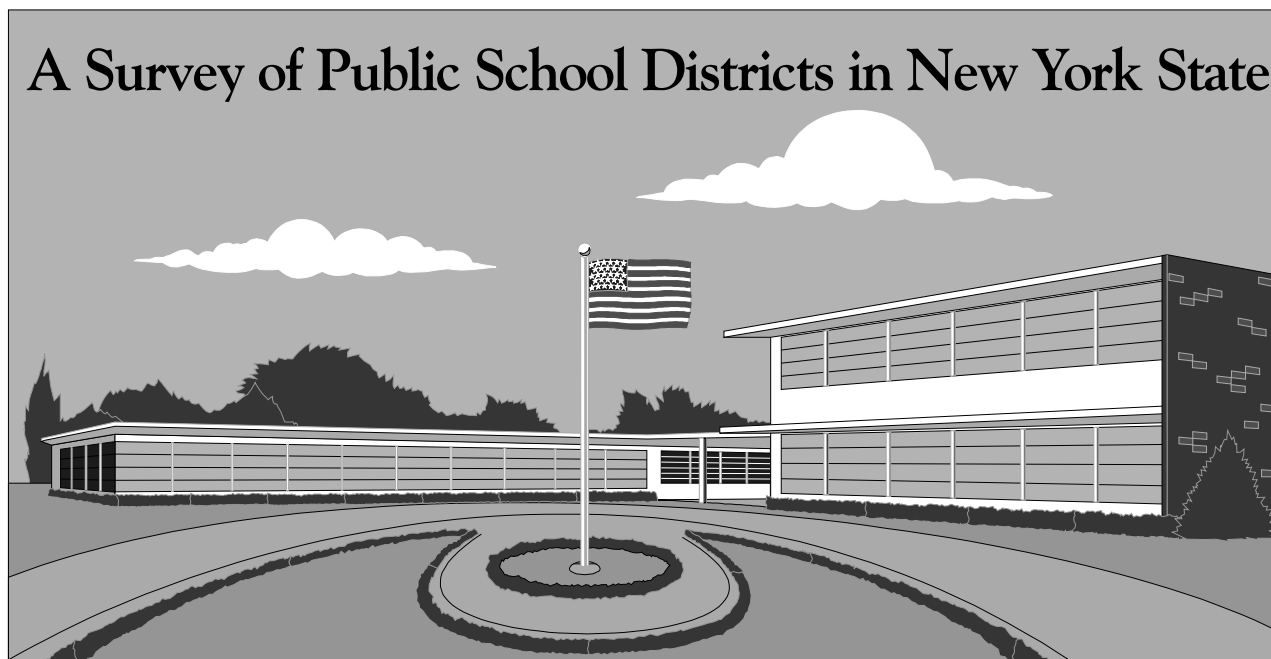


# Pest Management Practices

## A Survey of Public School Districts in New York State



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Produced by the New York State Integrated Pest Management Program, which develops sustainable ways to manage pests and helps people use methods that minimize environmental, health, and economic risks.

For additional copies: NYS IPM Program, NYSAES, Geneva, NY 14456; 800.635.8356. To obtain this document from the web: <http://www.nysipm.cornell.edu/comm/school.pdf>

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## EXECUTIVE SUMMARY

In 2001, all public school districts and Boards of Cooperative Educational Services (BOCES) districts in New York State (NYS) were surveyed concerning their current pest management practices. The goals of the survey were to evaluate the status of integrated pest management (IPM) programs in NYS public elementary and secondary schools and provide guidance for research and outreach activities to assist schools in improving pest management. The recent implementation of the NYS Pesticide Neighbor Notification Law provided additional incentive for good baseline information.

Approximately 80% (603) of the state's public school districts and BOCES districts responded to the survey. Almost half indicated that they had a written pest management policy. The majority did not have a pest management advisory committee. Most districts require inspections, monitoring, sanitation, and record keeping in their pest management programs. Fewer require education and pest exclusion. Most districts do not have a policy concerning food outside of cafeterias. Forty-five percent of the school districts notify persons in parental relation and staff in advance of pesticide applications. Twenty-one percent of the districts notify after pesticide applications. (Notification was not mandated until this survey was completed.)

Half of the school districts employ staff who are certified pesticide applicators. Most districts do not have regularly scheduled pesticide applications. Of those that do, 30% have regularly scheduled applications in instructional buildings, 10% in non-instructional buildings, and 20% on school grounds.

The most frequent and troublesome pests in NYS schools are ants, stinging insects, mice, and weeds. Regional differences do occur. Long Island has more problems with lawn grubs, cockroaches, termites, and birds (especially geese) than much of the rest of the state. The Hudson Valley/Catskills region has more frequent problems with geese and termites than the rest of upstate New York.

The most commonly used structural pest management techniques were sanitation, vacuuming, monitoring/inspections, structural modifications, baits, routine pesticide applications, and mechanical traps. On school grounds, the most common techniques were raising mower height, aeration, overseeding, and organic fertilizers.

Fifty-four percent of NYS school districts received complaints about pests within the past three years. Six percent had received complaints about pesticide applications during the same period.

The median total expenditures by school districts on pest control activities during the 1999–2000 school year was \$1,350. The mean was \$4,330. Extrapolated, approximately \$3 million was spent statewide to control pests in schools.

# INTRODUCTION

Ascertaining the status of pest management practices in NYS schools is important for assessing needs and evaluating changes. Some NYS school districts have successfully adopted IPM. However, other districts have had problems in adopting pesticide-reduction programs or still depend upon “conventional” pesticide treatments. A comprehensive picture of the status of pest management in NYS schools has been lacking. Such information is important for gauging pest management needs and as a baseline for measuring changes. With the 2001 implementation of the schools portion of the NYS Pesticide Neighbor Notification Law (Section 409-h of the Education Law), good baseline information has become even more important. Although signed into law in August, 2000, Section 409-h was not effective until July 2001, which was after our survey was conducted.

A written survey of the current pest management practices of public school districts and BOCES districts was jointly developed by the NYS Education Department, the NYS Department of Health, and the NYS Community IPM Program (Appendix A). The goal of the survey was to evaluate the status of IPM implementation in NYS public elementary and secondary schools, as well as to help focus outreach and research activities to better assist schools in managing pests while reducing the need for pesticides. Specific objectives were to assess the percentage of public school districts that

- have an IPM program in place;
- employ persons who are certified pesticide applicators;
- have had pest-related complaints;
- have had pesticide-related complaints;
- currently notify persons in parental relation and staff prior to pesticide applications;
- apply various pest management strategies;
- are experiencing problems with various pests.

# METHODS

In January 2001, the NYS Education Department mailed the survey to all 703 public school districts and all 38 BOCES districts in the state. The survey was addressed to the district superintendent. The cover letter (Appendix B) asked that the person most responsible for pest management decisions in the school district complete the survey. The cover letter also indicated that the survey was voluntary and confidential. Survey forms had identification numbers in order to facilitate the follow-up of nonresponding districts. In March 2001, the Education Department re-sent the survey to districts that had not responded to the first mailing.

During May and June, the New York Agricultural Statistics Service of the USDA contacted by phone all districts which, according to our records, had not responded to either mailing. All such school and BOCES districts were called up to four (sometimes more) times over more than a month and at different times of the day. Personnel in districts who agreed to fill out the survey either did so over the phone or had the survey faxed to them.

Data from all completed surveys were coded by the State Department of Health and analyzed using Statistical Analysis System software (SAS).

# RESULTS

We received 603 completed surveys. This number represents 86% of the 741 districts (703 school districts and 38 BOCES districts) surveyed. However, we did receive some duplicate surveys (districts that filled out more than one survey). We know this because, in four counties, we received more completed surveys than districts in the county. We were unable to separate out the duplicates. Also, there may be duplicates that we are unaware of in other counties. We do believe that the number of duplicates is probably less than 20, and thus should not affect the general trends in the data.

Most responding school districts described themselves as either rural (56%) or suburban (36%) (fig. 1).

For some of the analyses, we grouped the counties into four regions (fig. 2). The number of respondents in each region and county are shown in figures 3 through 6.

The New York City school district apparently did not return a survey (fig. 4). This is the largest school district in the nation but still counts as only one district in our survey.

Almost half of the responding districts have a written pest management policy. More than 70% of the responding districts require inspections; monitoring; sanitation and housekeeping; and record keeping in their pest management programs (fig. 7). Fewer require education and pest exclusion. Most responding districts indicated that their pest management policies had been explained to parents, students, and staff. Most districts do not have a policy related to food outside of cafeterias. Most respondents do not have a pest management advisory committee.

About 70% of the respondents have designated a specific individual as the district pest management contact. Less than 30% train and encourage building occupants to participate in the school's pest management program.

Around 30% of the responding districts conduct regularly scheduled pesticide applications in instructional buildings.

Ten percent have similar applications in noninstructional buildings. Twenty percent conduct regularly scheduled pesticide applications on school grounds. Most pesticide applications at schools are made either after hours or on weekends/holidays (figures 8 and 9).

Decisions concerning pesticide applications are usually made by the Superintendent of Buildings and Grounds or private pesticide application firms (fig. 10). Most districts keep a variety of records related to pest management, although only 62% kept pest sighting logs (table 1).

The most frequent and troublesome pests cited by NYS schools are ants, stinging insects (bees), mice, and weeds (figures 11 through 20). A third of Long Island school districts reported frequent issues with lawn grubs, cockroaches, and termites, and about 40% had frequent problems with geese (fig. 13). Long Island districts also had more frequent problems with birds than the rest of the state. On the other hand, the Long Island region reported less frequent encounters with lice and flies than upstate New York. The Hudson Valley region had more frequent problems with geese and termites than the rest of upstate New York (fig. 12).

