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For national release on Tuesday, Sept. 20, 1994. For more information, call Tom Mather at the N.C. Center for Public Policy Research at (919) 832-2839.

MANY STATES LACK IMPORTANT PROGRAMS FOR REGULATING PESTICIDES

RALEIGH, N.C. -- Many states lack vital tools for regulating pesticides, including programs for training farmworkers about pesticide safety, tracking the amount of pesticide usage, and managing the disposal of pesticide wastes, a new nationwide study shows.

The study by the N.C. Center for Public Policy Research also found that exterminators prompt the most complaints about pesticide misuse, even though agriculture accounts for three-fourths of the nation's estimated pesticide usage. The study, published in the September issue of *North Carolina Insight* magazine, is based on a 50-state survey of pesticide regulatory programs.

"Although the Environmental Protection Agency is the nation's final authority on pesticide regulation, the EPA has delegated many duties to state pesticide programs," says Tom Mather, associate editor of *Insight*. "Our study shows that most states could do a better job of regulating pesticide use."

Pesticide administrators in 45 of the 50 states, representing every region of the United States, responded to the Center's survey, which covered a broad range of topics related to state pesticide regulation. Among its key findings, the survey shows that:

- * Only 11 states have programs for educating farmworkers about pesticide safety and use, even though the EPA will require such training by Jan. 1, 1995. Such training is important because farmworkers are among the most vulnerable to potential health problems from pesticides. Also, the training requirements for pesticide applicators vary widely by state, ranging from dozens of hours per year to virtually none.

- * Only 10 states track the amounts of pesticide usage by applicators, even though the federal government requires users to keep records on their applications of restricted-use pesticides. Also, only 13 states have mandatory systems for reporting pesticide-related illnesses and deaths. Such records are important for dealing with potential health and environmental problems, such as groundwater contamination by pesticides.

- * Some 19 states lack programs for handling the disposal of outdated or unneeded pesticides, increasing the potential for

groundwater contamination and other pollution problems. Also, 41 states have programs for testing groundwater contamination from pesticides, and most of those programs have detected pesticides in wells in their states.

The study by the N.C. Center for Public Policy Research includes an overview of the benefits and hazards of pesticides, a summary of federal and state pesticide legislation, and a discussion of the record-keeping requirements for pesticide applicators. Survey respondents had an opportunity to review the findings in order to ensure the accuracy of the results.

Exterminators Prompt Most Complaints About Pesticide Misuse

The Center's survey asked pesticide administrators to list the three categories of pesticide users that accounted for the most complaints in their states. The survey found that non-farm pesticide users, particularly exterminators, generated the most complaints to state pesticide programs.

"It's surprising that exterminators prompt the most complaints because agriculture accounts for most of the nation's pesticide use," Mather says. "However, it's not surprising when you consider that exterminators work right in people's homes and yards."

The survey found that state pesticide agencies receive the most complaints about the following pesticide-user groups: exterminators (named by 76 percent of state agency respondents); commercial applicators (61 percent); aerial applicators, or crop dusters (46 percent); lawn care applicators (46 percent), and farmers (46 percent). Pesticide administrators reported few complaints regarding home gardeners, private utilities, producers and manufacturers, dealers, and public applicators.

Pesticides are substances used to kill or control insects, weeds, and other pests. Manufacturers currently produce about 20,000 pesticide products containing some 900 active ingredients, according to the Environmental Protection Agency. The EPA estimates that agriculture accounts for 76 percent of the nation's pesticide use, followed by 18 percent for industry and government use, and 6 percent for home and garden use.

Like medicinal drugs, pesticides can provide substantial benefits while posing serious potential hazards. Pesticides have important uses in increasing crop production, curbing insect-borne diseases, and preventing pest damage to buildings, food, and stored products. But the toxicity of many pesticides can cause health problems and damage the environment. The dual nature of pesticides is reflected in current laws, which direct government agencies to weigh the benefits against the hazards when regulating their use.

