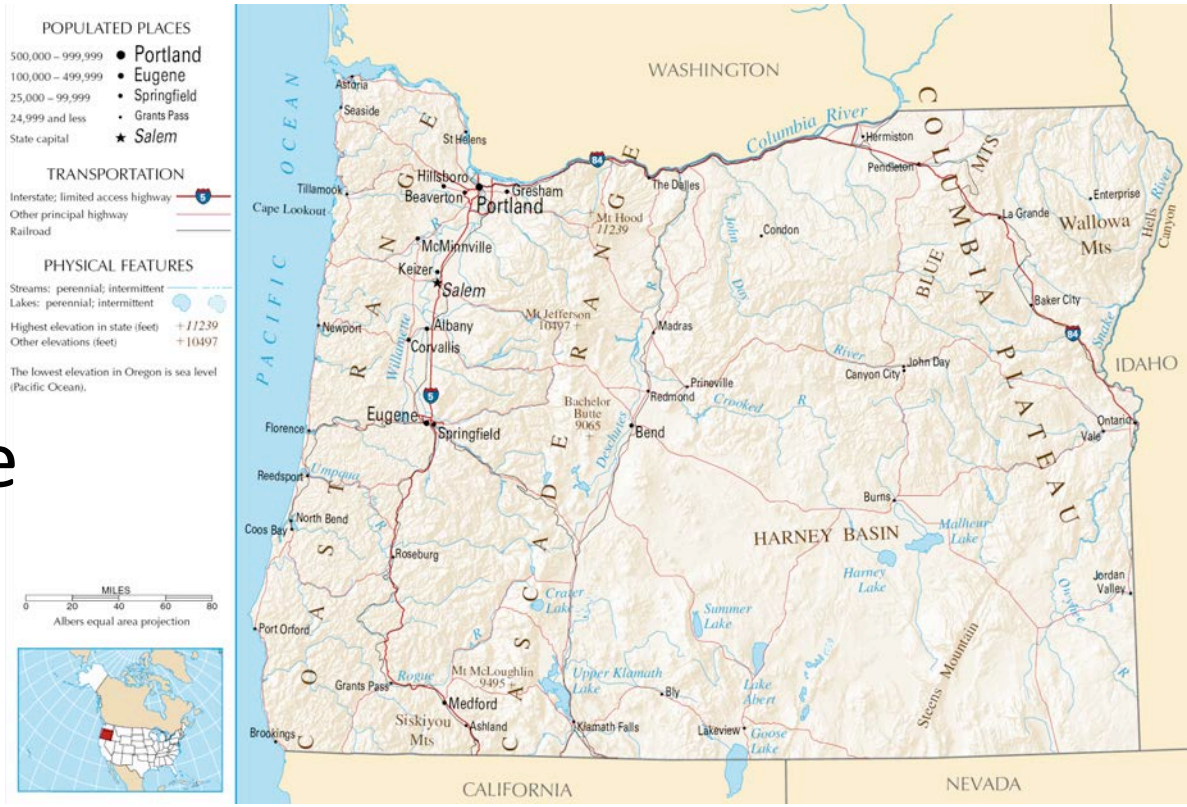
NCAP Survey to Monitor School IPM

Responders: 123 IPM coordinators across the state, representing 197 campuses. Request sent to 440 emails.

Response rate: 28%

Attempt to measure

Nothing!