Respondents indicated that they most commonly used the following indoor pest management techniques monthly or more often on a prearranged schedule (table 2): sanitation/housekeeping (93%), vacuuming (91%), monitoring/inspections (76%), structural modifications (49%), baits (34%), routine pesticide applications (33%), and mechanical traps (30%). School districts most commonly listed the following techniques as being used infrequently (less than four times a year and not on a prearranged schedule): aerosols (85%), baseboard spraying (66%), crack/crevice applications (64%), routine pesticide applications (53%), mechanical traps (51%), baits (44%), and structural modifications (31%).

Respondents indicated that they most commonly used the following outdoor pest management techniques monthly or more often on a prearranged schedule (table 3): raising mower height (51%), aeration (40%), overseeding (37%), and organic fertilizers (25%). Respondents most commonly listed the following techniques as being used infrequently (less than four times a year and not on a prearranged schedule): herbicidal soaps (85%), nematodes (84%), routine pesticide applications (73%), spot pesticide treatments (72%), soil testing (54%), organic fertilizers (45%), overseeding (32%), aeration (31%), and raising mower height (23%).

Fifty-four percent of the responding school districts indicated that they had received complaints about pests within the past three years. Six percent said that they had received complaints about pesticide applications within the same period. Four percent indicated that there had been pesticide spills or complaints of adverse health reactions from pesticides during the past three years. Of those districts that had spills or complaints, almost 80% utilized outside resources in responding.

Half of the school districts employ staff who are certified pesticide applicators. All of these staff are over 20 years old. The median annual pest management training per employee is 6.0 hours.

Thirty-two percent of the districts have their own staff apply pesticides, while 85% hire a private business to make applications. Almost 60% of the respondents do not allow apprentices or technicians, under the supervision of a certified applicator, to apply pesticides.

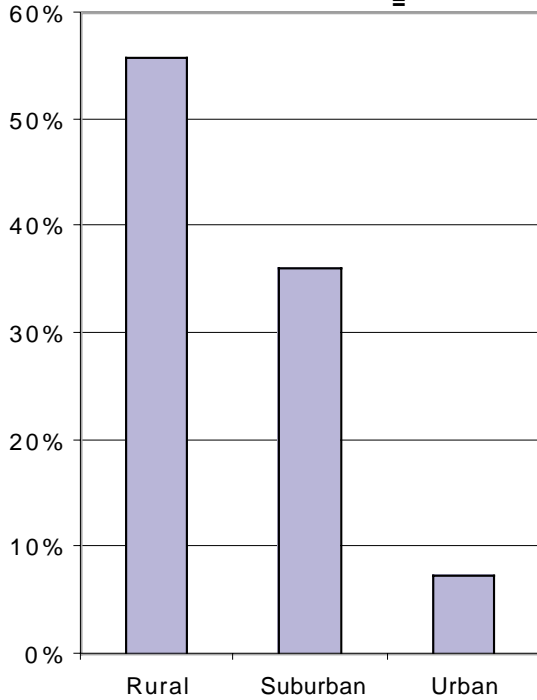
Equal numbers (45% each) of school districts did or did not notify persons in parental relation and staff in advance of pesticide applications during the 2000–2001 school year. The remaining 10% were uncertain. Of those that notified, 62% accomplished this by posting at building entrances. Twenty-one percent of the districts notified persons in parental relation and staff after pesticide applications. Of these, the most frequent means (59%) was posting. It is important to note that the school portion of the NYS Pesticide Neighbor Notification Law was not effective until July 2001 (after the survey was conducted).

The median total expenditures by NYS school districts on pest control activities during the 1999–2000 school year was \$1,350. The median expenditures by district type were suburban (\$3,500), urban (\$2,450), and rural (\$750). The median expenditures by region were Long Island (\$4,400), Hudson Valley/Catskills (\$2,500), Central/Western (\$1,100), and North Country/Adirondacks (\$669).

# RESULTS, BY QUESTION

## 1. How would you describe your school district?\*

**Figure 1. NYS School Pest Management Survey Respondents' Descriptions of their School Districts (N=60)**

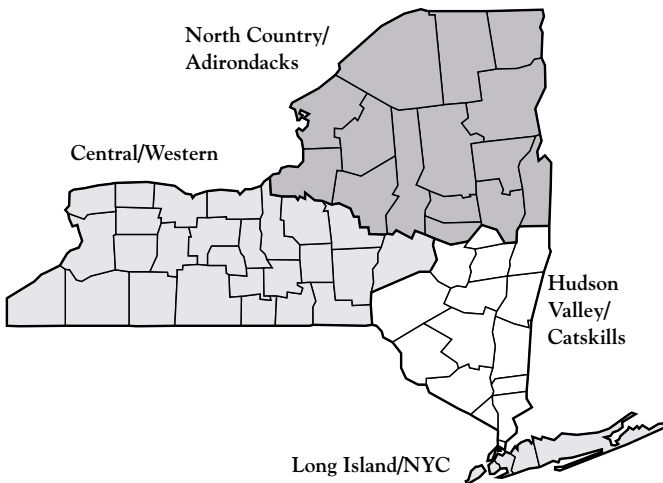


\* 0.5% of respondents described their district as "suburban and rural" and 0.1% of respondents described their district as "urban and rural."

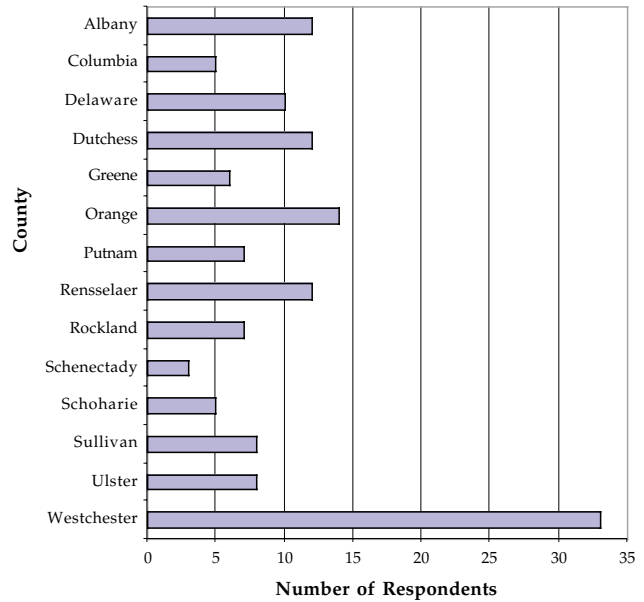
## 2. What county is the school district located in?

Counties were grouped into four regions: North Country/Adirondacks, Central/Western NY, Hudson Valley/Catskills, and Long Island/NYC (Figure 2). Number of survey respondents for each county are shown regionally in figures 3 through 6.

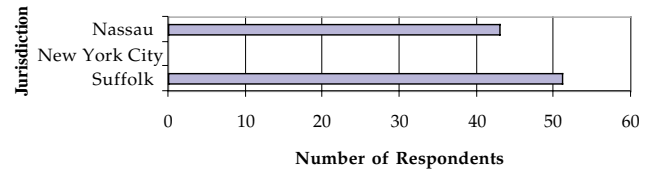
**Figure 2. Regional Groupings of Counties for the NYS School Pest Management Practices Survey**



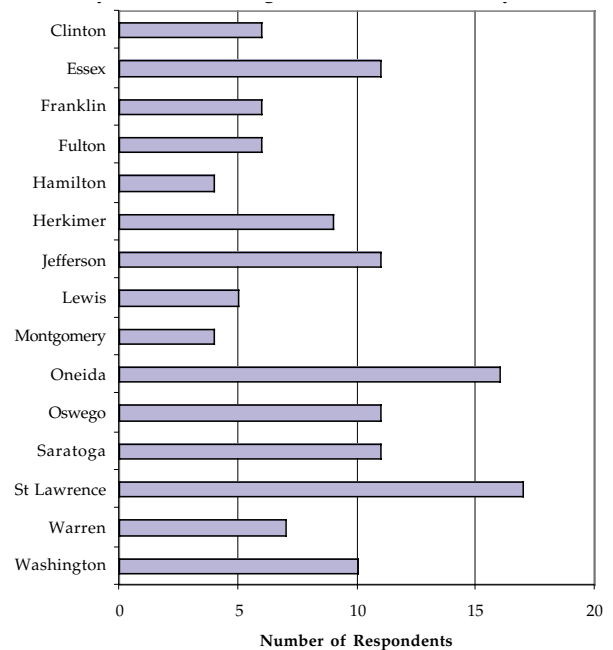
**Figure 3. Number of NYS School Pest Management Survey Respondents in the Hudson Valley/Catskills Region (N=144 of 182 Surveyed)**



**Figure 4. Number of NYS School Pest Management Respondents in the Long Island/New York City Region (N=94 of 131 Surveyed)**

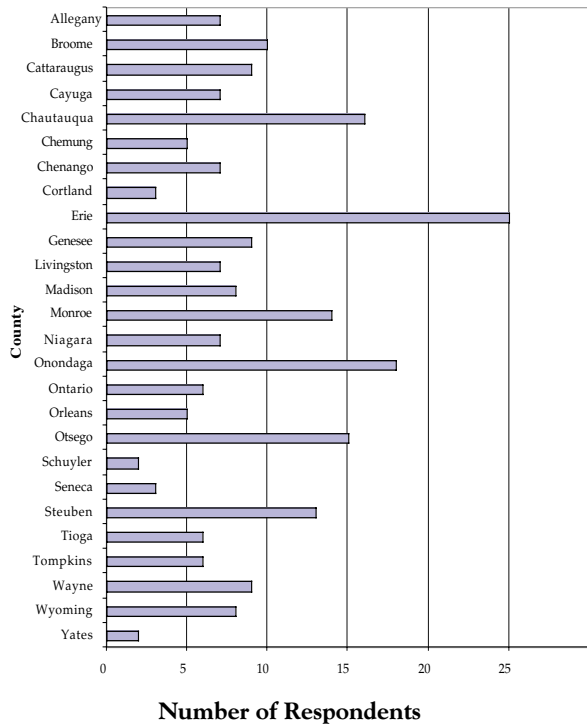


**Figure 5. Number of NYS School Pest Management Practices Survey Respondents in the North Country/Adirondacks Region (N=134 of 154 Surveyed)**



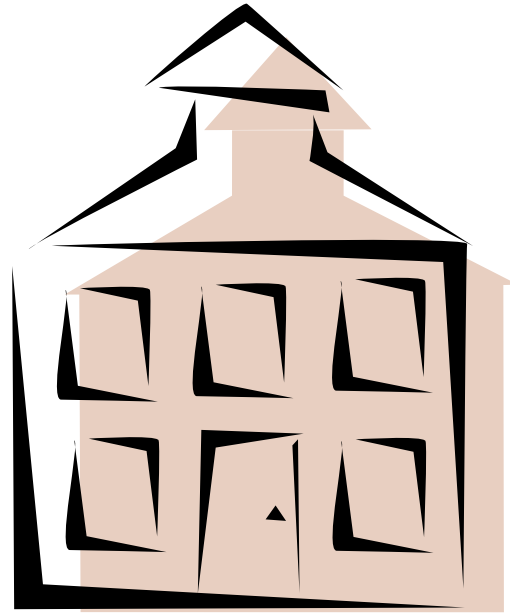
(Question #2 continued—"What county is the school district located in?")