Pesticides have been one of the focal points of the environmental movement ever since the 1962 publication of Rachel Carson's landmark book, *Silent Spring*. Carson warned that careless use of pesticides could cause widespread damage to the environment and human health.

Study Ranks States in Pesticide Budgets, Fines & License Suspensions

Information collected from the Center's 50-state survey enabled it to rank the states according to a number of criteria, including: total budgets of pesticide programs; money collected from pesticide product registration fees; fines assessed on pesticide violators; suspensions and revocations of pesticide applicator licenses; and complaints investigated. These comparisons show that:

* California ranks first in the total budget for pesticide programs, averaging \$44.1 million per year from 1990-92. Other states in the top five in annual pesticide budgets are: (2) Florida, \$5.8 million; (3) Wisconsin, \$4.3 million; (4) North Carolina, \$4.1 million; and (5) New Jersey, \$3.0 million.

* Wisconsin ranks first in the amount of money collected from pesticide product registration fees, totaling \$3.5 million in fiscal year 1992-93. Other states in the top five in registration fees collected are: (2) Minnesota, \$3.3 million; (3) Florida, \$2.9 million; (4) New Jersey, \$2.2 million; and (5) California, \$2.1 million.

* New York ranks first in total fines assessed on pesticide violators, averaging \$416,943 a year from 1990-92. Other leading states in average annual pesticide fines are: (2) California, \$387,300; (3) Louisiana, \$153,833; (4) Connecticut, \$116,417; and (5) New Jersey, \$106,479.

* California ranks first in pesticide applicator licenses suspended or revoked, averaging 96 per year from 1990-92. Other leading states in annual license suspensions and revocations are: (2) South Carolina, 25.3; (3) Washington, 23.7; (4) Colorado, 15.3; and (5) Iowa and North Carolina (tied at 10.7).

* California ranks first in the number of complaints investigated by pesticide programs, averaging 3,656 per year from 1990-92. Other leading states in the number of complaints investigated annually are: (2) North Carolina, 927; (3) Oklahoma, 576; (4) New Jersey, 503; and (5) Washington, 479.

The Center also adjusts its rankings to take into account the wide variations in population and agricultural activity among the states. For example, California has the largest total pesticide program budget -- which is not surprising since it is the nation's most populous state and a leading agricultural producer. However, North Dakota ranks first when pesticide program budgets are divided by state populations, and Rhode Island ranks first when budgets are divided by state crop acreages.

Other significant findings from the Center's survey of state pesticide programs include:

* 27 states have boards or commissions that oversee their pesticide programs, but many of those panels do not have members representing important interests -- such as environmentalists, farmworkers, and consumer groups.

* 24 states do not regulate aerial applicators, or crop dusters, beyond the minimum requirements on pesticide product labels.

* Most states make little use of their authority to suspend or revoke the licenses or certifications of pesticide applicators. The states average fewer than six suspensions and revocations per year -- and 23 of the states have less than two per year.

Pesticide Programs Based in Environmental Agencies Are More Aggressive

The N.C. Center's research found that most states regulate pesticides through their departments of agriculture. Among the 50 state pesticide programs, 43 are located in agricultural agencies, five are located in environmental or natural resources agencies, and two are located in public universities.

"Most states have regulated pesticides through their departments of agriculture since the days when fly-swatters were the primary means of pest control," says Mather of the N.C. Center. "However, our study found substantial differences when we compared pesticide programs based in agricultural agencies with those located in environmental agencies or universities."

The Center's survey found that states with pesticide programs based in environmental agencies had much larger budgets and staffs than programs in agricultural agencies. Pesticide programs in environmental agencies also levied more fines, suspended and revoked more licenses, and investigated more complaints. Such trends held up even when the numbers were adjusted for state populations and crop acreages.