Methods

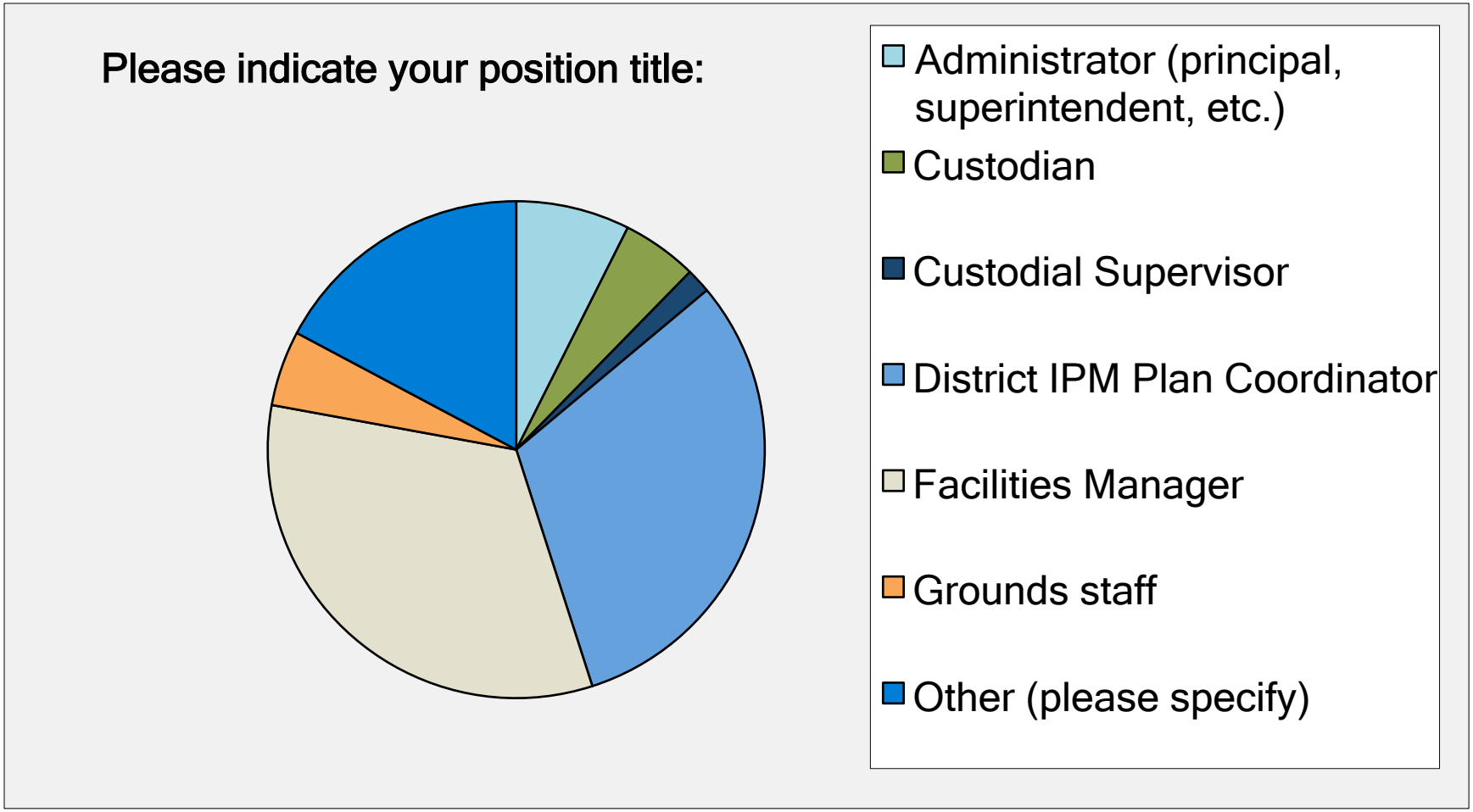
Survey all IPM Coordinators across state. Contact information was from online searches for 'IPM Coordinator' and OSU training attendees.