**Figure 6. Number of NYS School Pest Management Practices Survey Respondents in the Central/Western New York Region (N=227 of 272 Surveyed)**



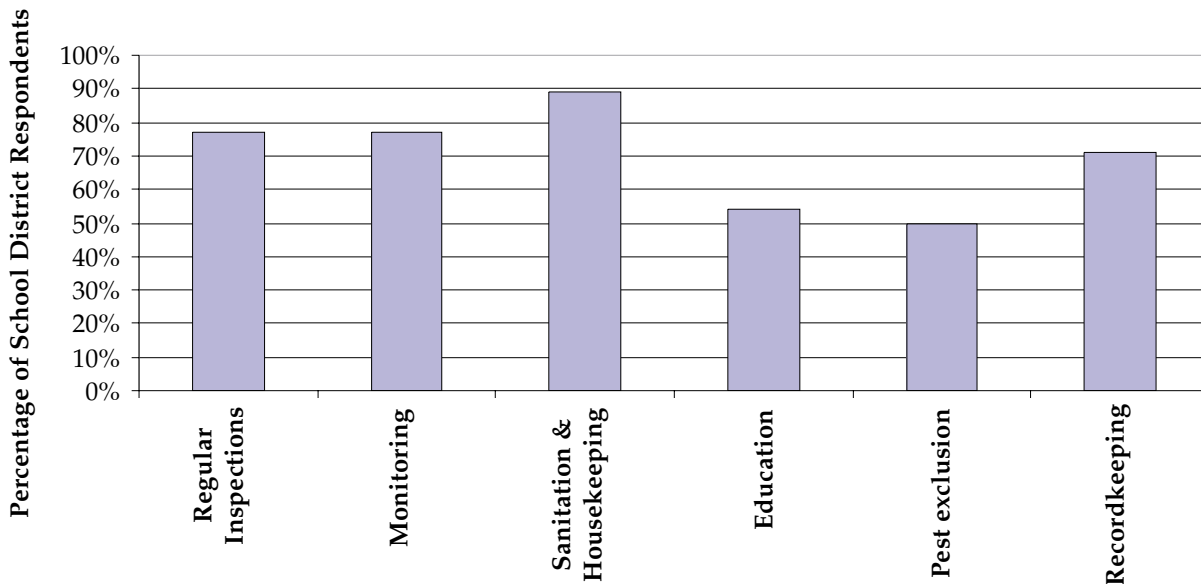
3. Does the school district have a written pest management policy?

Yes—45.1% No—42.7% Unsure—12.2%



4. Does the school district require the use of the following? (check all that apply)

**Figure 7. Percentage of School Districts that Require the Use of the Following in their Pest Management Programs**



5. Has the pest management policy been publicized and explained to the following? (check all that apply)

Persons in parental relation:  
 Yes—26.5% No—53.3% Unsure—20.2%

Students:  
 Yes—20.4% No—57.0% Unsure—22.6%

Teachers/Staff:  
 Yes—61.1% No—24.7% Unsure—14.2%

After-school users:  
 Yes—20.1% No—57.2% Unsure—22.7%

6. Do you have a school district policy concerning the storage, preparation, and consumption of food outside of cafeterias?