The five states with pesticide programs located in environmental agencies are Alaska, California, Connecticut, New Jersey, and New York. Two other states, Indiana and South Carolina, regulate pesticides through public universities.

State Regulators Must Balance Agricultural & Environmental Concerns

Congress transferred pesticide regulation from the U.S. Department of Agriculture to the newly created Environmental Protection Agency in 1970, partly due to concerns over conflicts of interest. Such questions also have prompted lawmakers in North Carolina and other states to consider moving their pesticide programs to health or environmental agencies.

"That's definitely been an issue in Washington [state], and it recurs every time the legislature convenes," says Ann Wick, program manager for the Washington Department of Agriculture's Pest Management Division. California moved its pesticide program from its Department of Agriculture to its Environmental Protection Agency in the 1991-92 fiscal year.

Administrators in states with pesticide programs based in environmental agencies say they aren't surprised by the N.C. Center's research findings. "Our job is to protect the environment as much as

possible," says James Moran, chief of the New York Bureau of Pesticide Regulation. "We're more like cops. The agriculture people want the best bug-killer out there that will get a crop ready for harvest."

Others cite conflicts of interest between promoting agricultural production and regulating pesticide use. "If we were in the same program, how could we regulate them [pesticides] and also encourage them?" says Carmen Valentin of the New Jersey Pesticide Control Program. "We feel that it's a conflict of interest. It wouldn't serve the public for us to be in agriculture."

Administrators of pesticide programs based in agricultural agencies say several factors could account for the discrepancies. Wick, of the Washington Pesticide Management Division, says that environmental agencies tend to assess higher fines and penalties. Other administrators say that agricultural agencies do a better job of balancing the needs of farmers with health and environmental concerns.

"The basic premise is that we don't act against agricultural people, when in fact we do," says John L. Smith, administrator of North Carolina's pesticide program. "All you have to do is look at our case files. You will see farmers, commercial applicators, corporate giants -- all where we've taken actions against them. ... Our efforts are to educate, to try to get them to do it the right way. And then we use the regulatory system to ensure compliance."

Some agricultural administrators suggest that pesticide programs based in environmental agencies aren't doing as good a job educating pesticide applicators -- thus leading to more violations. "California has a tremendous reputation based on regulation," says John H. Wilson, who coordinates North Carolina's pesticide training program. "Everybody thinks California walks on water. But when it comes to training, they're no better than a lot of states."

Pesticide administrators in California and other states with programs in environmental agencies, however, bristle at suggestions that they are not educating applicators as well as agricultural agencies.

"We're pretty aggressive with both education and enforcement," says John Orrok, enforcement chief in the New Jersey Pesticide Control Program. "By aggressive, I don't mean unfair. I think we do the education, but we have the enforcement backing for violators when we need it." Also, virtually all states train pesticide applicators through their cooperative extension services -- regardless of where they regulate pesticides.

The N.C. Center for Public Policy Research is an independent, nonpartisan, nonprofit organization created to study public policy issues facing North Carolina and to evaluate state government. The Center receives general operating support from the Z. Smith Reynolds and Mary Reynolds Babcock Foundations of Winston-Salem, N.C., 150 corporate contributors, and about 850 individual and organizational members. Grants from the W.K. Kellogg Foundation of Battle Creek, Mich., and the Kathleen Price and Joseph M. Bryan Family Foundation of

Greensboro, N.C., provided additional support for the Center's study of state regulation of pesticides and related public education activities.

In addition to publishing *North Carolina Insight*, the Center also publishes book-length research reports. It has conducted studies on topics such as increasing voter participation, nursing home regulation, and how the University of North Carolina system evaluates and rewards teaching performance. The Center also publishes *Article II*, a citizen's guide to the N.C. legislature, as well as rankings of the effectiveness of the state's 170 legislators and rankings of the 50 most influential lobbyists in N.C.