Online platform-Surveymonkey

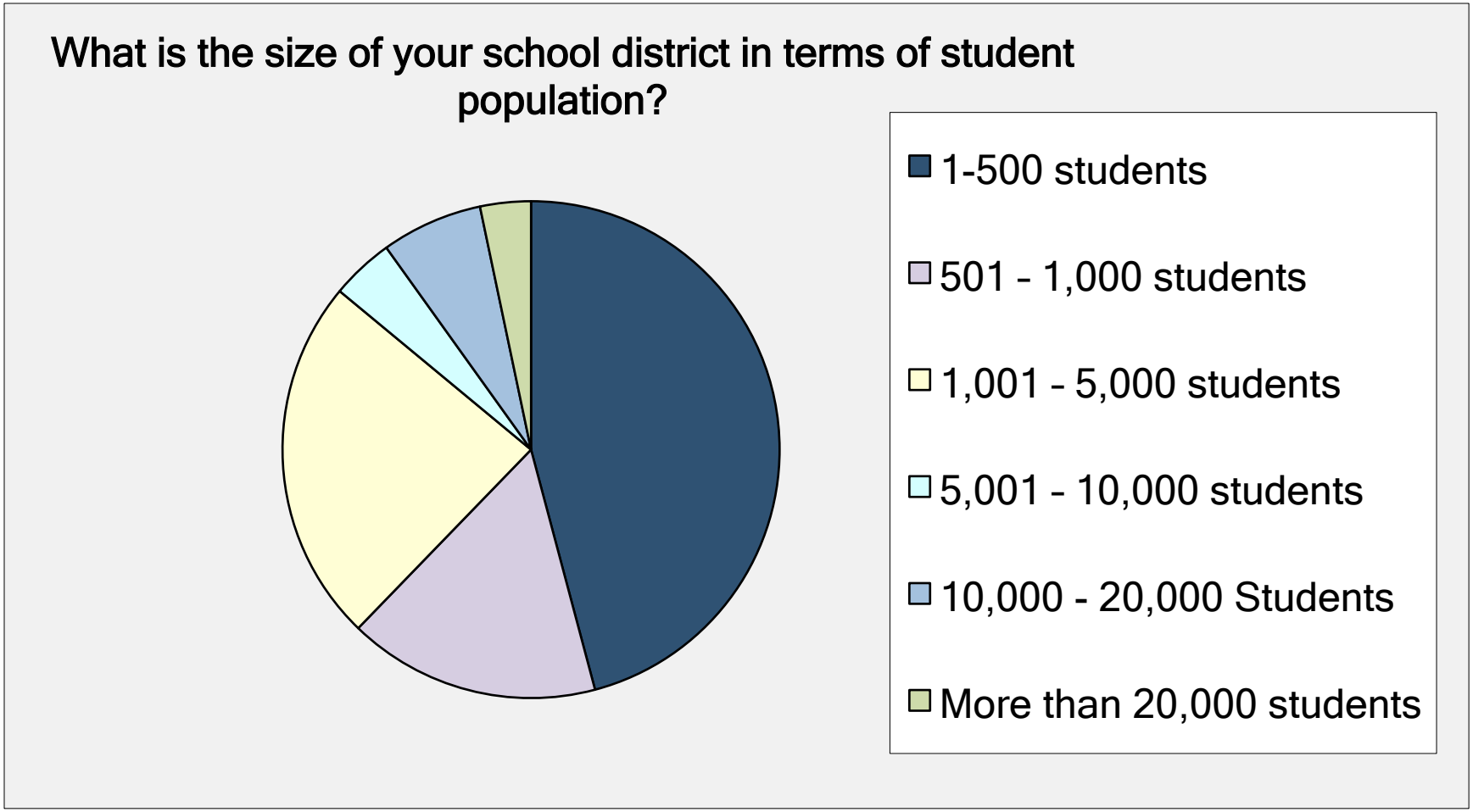
Analysis-Excel and IPM SPSS