Yes—25.4% No—56.9% Unsure—17.7%

7. Does the school district have a pest management advisory committee?

Yes—12.6% No—83.3% Unsure—4.1%

8. Has the school district designated an individual to be the pest management contact?

Yes—72.7% No—20.8% Unsure—6.5%

9. Are building occupants trained and encouraged to participate in the school's pest management program?

Yes—26.4% No—59.2% Unsure—14.4%

10. Does the school district perform regularly scheduled pesticide applications in instructional school buildings?

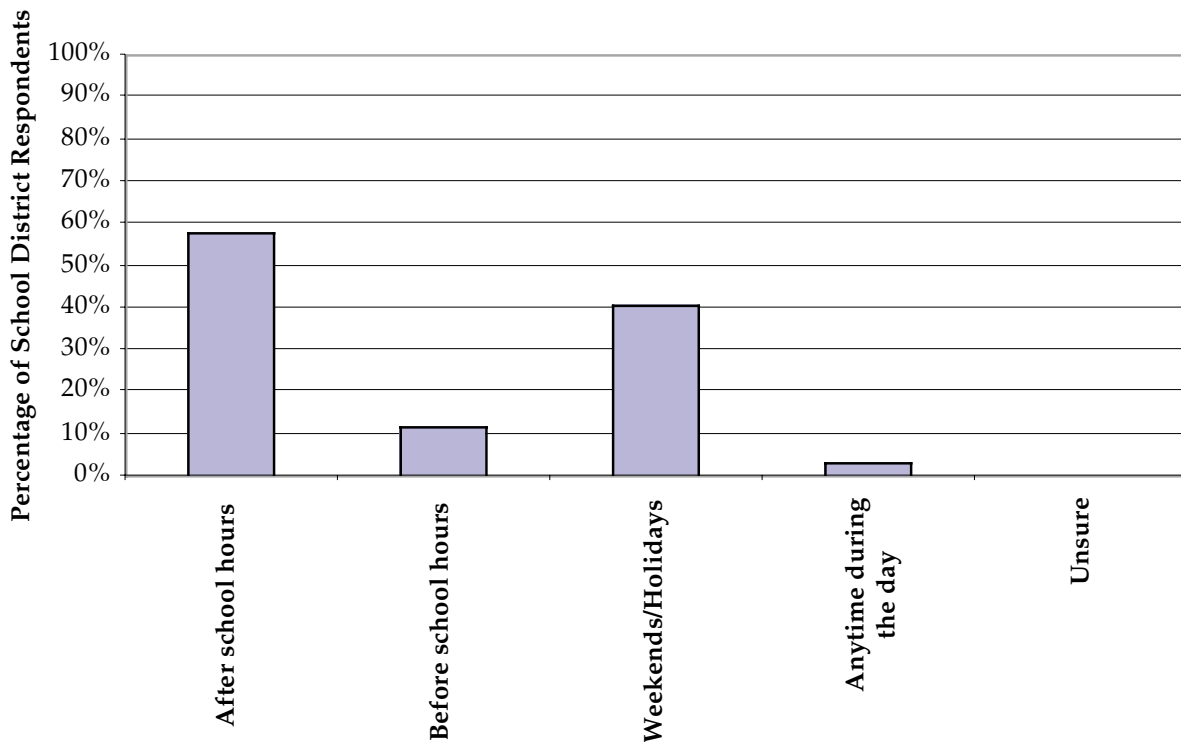
Yes—29.5% No—69.0% Unsure—1.5%

11. Does the school district perform regularly scheduled pesticide applications in non-instructional buildings?

Yes—10.8% No—87.8% Unsure—1.4%

12. When do indoor pesticide applications generally take place? (check all that apply)

Figure 8. Times of Indoor Pesticide Applications of NYS School Districts

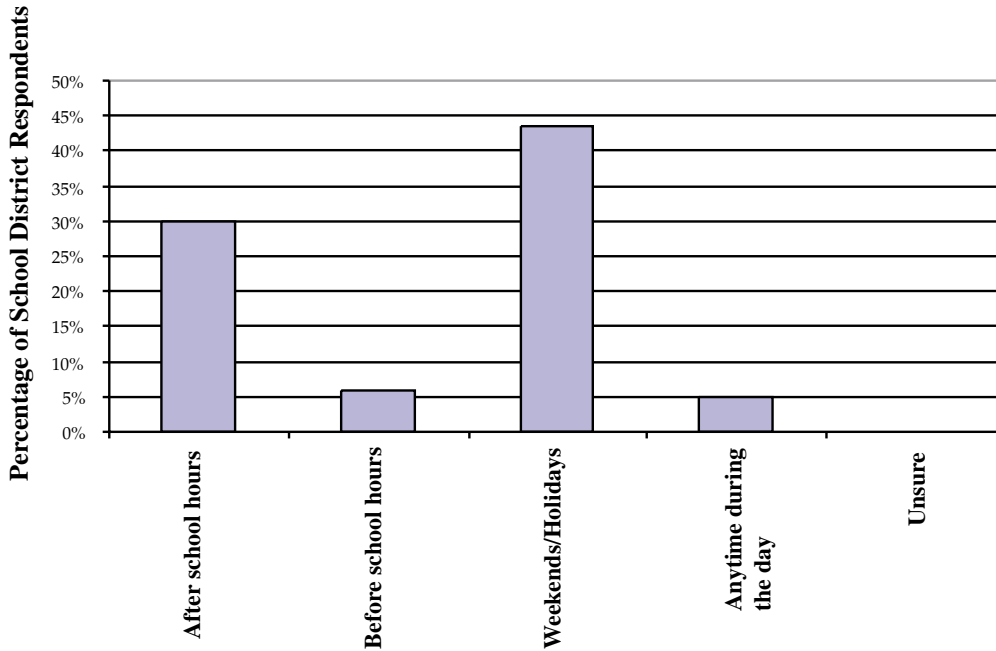


13. Does the school district perform regularly scheduled pesticide applications on school grounds?

Yes – 17.9%      No – 81.4%      Unsure — 0.7%

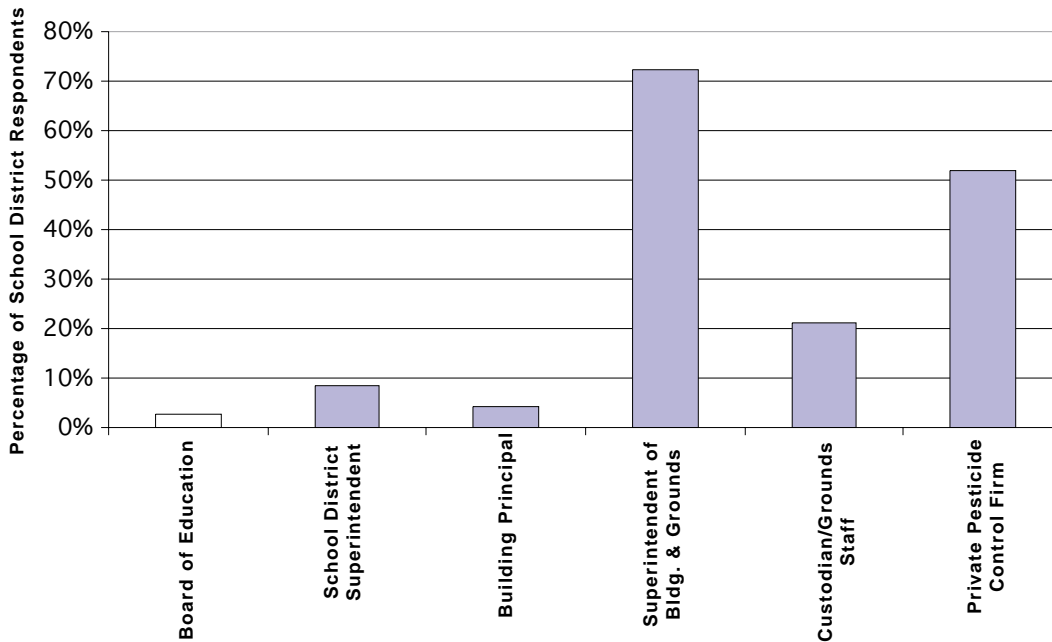
14. When do outdoor pesticide applications generally take place? (check all that apply)

**Figure 9. Times of Outdoor Pesticide Applications of NYS School Districts**



15. Who decides when and which pesticides are applied to school buildings or grounds? (check all that apply)

**Figure 10. NYS School District Decision Makers Concerning Pesticide Application**





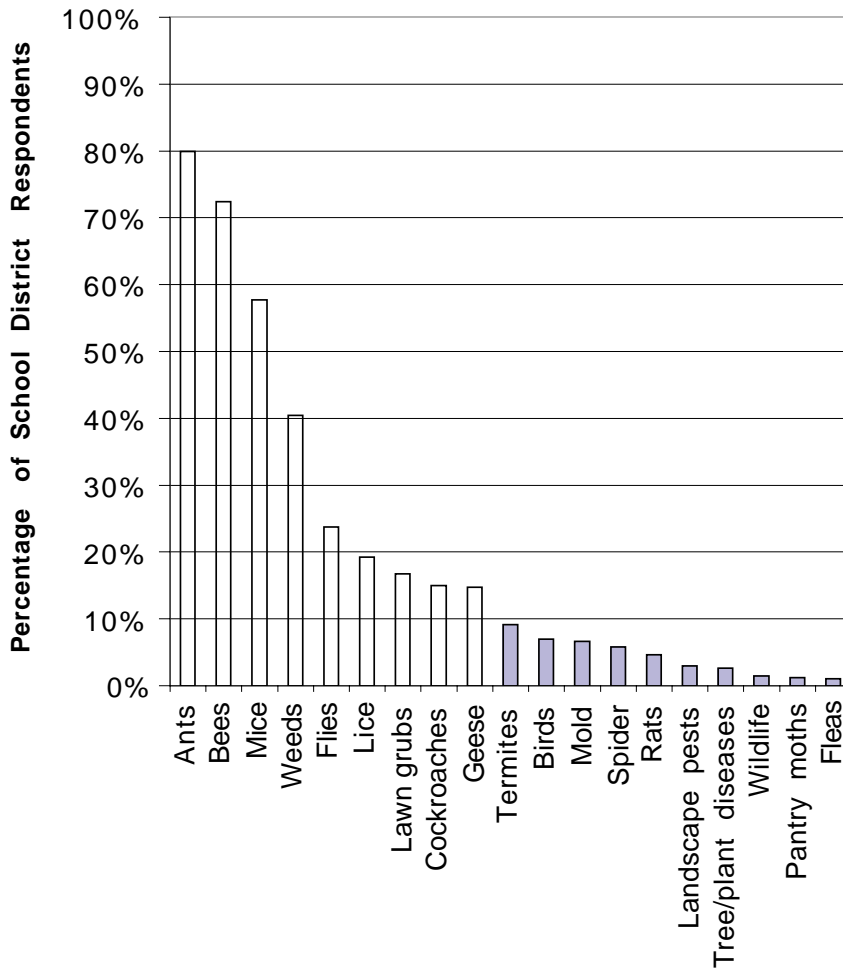
16. What records are maintained for pesticide applications? (check all that apply)

**Table 1. Pesticide Application Records that NYS School Districts Maintain**

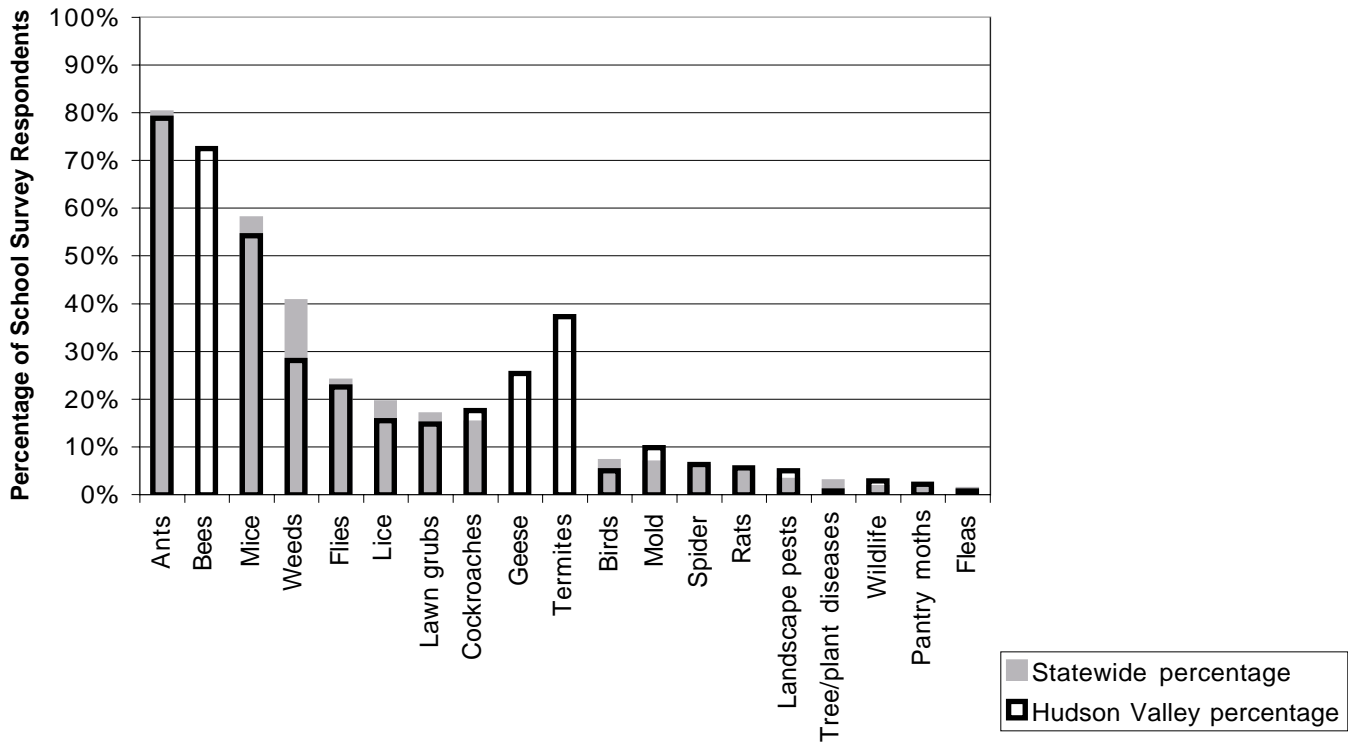
	Percentage of Responding School Districts		
	Yes	No	Unsure
Applicator name	95.5	2.0	2.4
Applicator license info	91.6	3.4	4.9
Labels	90.7	3.9	5.3
MSDS	93.3	2.6	4.0
Location of application	93.3	2.2	4.4
Amount applied	86.4	5.2	8.3
Pest sighting logs	61.7	26.4	11.7

17. What have been the most frequent pests in the school district within the past three years? (check all that apply)

**Figure 11. Most Frequently Reported Pests in NYS School Districts Statewide during a Three-Year Period (1998-2001). N=603**