Copies of the issue of *Insight* magazine containing the Center's research on state regulation of pesticides can be obtained for \$14.75, which includes sales tax, postage, and handling. To order, call (919) 832-2839, or write the N.C. Center for Public Policy Research, P.O. Box 430, Raleigh, NC 27602.

For more information, call *Insight's* associate editor, Tom Mather, at the Center at (919) 832-2839 or FAX inquiries to (919) 832-2847.

Table 19.
Leading Causes of Complaints to State Pesticide Agencies

Types of Pesticide Users	Number of State Programs that Cited User Group as a Leading Cause of Complaints¹	Percent of Survey Respondents²	Weighted Score³
Exterminators	31	76%	72
Commercial applicators	25	61%	55
Aerial applicators (Crop dusters)	19	46%	40
Lawn care applicators	19	46%	37
Farmers	19	46%	31
Home gardeners	3	7%	6
Private utilities	3	7%	4
Producers, manufacturers	1	5%	2
Pesticide dealers	1	5%	1
Public operators	1	5%	1
Other	1	5%	2

¹ Information based on the N.C. Center for Public Policy Research's survey of state pesticide programs. The survey question asked pesticide administrators to indicate the three categories of pesticide users that prompted the most complaints about pesticide use in their states.

² Percent of the 41 states that answered this survey question.

³ Pesticide user groups received 3 points for every survey in which they were ranked as the leading source of complaints, 2 points when ranked second, and 1 point when ranked third. The N.C. Pesticide Section, which primarily regulates agricultural uses, ranked problem users as follows: 1) commercial applicators, 2) farmers, 3) aerial applicators. The N.C. Structural Pest Control Division, which regulates exterminators, ranked problem users as follows: 1) exterminators, and 2) commercial applicators.

Table 12. Highlights of Lead Pesticide Programs by State¹

State	Type of Lead Pesticide Agency ²	Total Budget, FY 92-93	Total Budgeted Staff, FY 92-93	Total Product Registration Fees ³	Over-sight Board? ⁴	Total State Population, 1990 ⁵	Acres of Crops Harvested 1990 ⁶
Alabama	Agriculture	NA	18	\$870,000	No	4,041,000	2,342,000
Alaska	Environment	\$307,000	4	0	No	550,000	NA
Arizona	Agriculture	\$1,621,164	29	\$180,000	No	3,665,000	802,000
Arkansas	Agriculture	NR	NR	NR	NR	2,351,000	8,080,000
California	Environment	\$44,050,000	372	\$2,054,000	No	29,760,000	4,797,000
Colorado	Agriculture	NA	NA	NA	No	3,294,000	5,862,000
Connecticut	Environment	\$895,600	14	\$499,080	No	3,287,000	129,000
Delaware	Agriculture	\$450,167	8	\$182,118	Yes	666,000	496,000
Florida	Agriculture	\$5,877,858	121	\$2,897,300	Yes	12,938,000	1,076,000
Georgia	Agriculture	\$2,502,610	35	NA	Yes	6,478,000	3,793,000
Hawaii	Agriculture	\$1,100,000	25	NA	Yes	1,108,000	79,000
Idaho	Agriculture	NR	NR	NR	NR	1,007,000	4,281,000
Illinois	Agriculture	NR	NR	NR	NR	11,431,000	22,759,000
Indiana	University	NR	NR	NR	NR	5,544,000	11,485,000
Iowa	Agriculture	\$1,800,000	22	\$1,600,000	Yes	2,777,000	23,276,000
Kansas	Agriculture	\$1,196,296	25	\$236,460	Yes	2,478,000	20,978,000
Kentucky	Agriculture	NA	37	NA	No	3,685,000	5,505,000
Louisiana	Agriculture	\$2,579,274	4	\$2,000,000	Yes	4,220,000	4,367,000
Maine	Agriculture	\$773,685	12	\$510,340	Yes	1,228,000	361,000
Maryland	Agriculture	\$1,317,628	25	\$619,940	Yes	4,781,000	1,552,000
Massachusetts	Agriculture	NA	13	\$600,000	Yes	6,016,000	135,000
Michigan	Agriculture	\$2,994,300	41	\$855,300	No	9,295,000	6,510,000
Minnesota	Agriculture	\$2,650,000	40	\$3,300,000	No	4,375,000	18,779,000
Mississippi	Agriculture	\$762,053	19	\$366,050	Yes	2,573,000	4,723,000
Missouri	Agriculture	\$547,720	17	\$148,290	No	5,117,000	12,685,000
Montana	Agriculture	\$1,360,850	32	NA	No	779,000	8,926,000
Nebraska ⁷	Agriculture	\$85,000	2	\$68,500	Yes	1,578,000	18,044,000
Nevada	Agriculture	\$500,000	5	\$125,000	Yes	1,202,000	520,000
New Hampshire	Agriculture	\$450,000	7	\$260,000	Yes	1,109,000	91,000
New Jersey	Environment	\$3,000,000	45	\$2,180,000	No	7,730,000	364,000
New Mexico	Agriculture	NR	NR	NR	NR	1,515,000	881,000
New York	Environment	\$2,850,000	51	\$1,190,000	No	17,990,000	3,538,000
North Carolina	Agriculture	\$4,149,424	79	\$371,730	Yes	6,629,000	4,370,000
North Dakota	Agriculture	\$1,141,483	8	\$765,000	Yes	639,000	21,229,000
Ohio	Agriculture	\$1,764,000	25	\$580,000	Yes	10,847,000	10,132,000
Oklahoma	Agriculture	\$1,069,085	20	\$420,150	Yes	3,146,000	9,688,000
Oregon	Agriculture	NA	14	NA	No	2,842,000	2,290,000
Pennsylvania	Agriculture	\$1,750,000	9	\$1,057,000	Yes	11,882,000	4,094,000
Rhode Island	Agriculture	\$270,000	5	\$300,000	Yes	1,003,000	10,000