Chi-square Crosstabulation to examine association

IPM Coordinator Position Titles

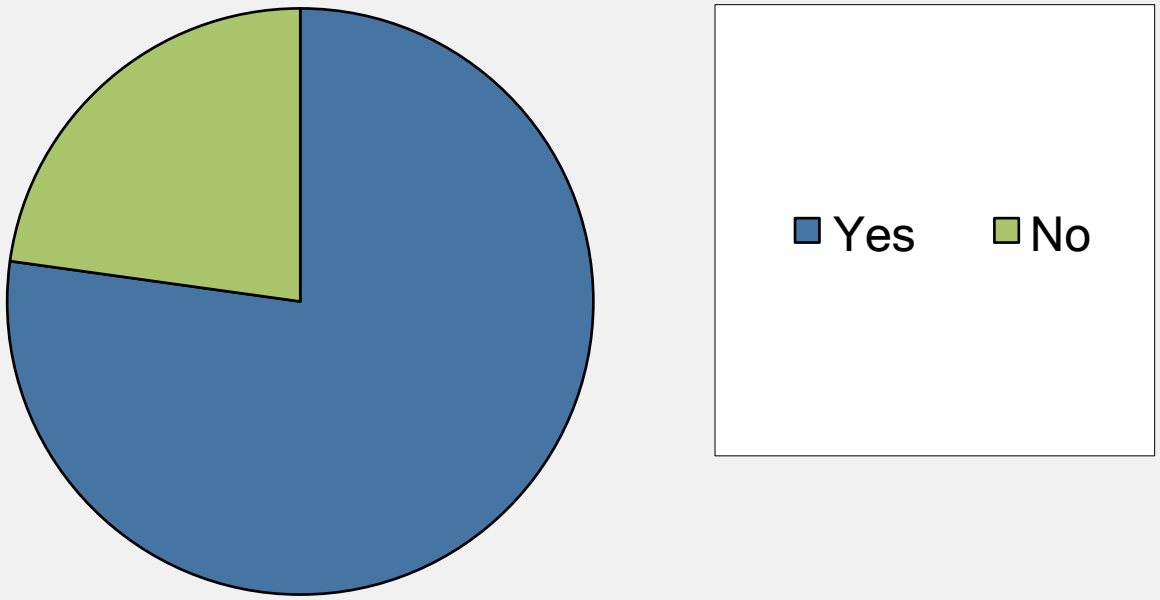