**Figure 12. Most Frequent Pests in Hudson Valley/Catskills School Districts During a Three-Year Period (1998-2001)**



**Figure 13. Most Frequent Pests in Long Island/ NYC School Districts During a Three-Year Period (1998-2001)**

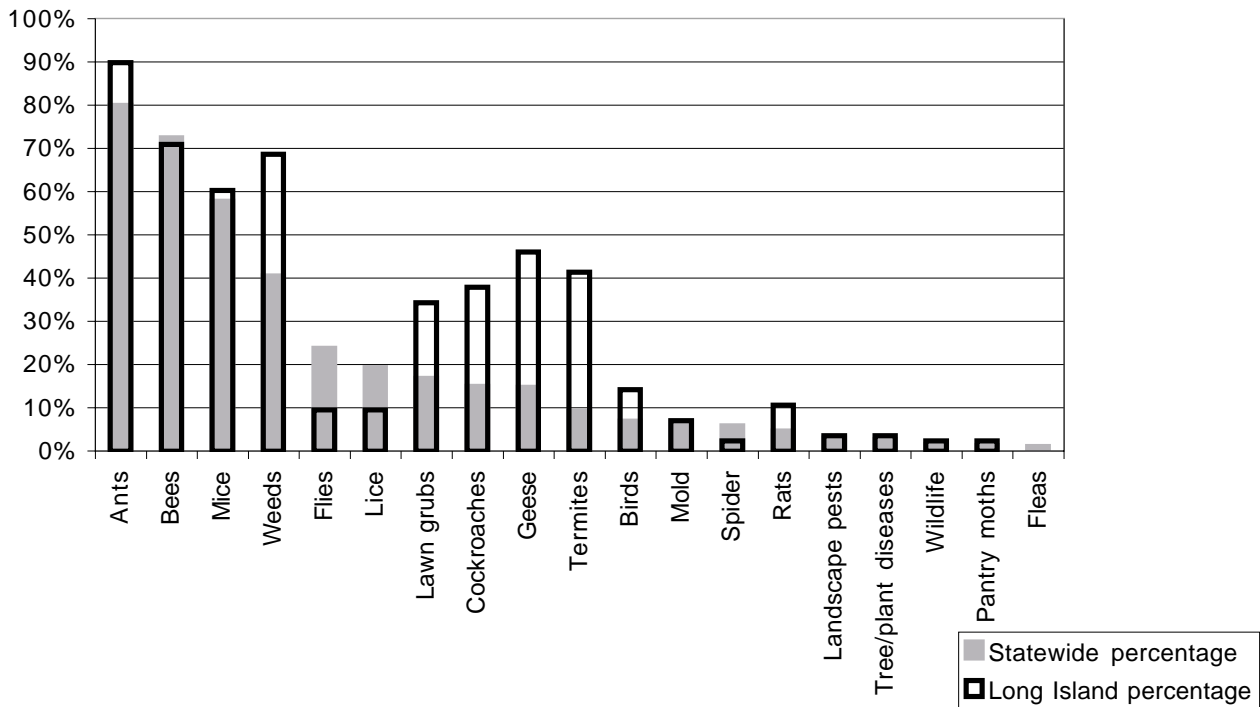


Figure 14. Most Frequent Pests in North Country/Adirondacks School Districts During a Three-Year Period (1998-2001)

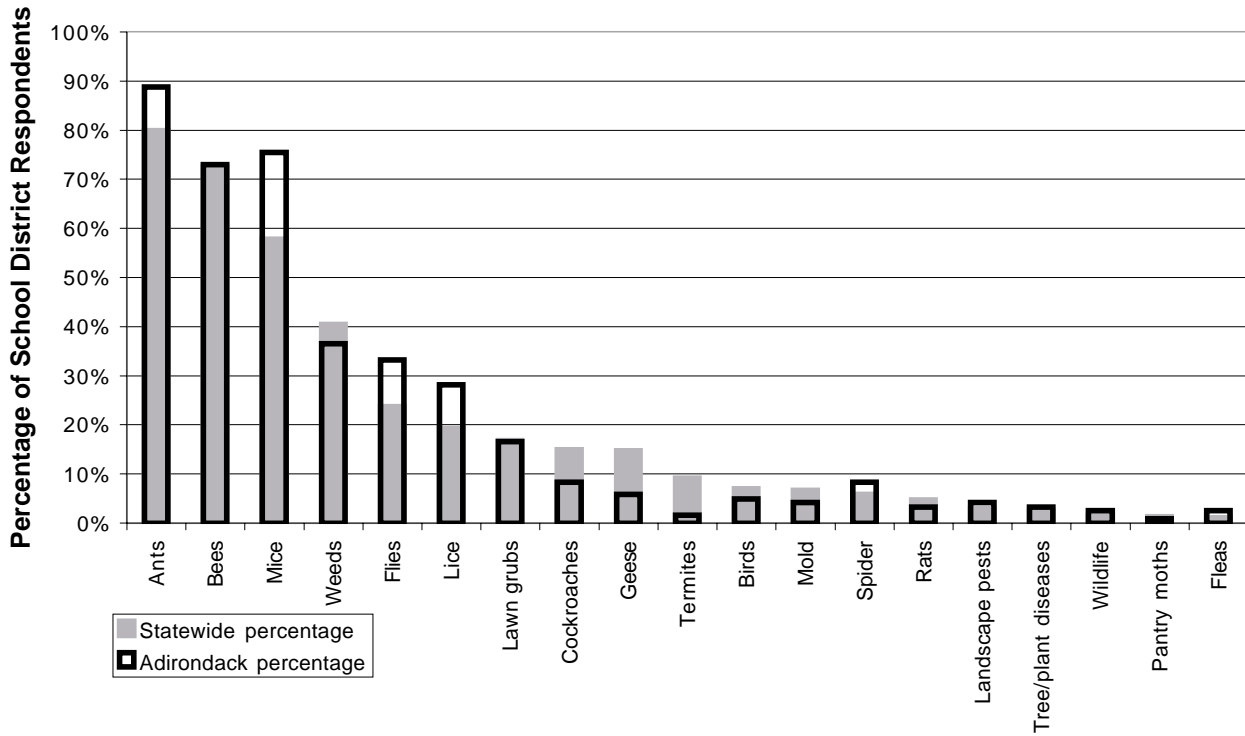
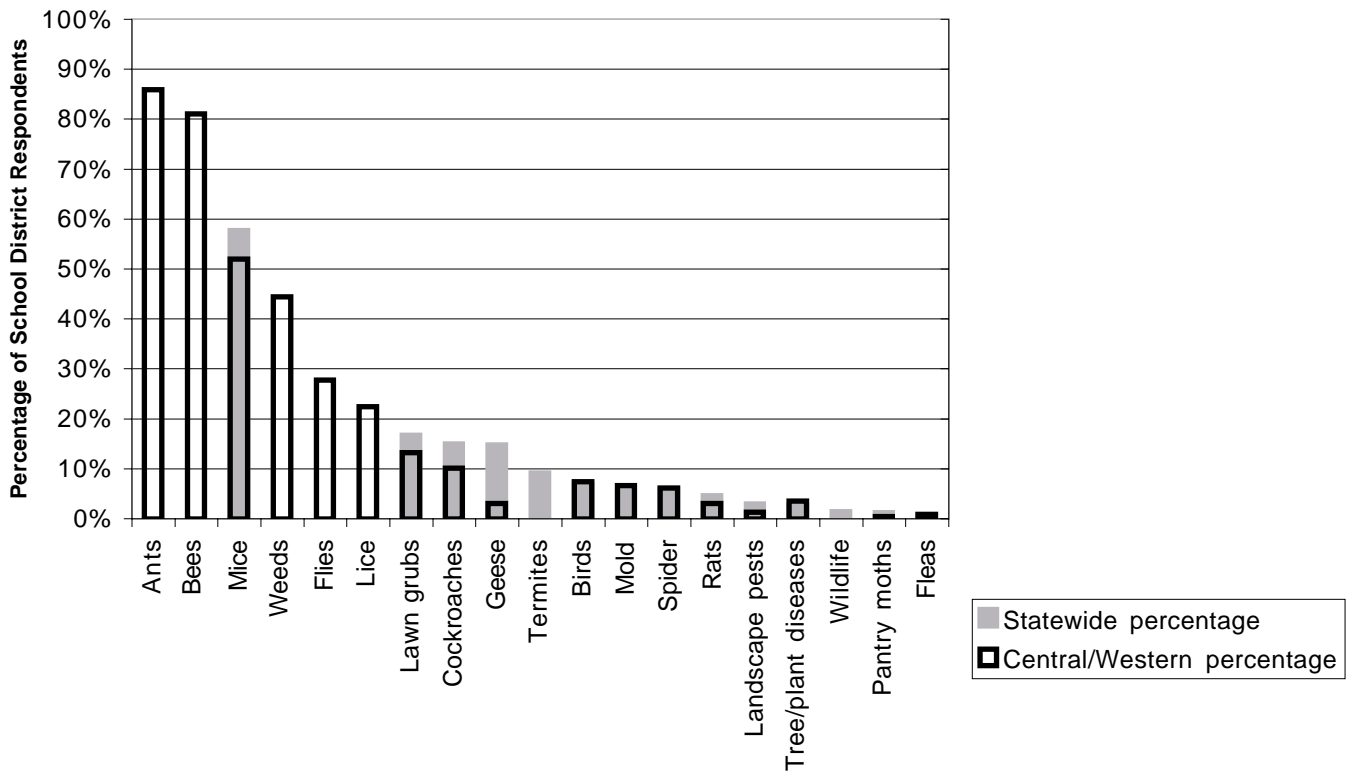
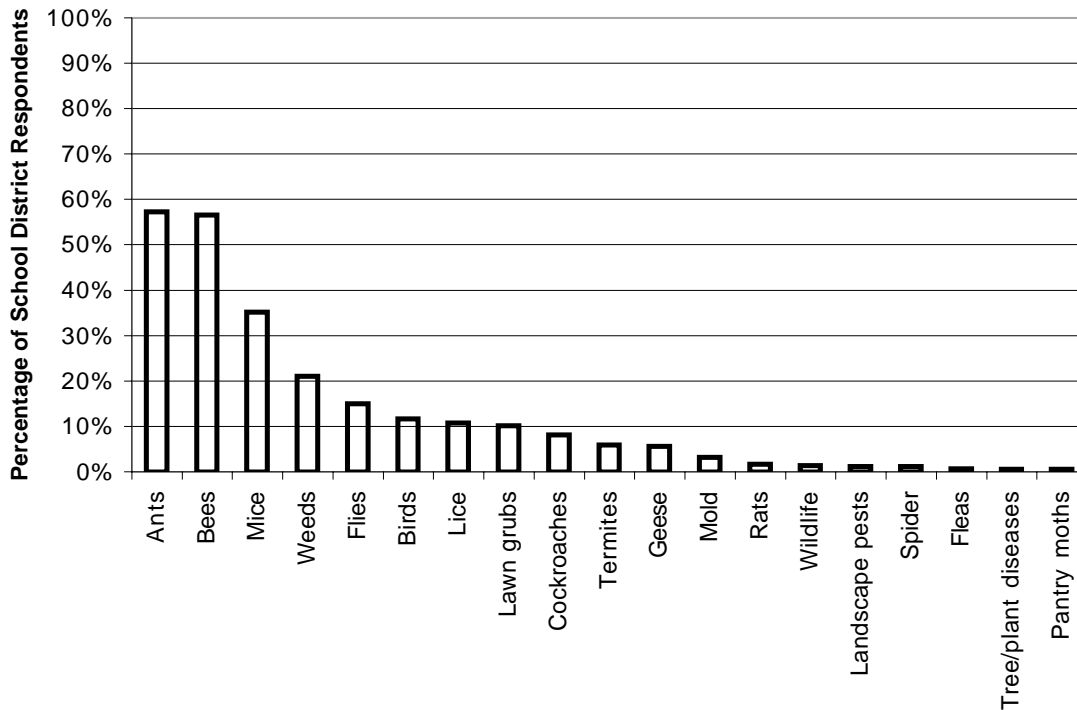