Table 12, continued

State	Type of Lead Pesticide Agency ²	Total Budget, FY 92-93	Total Budgeted Staff, FY 92-93	Total Product Registration Fees ³	Over-sight Board? ⁴	Total State Population, 1990 ⁵	Acres of Crops Harvested 1990 ⁶
South Carolina	University	\$1,580,000	34	NA	Yes	3,487,000	2,049,000
South Dakota	Agriculture	\$593,116	8	\$304,601	No	696,000	15,552,000
Tennessee	Agriculture	\$998,398	30	\$285,000	No	4,877,000	4,477,000
Texas ⁸	Agriculture	\$2,300,000	64	\$1,070,000	No	16,987,000	18,550,000
Utah	Agriculture	NA	6	NA	Yes	1,723,000	992,000
Vermont	Agriculture	\$512,000	8	\$239,000	Yes	563,000	441,000
Virginia	Agriculture	\$1,926,158	28	\$838,817	Yes	6,187,000	2,726,000
Washington	Agriculture	\$2,432,106	54	\$570,863	Yes	4,867,000	4,168,000
West Virginia	Agriculture	\$490,000	11	\$156,000	No	1,793,000	668,000
Wisconsin	Agriculture	\$4,346,969	20	\$3,519,475	Yes	4,892,000	8,550,000
Wyoming	Agriculture	\$100,000	2	0	Yes	454,000	1,735,000
Number of States Responding							
	(50)	39	44	37	45	(50)	(49)
Average Among Survey Respondents							
	—	\$2,694,724	33	\$862,973	—	—	—
Total Count							
	Agriculture 43	—	—	—	Yes 27	—	—
	Environment 5	—	—	—	No 18	—	—
	University 2	—	—	—	—	—	—

¹ Information based on responses to the N.C. Center for Public Policy Research's survey of state pesticide programs, except populations and crop acreages, which are based on U.S. Bureau of the Census data. NR = State did not respond to survey; NA = State did not answer question on survey.