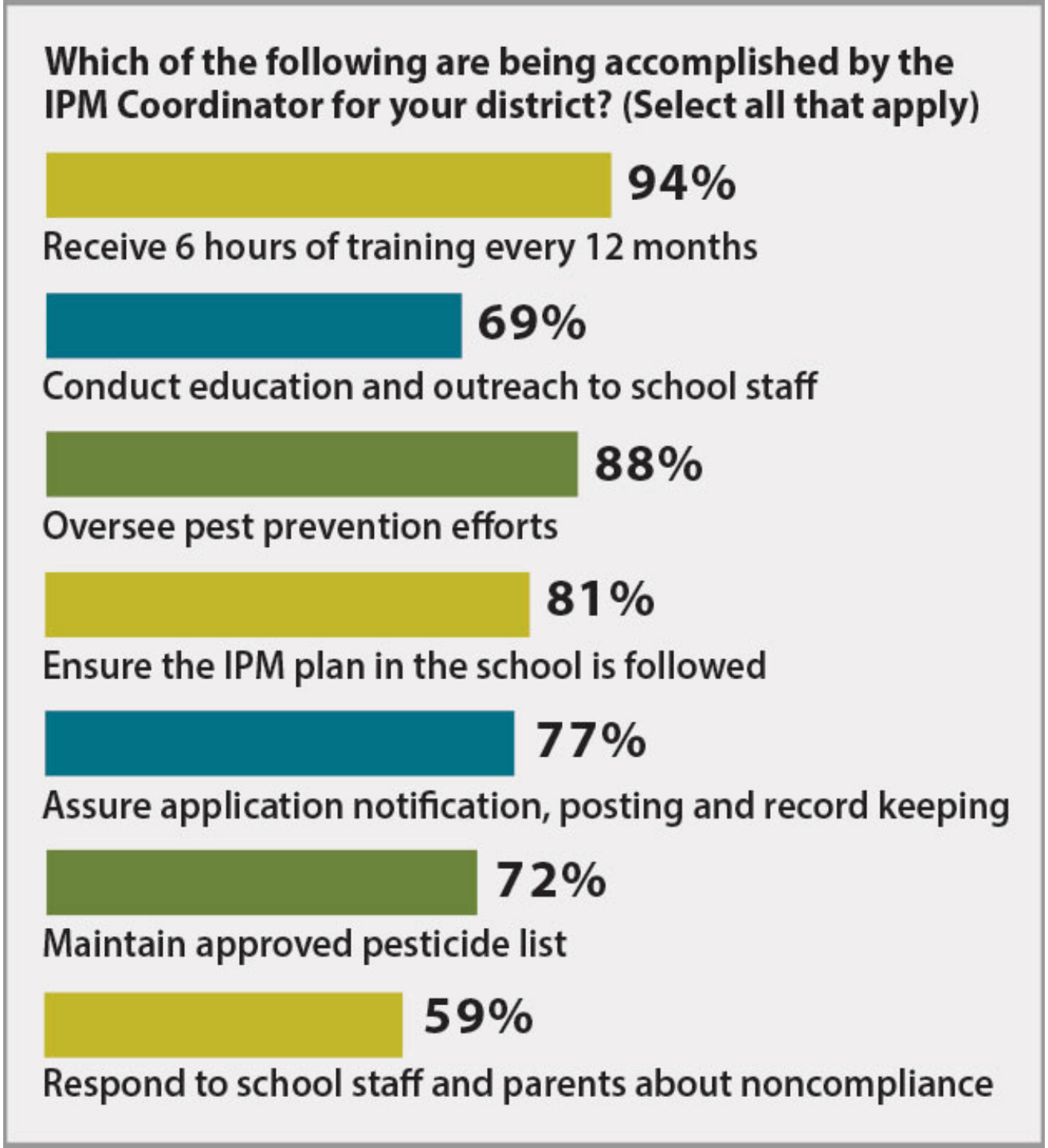
Size in terms of Population

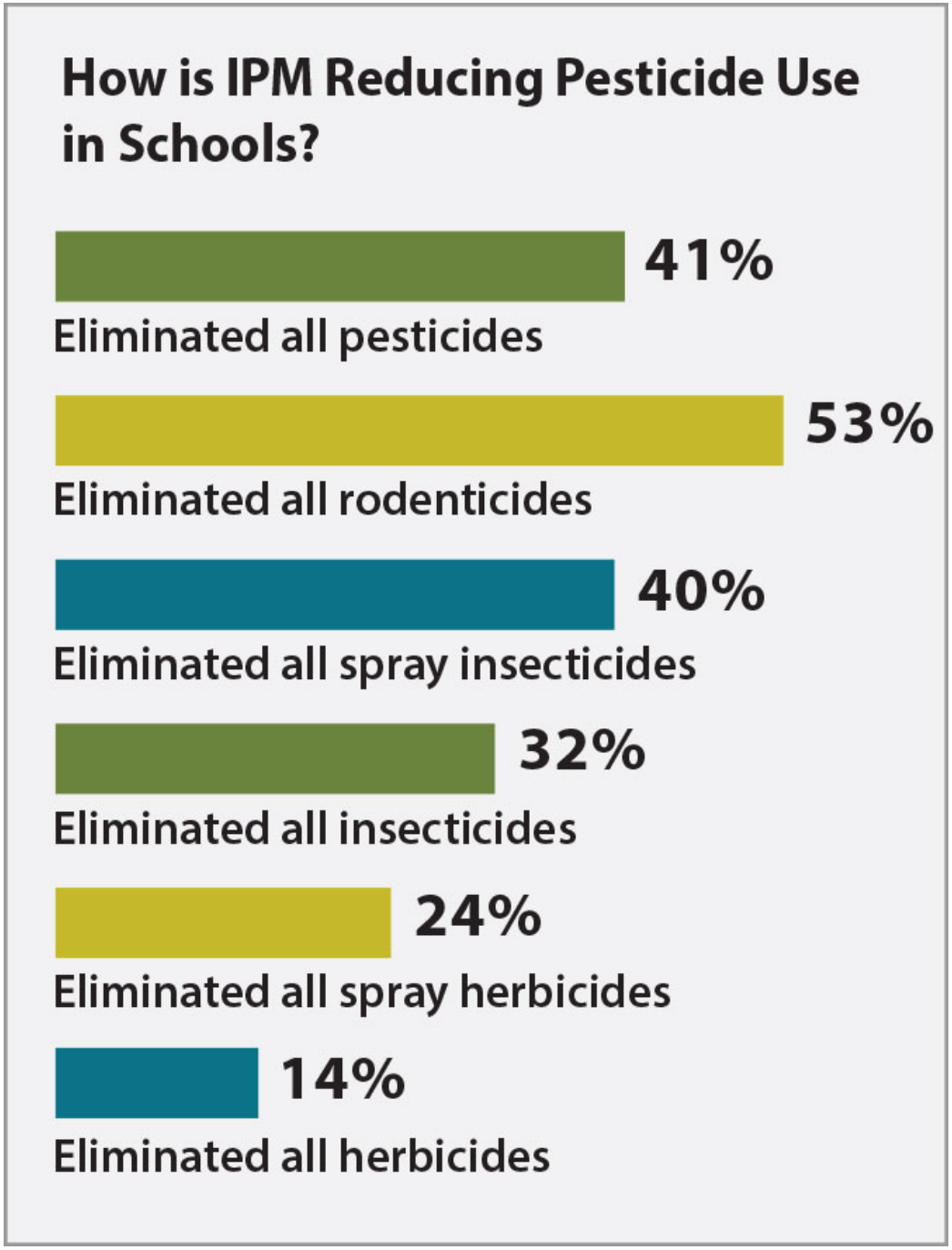