Figure 15. Most Frequent Pests in Central/Western New York School Districts During a Three-Year Period (1998-2001)

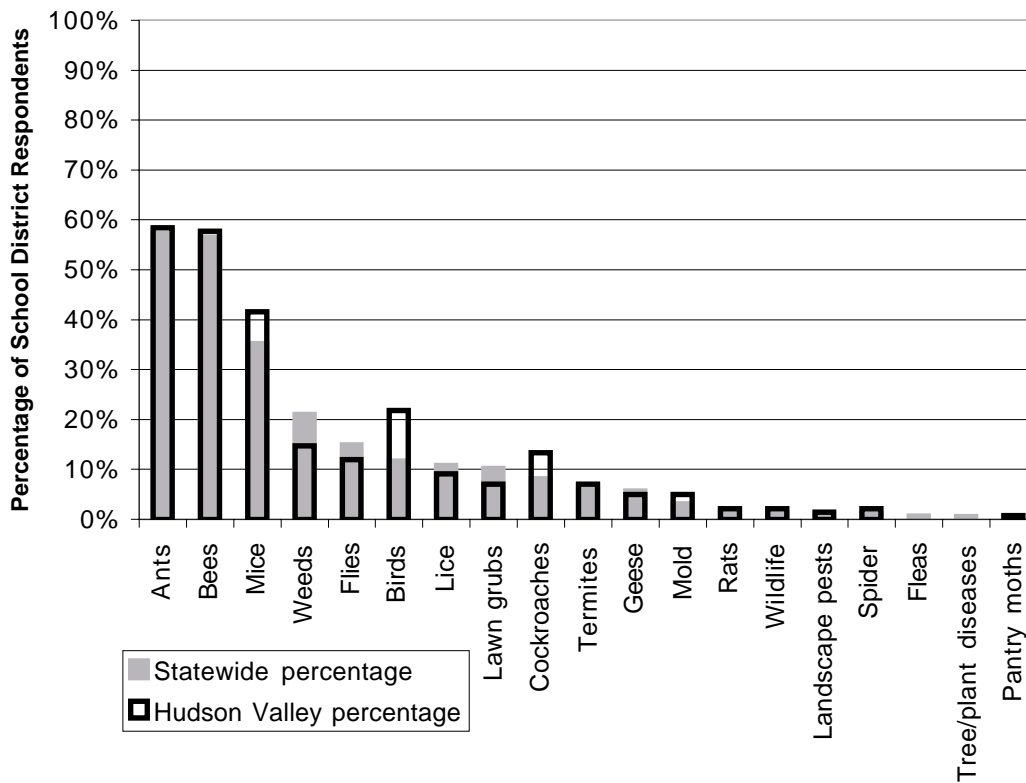


18. What have been the most troublesome pests in the school district within the past three years? (check all that apply)

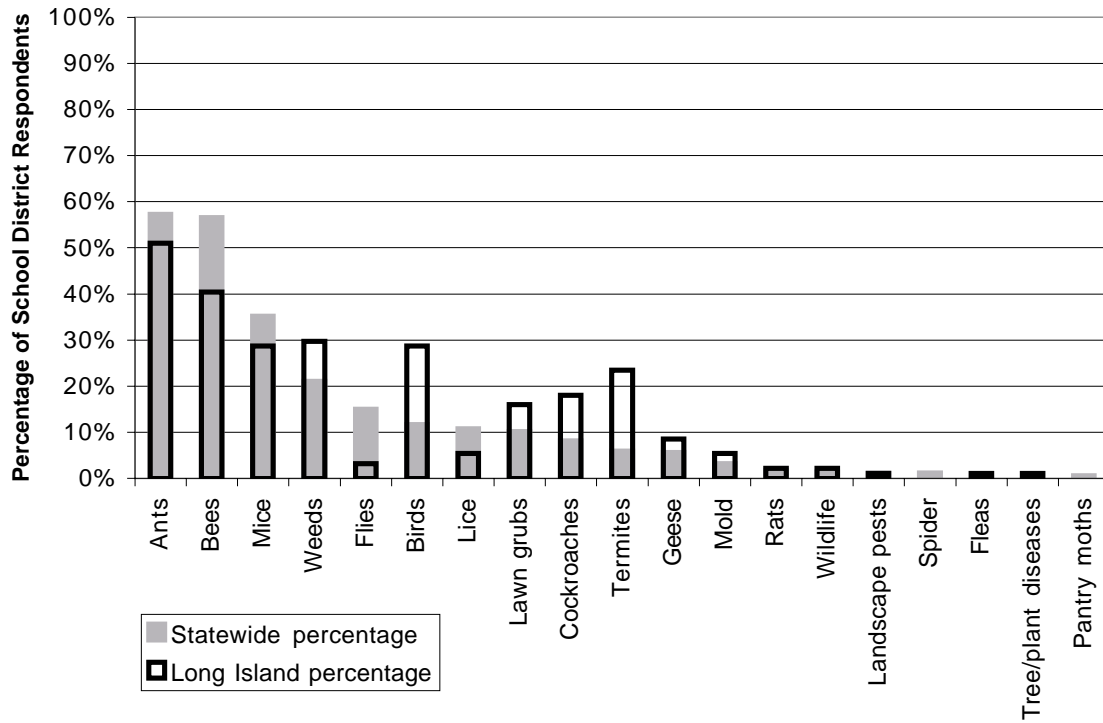
**Figure 16. Most Troublesome Pests in NYS School Districts Statewide during a Three-Year Period (1998-2001). N=603**



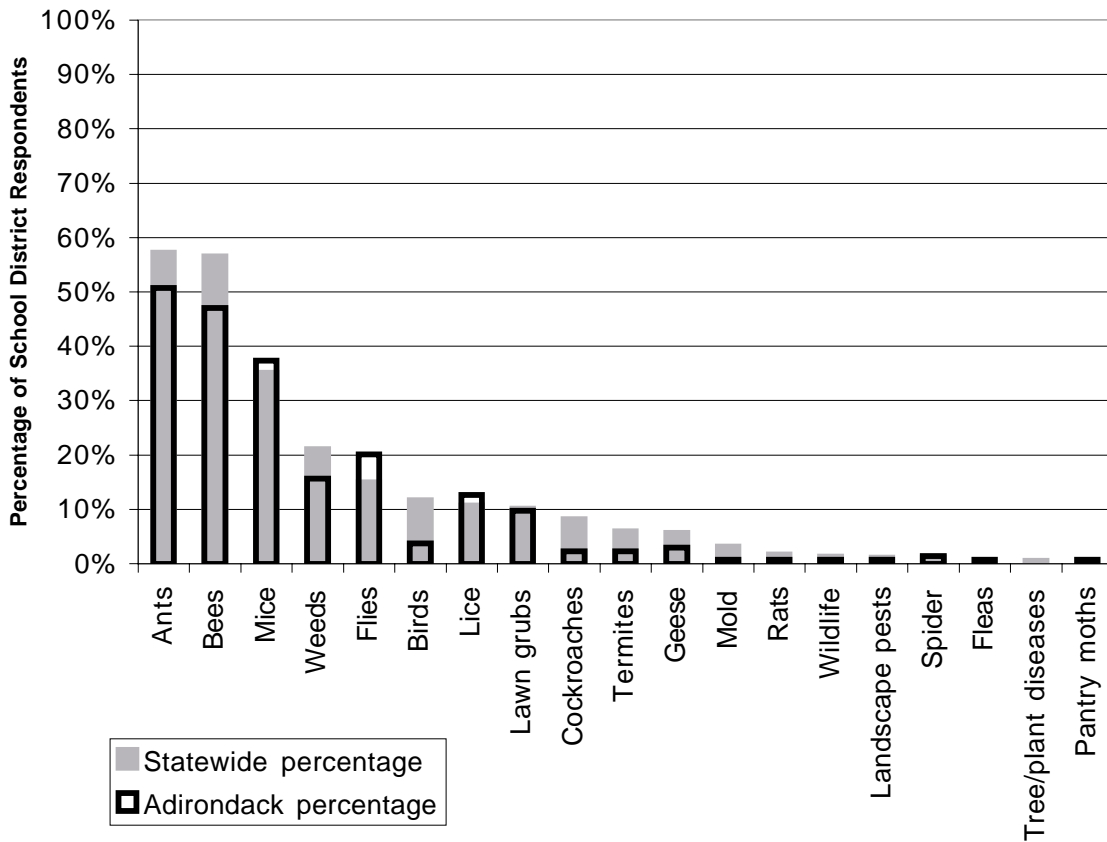
**Figure 17. Most Troublesome Pests in Hudson Valley/Catskills School Districts during a Three-Year Period (1998-2001)**