² States responses when asked to describe the lead agency in which their pesticide programs are located. Lead pesticide agency for the five states that did not respond to survey was determined from: R. Steven Brown and Karen Marshall, *Resource Guide to State Environmental Management, Third Edition*, The Council of State Governments, Lexington, Ky., 1993.

³ Total receipts of pesticide product registration fees in FY 1992-93.

⁴ State responses to the question: Does your state have a lead board or commission that oversees your pesticide program?

⁵ Populations as reported for 1990 by the U.S. Bureau of the Census, *Statistical Abstract of the United States: 1992* (112th edition), Washington, D.C., 1992, p. 22.

⁶ *Ibid.*, p. 660.

⁷ At the time of the Center's survey in August 1993, Nebraska's pesticide regulation was enforced by the U.S. Environmental Protection Agency. Since then, the Nebraska legislature has authorized the state's Department of Agriculture to regulate pesticides, with an initial annual budget of \$750,000.

⁸ Budget and staff figures for Texas are incomplete; they do not include money for inspections and enforcement.

Table 21.
Fines, Suspensions, and Investigations by State Pesticide Programs, 1990-92¹

State	Total Dollars In Fines Levied Per Year (Rank)	Number of Fines Levied Per Year	Average Amount Per Fine	Licenses Suspended, Revoked Per Year (Rank)	Complaints Investigated Per Year (Rank)
Alabama	NA	NA	NA	0 (32 tie)	155.3 (18)
Alaska	0 (34 tie)	0	0	0 (32 tie)	7.7 (38)
Arizona	\$6,596 (24)	61.7	\$109	0.7 (21 tie)	171.3 (16)
Arkansas	NR	NR	NR	NR	NR
California ²	\$387,300 (2)	881.0	\$440	96.0 (1)	3,656.0 (1)
Colorado	\$24,867 (12)	NA	NA	15.3 (4)	56.0 (34)
Connecticut	\$116,417 (4)	2.7	\$43,656	4.3 (9)	232.7 (15)
Delaware	\$5,607 (26)	5.7	\$989	0.7 (21 tie)	27.0 (37)
Florida ^{2,3}	\$23,163 (14)	8.5	\$2,725	0.3 (24 tie)	416.0 (7)
Georgia ³	NA	1.0	NA	0 (32 tie)	83.0 (31)
Hawaii	\$11,650 (20)	21.7	\$538	0.3 (24 tie)	88.7 (29)
Idaho	NR	NR	NR	NR	NR
Illinois	NR	NR	NR	NR	NR
Indiana	NR	NR	NR	NR	NR
Iowa ⁴	0 (34 tie)	0	0	10.7 (5 tie)	143.3 (20)
Kansas	\$7,667 (22)	12.7	\$605	1.3 (16 tie)	136.7 (21)
Kentucky	NA	NA	NA	NA	NA
Louisiana ³	\$153,833 (3)	23.0	\$6,688	0.7 (21 tie)	263.7 (12)
Maine	\$12,586 (19)	58.0	\$217	0 (32 tie)	67.0 (32)
Maryland	\$6,725 (23)	45.0	\$149	2.0 (13 tie)	159.3 (17)
Massachusetts	\$61,733 (6)	1.3	\$46,300	2.7 (11)	61.0 (33)
Michigan	\$1,450 (31)	3.7	\$395	3.0 (10)	305.3 (10)
Minnesota	NA	NA	NA	0.3 (24 tie)	100.0 (28)
Mississippi	\$6,500 (25)	7.7	\$848	4.7 (8)	245.0 (13)
Missouri	\$4,825 (27)	3.0	\$1,608	0 (32 tie)	125.0 (23)
Montana	\$3,350 (28)	18.0	\$186	1.7 (15)	83.3 (30)
Nebraska ⁴	0 (34 tie)	0	0	NA	NA
Nevada ⁴	0 (34 tie)	0	0	1.0 (18 tie)	NA
New Hampshire	NA	NA	NA	NA	NA
New Jersey	\$106,479 (5)	172.0	\$619	1.0 (18 tie)	503.0 (4)
New Mexico	NR	NR	NR	NR	NR
New York	\$416,943 (1)	93.0	\$4,483	1.0 (18 tie)	147.7 (19)