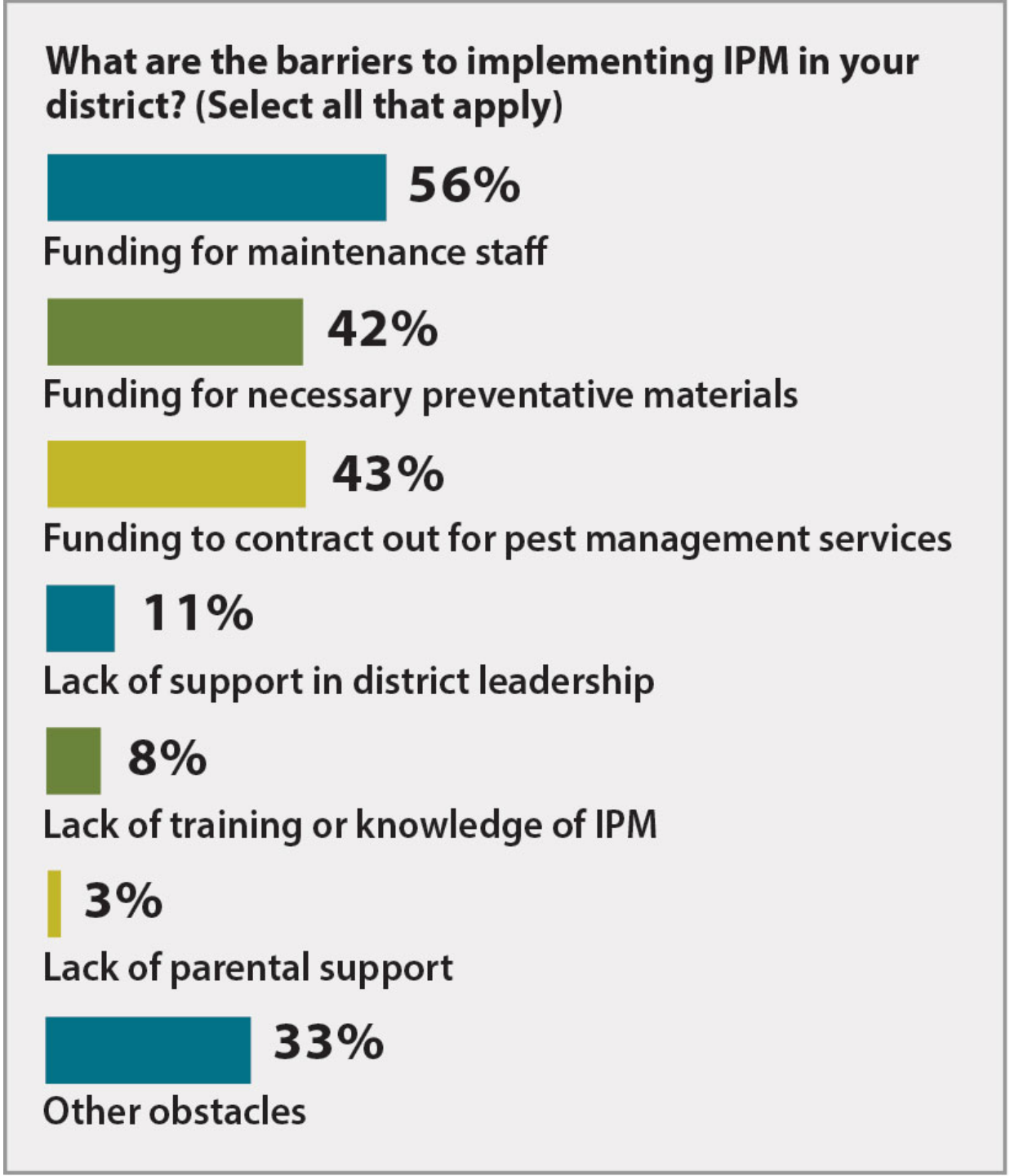
Sports Field

Does the school campus have a sports field?