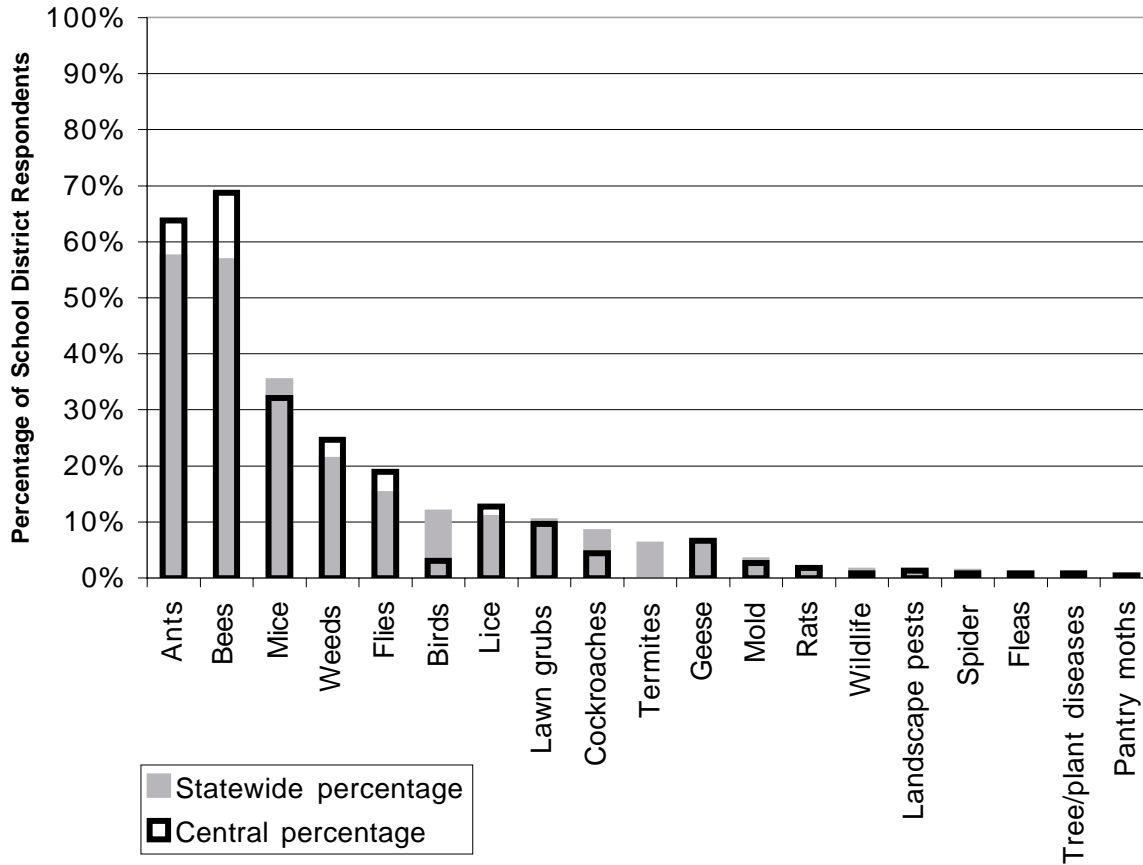
**Figure 18. Most Troublesome Pests in Long Island/NYC School Districts during a Three-Year Period (1998-2001)**



**Figure 19. Most Troublesome Pests in North Country/Adirondacks School Districts during a Three-Year Period (1998-2001)**



**Figure 20. Most Troublesome Pests in Central/Western NY School Districts during a Three-Year Period (1998-2001)**



19. What pest control techniques are used in the school district for indoor pests? (check all that apply)

Routine..... Monthly or more frequently based on a prearranged schedule.  
 Moderately.... Quarterly or bi-monthly based on a prearranged schedule.  
 Infrequent..... Less than quarterly and not based on a prearranged schedule.

**Table 2. Indoor Pest Management Techniques Used in NYS School Districts**

	Percentage of Responding School Districts			
	Routine	Moderately Frequent	Infrequent	Never
Aerosols	4.9	3.9	85.2	5.9
Baits	34.4	21.3	43.8	0.2
Baseboard Spraying	20.3	12.7	65.8	1.0
Crack/crevice applications	20.0	15.3	63.4	0.9
Mechanical traps	30.4	17.6	51.3	0.5
Monitoring/inspections	76.1	13.6	10.0	0.2
Routine pesticide applications	33.2	11.7	52.6	2.4
Sanitation/housekeeping	93.2	3.6	3.0	0
Structural modifications	48.7	10.0	31.0	0.2
Vacuuming	91.3	4.1	4.5	0

20. What pest control techniques are used in the school district for outdoor pests? (check all that apply)

Routine..... Monthly or more frequently based on a prearranged schedule.  
 Moderately.... Quarterly or bi-monthly based on a prearranged schedule.  
 Infrequent..... Less than quarterly and not based on a prearranged schedule.

**Table 3. Outdoor Pest Management Techniques Used in NYS School Districts**

	Percentage of Responding School Districts			
	Routine	Moderately frequent	Infrequent	Never
Aeration	40.0	28.1	31.3	0.5
Herbicidal soaps	2.2	8.8	85.2	3.6
Nematodes	2.1	9.9	83.6	4.2
Organic fertilizers	24.7	29.9	45.0	0.3
Overseeding	37.4	30.0	31.9	0.6
Raising mower height	51.4	25.4	22.5	0.5
Routine pesticide applications	11.1	12.1	72.5	4.6
Soil testing	22.8	21.6	54.3	1.1
Spot pesticide treatments	9.9	16.7	72.3	1.6

21. Have there been complaints from persons in parental relation or staff concerning the presence of pests within the past three years?

Yes—53.9% No—40.4% Unsure—5.7%

22. Have there been complaints from persons in parental relation or staff concerning pesticide applications within the past three years?

Yes—6.3% No—88.5% Unsure—5.2%

23. Have there been incidents of pesticide spills or complaints of adverse health reactions that may have been related to pesticides within the past three years?

Yes—4.0% No—93.7% Unsure—2.3%

24. Have these incidents required the involvement of outside responders or resources? [Only the 24 respondents who answered “Yes” to Question 23 responded to this question]

Yes—79.2% No—20.8% Unsure—0

25. Does the school employ individuals on staff who are certified by the State Department of Environmental Conservation as pesticide applicators?

Yes—49.5% No—50.5%

26. How old are the school staff who are certified pesticide applicators? (check all that apply if more than one individual is certified)

<18 yrs—0% 18-20 yrs—0% > 20 yrs—100%  
 Does not apply—0%

27. On average, approximately how many hours of annual pest management training does each school employee attend?

10 hrs—69.4% ≤11–30 hrs —26.3% > 30 hrs—4.3%  
 MEAN = 9.5 hours MEDIAN = 6.0 hours

28. Do school staff ever apply pesticides in the school or on school grounds?

Yes—32.2% No—65.3% Unsure—2.5%

29. Does the school hire a certified applicator business to make pesticide applications?

Yes—85.1% No—14.2% Unsure—0.7%

30. Does the school allow pesticide applicator apprentices and/or technicians to apply pesticides under the direct on-site supervision of a certified applicator?

Yes—25.8% No—58.5% Unsure—15.7%

**31. If a pesticide application is scheduled to occur, are persons in parental relation and staff notified in advance of the application?**

Yes—45.2%      No—45.0%      Unsure—9.8%

How is this notification accomplished? (check all that apply) [Only those who responded “Yes” to the above answered this part of the question.]

Written notice to staff— 9.9%

Written notice sent home with students—10.7%

Posting at entrance to building—61.7%

**32. Are persons in parental relation and staff notified of a pesticide application at any point after the application has been completed?**

Yes—20.9%      No—64.0%      Unsure—15.1%

How is this notification accomplished? (check all that apply) [Only those who responded “Yes” to the above answered this part of the question.]

Written notice to staff—9.9%

Written notice sent home with students—7.2%

Posting at entrance to building—58.6%

**33. Approximately how much was spent districtwide during the 1999-2000 school year on pest control activities?**

Less than/equal to \$1,000—44.5%

Between \$1,000 & \$10,000—45.5%

More than \$10,000—10.0%

MEAN = \$4,330

MEDIAN = \$1,350

## CONCLUSION

A comprehensive picture of the current pest management practices of NYS schools is important. The goals of our survey were to evaluate the status of IPM programs in NYS public elementary and secondary schools and provide guidance for research and outreach activities to assist schools in improving pest management.

Most public school districts and BOCES districts keep a variety of records concerning pest management practices at their schools. Only about half, however, have a written pest management policy, and most do not have a pest management advisory committee.

Almost half of the NYS school districts notified persons in parental relation and staff prior to pesticide applications. About one-fifth notified after pesticide applications. Half of the districts employed staff who were certified pesticide applicators.

More than half of the school districts have had complaints about pests, while 6% have received complaints about pesticides. Statewide, the most frequent and troublesome pests in NYS schools were ants, stinging insects, mice, and weeds. A variety of techniques were used in managing pests.

## NEXT STEPS

We plan to use the information from this survey to shape research and outreach projects that will assist schools with effective and safe pest management practices. We will focus on pests that schools find the most troublesome and help schools to close gaps (such as written pest management policies) in their IPM programs. Also important will be literature and training to increase awareness and understanding of both the NYS Pesticide Neighbor Notification Law and IPM implementation.

In the future, we expect to further analyze the data from this survey and create additional publications. We also plan to repeat this survey in five years to assess changes in the pest management practices of NYS schools.