Table 21,
continued

State	Total Dollars In Fines Levied Per Year (Rank)	Number of Fines Levied Per Year	Average Amount Per Fine	Licenses Suspended, Revoked Per Year (Rank)	Complaints Investigated Per Year (Rank)
North Carolina	\$60,658 (7)	101.0	\$601	10.7 (5 tie)	927.0 (2)
North Dakota	\$35,528 (9)	79.7	\$446	0.3 (24 tie)	51.0 (35)
Ohio	NA	NA	NA	NA	325.3 (9)
Oklahoma	\$27,250 (10)	14.7	\$1,858	0 (32 tie)	576.3 (3)
Oregon ²	\$22,000 (15)	28.0	\$688	0.3 (24 tie)	345.7 (8)
Pennsylvania	\$13,800 (18)	29.3	\$470	0 (32 tie)	122.0 (25)
Rhode Island	\$2,333 (30)	0.7	\$3,500	0 (32 tie)	7.3 (39)
South Carolina	\$26,490 (11)	60.0	\$441	25.3 (2)	296.7 (11)
South Dakota	\$11,324 (21)	36.3	\$312	2.0 (13 tie)	105.0 (27)
Tennessee	\$52,500 (8)	68.0	\$772	2.3 (12)	132.7 (22)
Texas ³	\$23,942 (13)	16.0	\$1,496	8.3 (7)	465.3 (6)
Utah	NA	NA	NA	NA	NA
Vermont ²	\$2,633 (29)	5.0	\$527	0.3 (24 tie)	44.5 (36)
Virginia	\$13,905 (17)	17.0	\$818	0	122.7 (24)
Washington	\$14,147 (16)	34.7	\$408	23.7 (3)	479.3 (5)
West Virginia	\$217 (33)	1.0	\$72	0.3 (24 tie)	117.3 (26)
Wisconsin	NA	NA	NA	1.3 (16 tie)	239.3 (14)
Wyoming	\$500 (32)	1.0	\$500	0.3 (24 tie)	5.3 (40)
Number of States Responding	37	36	36	40	40
Average Among Survey Respondents	\$44,998	53.1	\$3,434	5.6	289.9

¹ Information based on the N.C. Center for Public Policy Research's survey of state pesticide programs. Table based on state responses (for the years 1990-92) to the following survey questions: (a) How many fines did your agency assess in numbers and total dollar amounts? (b) How many licenses or certifications did you suspend or revoke? (c) In how many cases did your agency take any kind of regulatory action? NR = State did not respond to survey; NA = State did not answer this survey question.

² Data from California, Florida, Oregon, and Vermont are from 1991 and 1992 only.

³ Data from Florida, Georgia, Louisiana, and Texas do not include structural pest control violations.

⁴ Iowa, Nebraska, and Nevada could not assess fines on pesticide violators during the time period covered by this survey, but all three states now have that authority.