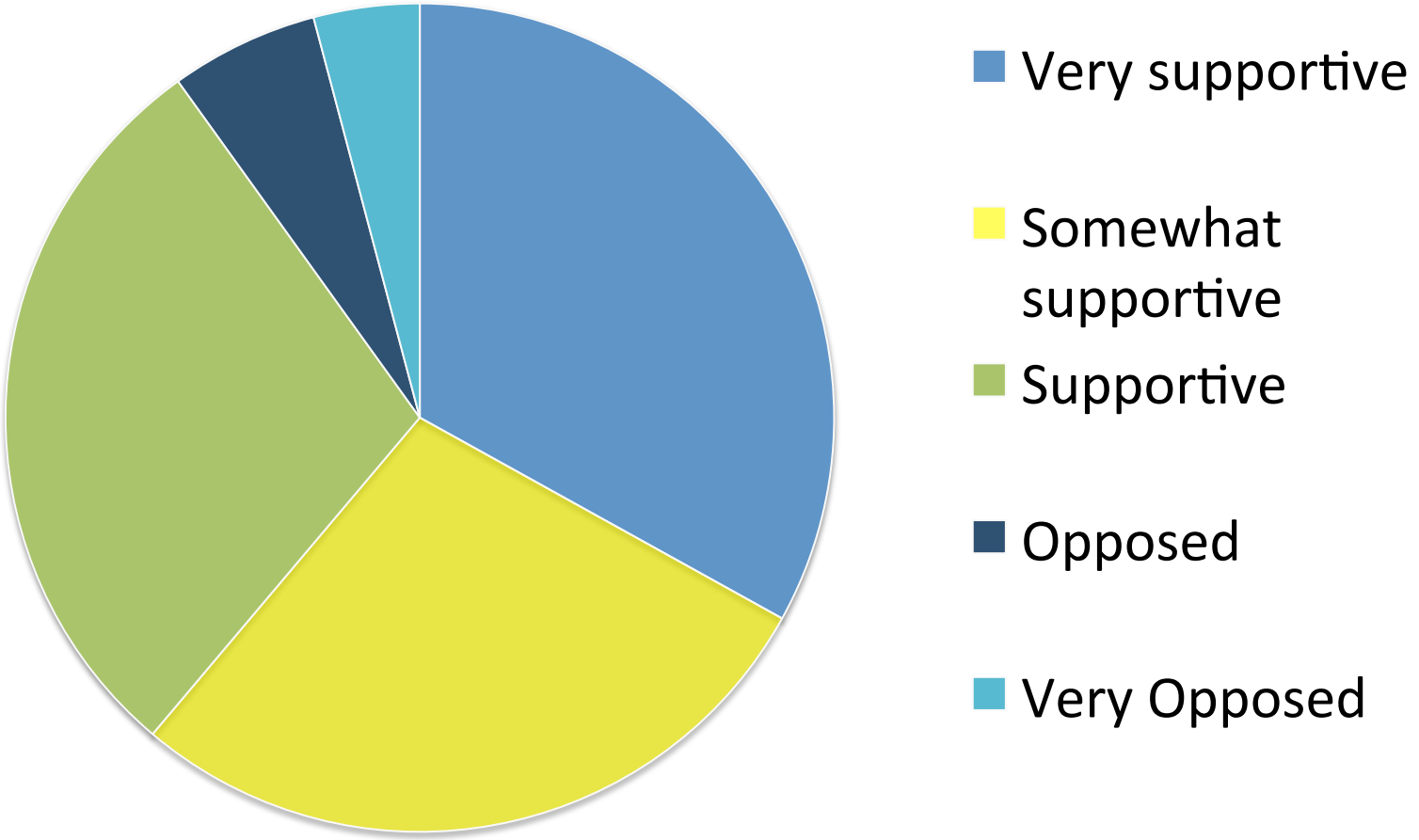



Which of the following are being accomplished by the IPM Coordinator for your district? (Select all that apply)
94%
Receive 6 hours of training every 12 months
69%
Conduct education and outreach to school staff
88%
Oversee pest prevention efforts
81%
Ensure the IPM plan in the school is followed
77%
Assure application notification, posting and record keeping
72%
Maintain approved pesticide list
59%
Respond to school staff and parents about noncompliance


How is IPM Reducing Pesticide Use in Schools?
41%
Eliminated all pesticides
53%
Eliminated all rodenticides
40%
Eliminated all spray insecticides
32%
Eliminated all insecticides
24%
Eliminated all spray herbicides
14%
Eliminated all herbicides

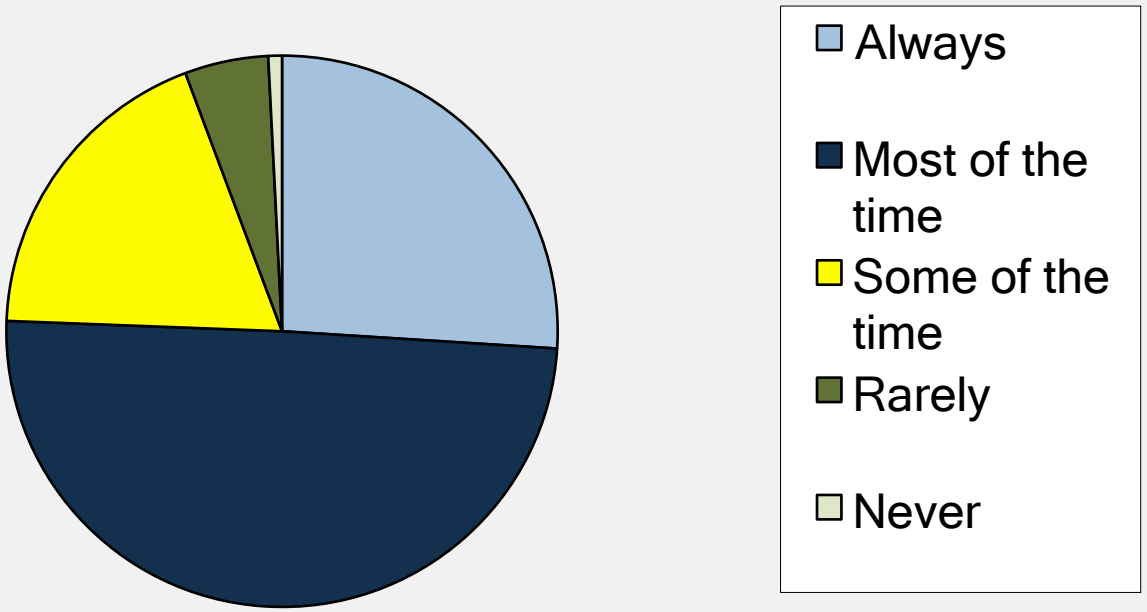

What are the barriers to implementing IPM in your district? (Select all that apply)
56%
Funding for maintenance staff
42%
Funding for necessary preventative materials
43%
Funding to contract out for pest management services
11%
Lack of support in district leadership
8%
Lack of training or knowledge of IPM
3%
Lack of parental support
33%
Other obstacles

How supportive are you of reducing pesticides in schools?