## APPENDIX A—Survey Questions



# Public Elementary & Secondary School Integrated Pest Management (IPM) Survey

1. How would you describe your school district?

Urban \_\_\_\_\_

Suburban \_\_\_\_\_

Rural \_\_\_\_\_

2. What county is the school district located in? \_\_\_\_\_

3. Does the school district have a written pest management policy?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

4. Does the school district require the use of the following? (check all that apply)

Regular inspections \_\_\_\_\_

Monitoring \_\_\_\_\_

Sanitation and housekeeping \_\_\_\_\_

Education \_\_\_\_\_

Pest exclusion \_\_\_\_\_

Recordkeeping \_\_\_\_\_

Other (please specify) \_\_\_\_\_

5. Has the pest management policy been publicized and explained to the following? (check all that apply)

Persons in parental relation: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

Students: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

Teachers/Staff: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

After-school users: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

6. Do you have a school district policy concerning the storage, preparation, and consumption of food **outside** of cafeterias?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

7. Does the school district have a pest management advisory committee?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

8. Has the school district designated an individual to be the pest management contact?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

9. Are building occupants trained and encouraged to participate in the school's pest management program?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

10. Does the school district perform regularly scheduled pesticide applications in instructional school buildings?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

a. How often do scheduled applications take place? \_\_\_\_\_

11. Does the school district perform regularly scheduled pesticide applications in non-instructional school buildings?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

a. How often do scheduled applications take place? \_\_\_\_\_

12. When do indoor pesticide applications generally take place? (check all that apply)

After school hours \_\_\_\_\_ Before school hours \_\_\_\_\_

Weekends/Holidays \_\_\_\_\_ Anytime during the day \_\_\_\_\_

Unsure \_\_\_\_\_

13. Does the school district perform regularly scheduled pesticide applications on school grounds?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

a. How often do scheduled applications take place? \_\_\_\_\_

14. When do outdoor pesticide applications generally take place? (check all that apply)

After school hours \_\_\_\_\_ Before school hours \_\_\_\_\_ Weekends/Holidays \_\_\_\_\_

Anytime during the day \_\_\_\_\_ Unsure \_\_\_\_\_

15. Who decides when and which pesticides are applied to school buildings or grounds? (check all that apply)

Board of Education \_\_\_\_\_

School District Superintendent \_\_\_\_\_

Building Principal \_\_\_\_\_

Superintendent of Buildings & Grounds \_\_\_\_\_

Custodian/Grounds Staff \_\_\_\_\_

Private Pesticide Control Firm \_\_\_\_\_

Other (please specify) \_\_\_\_\_

16. What records are maintained for pesticide applications? (check all that apply)

Applicator name: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
Applicator license information: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
Labels: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
MSDS: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
Location of application: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
Amount applied: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
Pest sighting logs: Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_  
Other (please specify) \_\_\_\_\_

17. What have been the most frequent pests in the school district within the past three years? (check all that apply)

Ants \_\_\_\_\_ Termites \_\_\_\_\_  
Pantry moths \_\_\_\_\_ Bees/wasps/yellowjackets \_\_\_\_\_  
Cockroaches \_\_\_\_\_ Fleas \_\_\_\_\_  
Flies \_\_\_\_\_ Spiders \_\_\_\_\_  
Lice \_\_\_\_\_ Mold/mildew/fungi \_\_\_\_\_  
Other (please specify) \_\_\_\_\_  
Birds (except geese) \_\_\_\_\_ Geese \_\_\_\_\_  
Wildlife (other than birds) \_\_\_\_\_ Mice \_\_\_\_\_  
Rats \_\_\_\_\_ Other (please specify) \_\_\_\_\_  
Lawn grubs \_\_\_\_\_ Tree/plant disease \_\_\_\_\_  
Weeds \_\_\_\_\_ Pests of landscape/ornamental plants \_\_\_\_\_  
Other (please specify) \_\_\_\_\_

18. What have been the most troublesome pests in the school district within the past three years? (check all that apply)

Ants \_\_\_\_\_ Termites \_\_\_\_\_  
Pantry moths \_\_\_\_\_ Bees/wasps/yellowjackets \_\_\_\_\_  
Cockroaches \_\_\_\_\_ Fleas \_\_\_\_\_  
Flies \_\_\_\_\_ Spiders \_\_\_\_\_  
Lice \_\_\_\_\_ Mold/mildew/fungi \_\_\_\_\_ Other (please specify) \_\_\_\_\_  
Birds (except geese) \_\_\_\_\_ Geese \_\_\_\_\_  
Wildlife (other than birds) \_\_\_\_\_ Mice \_\_\_\_\_  
Rats \_\_\_\_\_ Other (please specify) \_\_\_\_\_  
Lawn grubs \_\_\_\_\_ Tree/plant disease \_\_\_\_\_  
Weeds \_\_\_\_\_ Pests of landscape/ornamental plants \_\_\_\_\_  
Other (please specify) \_\_\_\_\_

19. What pest control techniques are used in the school district for indoor pests? (check all that apply)

Routine.....Monthly or more frequently based on a prearranged schedule

Moderately.....Quarterly or bi-monthly based on a prearranged schedule

Infrequent.....Less than quarterly and not based on a prearranged schedule

	Routine	Moderately frequent	Infrequent
Aerosols (bug bombs)			
Baits			
Baseboard spraying			
Crack/crevice applications			
Mechanical traps			
Monitoring/inspections			
Routine pesticide applications			
Sanitation/housekeeping			
Structural modifications (caulk, screens, etc.)			
Vacuuming			
Other (please specify)			

20. What pest control techniques are used in the school district for outdoor pests? (check all that apply)

Routine.....Monthly or more frequently based on a prearranged schedule

Moderately.....Quarterly or bi-monthly based on a prearranged schedule

Infrequent.....Less than quarterly and not based on a prearranged schedule

	Routine	Moderately frequent	Infrequent
Aeration			
Herbicidal soaps			
Nematodes			
Organic fertilizers			
Overseeding			
Raising mower height			
Routine pesticide applications			
Soil testing			
Spot pesticide treatments			
Other (please specify)			

21. Have there been complaints from persons in parental relation or staff concerning the presence of pests within the past three years?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

22. Have there been complaints from persons in parental relation or staff concerning pesticide applications within the past three years?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

23. Have there been incidents of pesticide spills or complaints of adverse health reactions that may have been related to pesticide applications within the past three years?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

24. Have these incidents required the involvement of outside responders or resources?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

25. Does the school employ individuals on staff who are certified by the State Department of Environmental Conservation as pesticide applicators?

Yes \_\_\_\_\_ No \_\_\_\_\_

26. How old are the school staff who are certified pesticide applicators? (check all that apply if more than one individual is certified)

Less than 18 \_\_\_\_\_ 18-20 \_\_\_\_\_ older than 20 \_\_\_\_\_ Does not apply \_\_\_\_\_

27. On average, approximately how many hours of annual pest-management training does each school employee attend?

\_\_\_\_\_ hours

28. Do school staff ever apply pesticides in the school or on school grounds?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

29. Does the school hire a certified applicator business to make pesticide applications?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

30. Does the school allow pesticide applicator apprentices and/or technicians to apply pesticides under the direct on-site supervision of a certified applicator?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

31. If a pesticide application is scheduled to occur, are persons in parental relation and staff notified in advance of the application?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

How is this notification accomplished? (check all that apply)

Written notice provided to staff \_\_\_\_\_

Written notice sent home with students \_\_\_\_\_

Posting at entrance to the building \_\_\_\_\_

Other (please specify) \_\_\_\_\_

32. Are persons in parental relation and staff notified of a pesticide application at any point after the application has been completed?

Yes \_\_\_\_\_ No \_\_\_\_\_ Unsure \_\_\_\_\_

How is this notification accomplished? (check all that apply)

Written notice provided to staff \_\_\_\_\_

Written notice sent home with students \_\_\_\_\_

Posting at entrance to the building \_\_\_\_\_

Other (please specify) \_\_\_\_\_

33. Approximately how much was spent districtwide during the 1999-2000 school year on each of the following pest control activities?

Employee training \$ \_\_\_\_\_

Employee labor for performing pest control \$ \_\_\_\_\_

Non-chemical pest control equipment/supplies \$ \_\_\_\_\_

Pesticide application equipment/supplies \$ \_\_\_\_\_

Contracted services \$ \_\_\_\_\_

Notification costs \$ \_\_\_\_\_

Facility modification for pest control enhancement \$ \_\_\_\_\_

Other (please specify) \_\_\_\_\_ \$ \_\_\_\_\_

Other (please specify) \_\_\_\_\_ \$ \_\_\_\_\_

Additional Comments:

Please return the completed survey no later than February 21, 2001 to:  
Laura Sahr  
New York State Education Department  
Office of Facilities Planning  
Room 1060 EBA  
Albany, New York 12234  
**Telephone: 518-474-3906 // FAX: 518-486-5918**

## APPENDIX B—Survey Cover Letter

*(Originally printed on NYS Education Department Letterhead)*

January 2001

TO: District Superintendents  
Superintendents of Schools

FROM: Carl Thurnau, P.E.

SUBJECT: Integrated Pest Management (IPM) Survey

The enclosed survey has been jointly developed by the State Education Department, the State Department of Health, and the New York State Community Integrated Pest Management (IPM) Program at Cornell University. The person most responsible for pest management decisions in the school district should complete the survey. This voluntary survey is confidential.

The goal of this survey is to evaluate the status of IPM programs in New York State public elementary and secondary schools, as well as to help focus outreach and research activities to better assist schools in managing pests while reducing the need for pesticides. The data collected from this survey will assist us in assessing the percentage of public schools that:

- have an IPM program in place;
- employ persons who are certified pesticide applicators;
- have had pest-related complaints;
- have had pesticide-related complaints;
- currently notify persons in parental relation and staff prior to any pesticide applications;
- perform regularly scheduled pesticide applications.

The results will also provide baseline information as we work to implement the Pesticide Neighbor Notification requirements for schools.

Thank you in advance for your participation in this survey. Please feel free to contact Laura Sahr for questions or assistance at [lsahr@mail.nysed.gov](mailto:lsahr@mail.nysed.gov) or 518-474-3906.

Enclosure