Prevention Before Chemicals

How often are preventative methods and practices chosen over chemical pesticide applications?



Which of the following prevention activities have been performed by your school in the last year?		What pesticide applications have you eliminated in the last year?		Total
			All rodenticides	
Not Selected	Count	50	16	66
	Installed functioning high-density door sweeps to prevent pests.	75.80%	24.20%	100.00%
	% within All rodenticides	62.50%	37.20%	53.70%
	% of Total	40.70%	**13.00%**	53.70%
Installed functioning high-density door sweeps to prevent pests	Count	30	27	57
	Installed functioning high-density door sweeps to prevent pests.	52.60%	47.40%	100.00%
	% within All rodenticides	37.50%	62.80%	46.30%
	% of Total	24.40%	**22.00%**	46.30%
Total	Count	80	43	123
	Installed functioning high-density door sweeps to prevent pests.	65.00%	35.00%	100.00%
	% within All rodenticides	100.00%	100.00%	100.00%
	% of Total	65.00%	35.00%	100.00%

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.194[a]	1	**0.007**		
Continuity Correction[b]	6.213	1	0.013		
Likelihood Ratio	7.24	1	0.007		
Fisher's Exact Test				0.008	0.006
N of Valid Cases	123				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.93.

b. Computed only for a 2x2 table

Practice	% of total	Asymp. Sig. (2-sided)
All insecticides		
Not Selected	11.40%	0.058
Screens installed on all windows and free of holes	9.80%	
All pesticides		
Not Selected	5.70%	0.011
School uses sealable containers or canister to secure edible items	21.10%	
Not Selected	3.30%	0.006
Dumpster is at least 20 feet from the nearest entry door	23.60%	
No Sports Field	9.80%	0.029
Sports Field	17.10%	
Spray insecticides		
Not Selected	6.50%	0.032
School uses sealable containers or canister to secure edible items	20.30%	

Practice	% of total	Asymp. Sig. (2-sided)
Spray herbicides		
Not Selected	1.60%	0.037
Dumpster is at least 20 feet from the nearest entry door	13.80%	
Not Selected	1.60%	0.022
Staff lounges and break rooms are in good condition and practice regulator sanitation	13.80%	
All rodenticides		
Not Selected	18.70%	0.023
Installed a stinging insect trap	16.30%	

Barrier	% of total	Asymp. Sig. (2-sided)
Obtaining the proper licensing to apply pesticides		
Not Selected	10.60%	0.054
Funding for maintenance staff	22.80%	
Educating school staff about their role in IPM		
Not Selected	11.40%	0.02
Funding for maintenance staff	26.00%	

How often are preventative methods and practices chosen over chemical pesticide applications?

		What pesticide applications have you eliminated in the last year?		Total
			All pesticides	
How often?	Always	14	18	32
	Most of the time	48	13	61
	Never	1	0	1
	Rarely	6	0	6
	Some of the time	21	2	23
Total		90	33	123

2 sided sig=0.000

Observations Based on Statistically Significant Crosstabs

The barrier: ‘funding to contract out for pest management services’ was associated with the the obstacle: ‘managing pests without pesticides/only low-impact pesticides.’

Campuses with a sports field were associated with eliminating all pesticides.

The obstacle: ‘Managing pests without pesticides/only low-impact pesticides’ and the barrier: ‘Funding for necessary materials (pest exclusion materials such as doors weeps, garbage cans with lids, bird netting, pest traps, etc.)’ were associated.

Some best practices were associated with a decrease in pesticide use:

- Installed functioning high-density door sweeps was associated with eliminating all rodenticides.
- Using sealable containers was associated with eliminating all pesticides

Choosing prevention methods over chemicals was closely associated with eliminating all pesticide use.

Observations Based on Statistically Significant Crosstabs

Interesting to confounding results:

- Installing stinging insect trap was associated with eliminating all rodenticides
- Cleaning break rooms was associated with eliminating all spray herbicides
- Proper dumpster placement was associated with eliminating herbicides
- Not selecting 'Installing screens…' was associated with eliminating insecticides

Assume good practices are part of a change in mindset?

Acknowledge Bias

- Distribution list from trainings
- Testing for compliance
- Rodenticide restricted in year of survey
- Responders are compelled to reply if they have something to say
- If you are not following the law, less likely to reply. No IPM Coordinator-not found.

More Research Possible

- Compare demographics to reduction of risk
- Compare support for program to reduction
- Calculate correlations between best practice and reduction
- Unlimited!

Partners welcome!

Special Thanks

This survey and report would not have been possible without the support and assistance from:

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NCAP Supporters

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NORTHWEST CENTER FOR ALTERNATIVES TO PESTICIDES