Table 13.
Leading State Pesticide Programs in Total Budgets, FY 1992-93

State	Total Budget, FY 1992-93 (Rank) ¹		Total Spending Adjusted for State Population (Rank) ²		Total Spending Adjusted for Crop Acreage (Rank) ³	
California	\$44,050,000	(1)	\$1.48	(3)	\$9.18	(3)
Florida	\$5,877,858	(2)	\$0.45	(17)	\$5.46	(6)
Wisconsin	\$4,346,969	(3)	\$0.89	(6)	\$0.51	(22)
North Carolina	\$4,149,424	(4)	\$0.63	(10) tie	\$0.95	(12)
New Jersey	\$3,000,000	(5)	\$0.39	(22)	\$8.24	(4)
Michigan	\$2,994,300	(6)	\$0.32	(25)	\$0.46	(23)
New York	\$2,850,300	(7)	\$0.16	(35)	\$0.81	(15)
Minnesota	\$2,650,000	(8)	\$0.61	(13)	\$0.14	(29)
Louisiana	\$2,579,274	(9)	\$0.61	(12)	\$0.59	(20)
Georgia	\$2,502,610	(10)	\$0.39	(23)	\$0.66	(19)

¹ Information based on responses to the N.C. Center for Public Policy Research's survey of state pesticide programs. Rankings among 39 states that responded to this survey question.

² Total budget divided by state population as reported by the 1990 U.S. Census. Other top 10 states in spending by population were: North Dakota, \$1.79 (1); Montana, \$1.75 (2); Hawaii, \$0.99 (4); Vermont, \$0.91 (5); South Dakota, \$0.85 (7); Delaware, \$0.68 (8); Iowa, \$0.65 (9); and Maine, \$0.63 (10) tie.

³ Total budget divided by statewide acres of harvested crops in 1990 as reported by the U.S. Bureau of the Census, *Statistical Abstract of the United States: 1992* (112th edition), Washington, D.C., 1992, p. 660. Other top 10 states in spending by crop acreage were: Rhode Island, \$27.00 (1); Hawaii, \$13.92 (2); Connecticut, \$6.94 (5); New Hampshire, \$4.95 (7); Maine, \$2.14 (8); Arizona, \$2.02 (9); and Vermont, \$1.16 (10).

Table 22.
Leading State Pesticide Programs in Fines Levied on Violators, 1990-92

State	Total Fines Per Year, 1990-92 (Rank) ¹		Average Amount Per Fine (Rank) ²		Annual Fines Per 1,000 People (Rank) ³		Annual Fines Per 1,000 Acres of Crops (Rank) ⁴	
New York	\$416,943	(1)	\$4,483	(4)	\$23.18	(4)	\$117.78	(6)
California	387,300	(2)	440	(24)	13.01	(7)	80.74	(7)
Louisiana	153,833	(3)	6,688	(3)	36.45	(2)	35.20	(9)
Connecticut	116,417	(4)	43,656	(2)	35.42	(3)	895.52	(1)
New Jersey	106,479	(5)	619	(15)	13.77	(6)	295.78	(3)
Massachusetts	61,733	(6)	46,300	(1)	10.26	(11)	440.95	(2)
North Carolina	60,658	(7)	601	(17)	9.15	(13)	13.88	(12)
Tennessee	52,500	(8)	772	(13)	10.76	(9)	11.72	(14)
North Dakota	35,528	(9)	446	(22)	55.60	(1)	1.67	(24)
Oklahoma	27,250	(10)	1,858	(7)	8.66	(14)	2.81	(23)

¹ Information based on the N.C. Center for Public Policy Research's survey of state pesticide programs. Rank among the 37 states that responded to this survey question.

² Total dollars in fines divided by total number of fines. Other top 10 states in average fines were: Rhode Island, \$3,500 (5); Florida, \$2,725 (6); Missouri, \$1,600 (8); Texas, \$1,496 (9); and Delaware, \$989 (10).

³ Total fines per year divided by state population (in 1,000s) as reported in 1990 U.S. Census. Other top 10 states in fines by population were: South Dakota, \$16.27 (5); Colorado, \$11.32 (8); and Hawaii, \$10.51 (10).

⁴ Total annual fines divided by 1990 harvested cropland (in 1,000s of acres) as reported by the U.S. Bureau of the Census, *Statistical Abstract of the United States: 1992* (112th edition), Washington, D.C., 1992, p. 660. Other top 10 states in fines by crop acreage were: Rhode Island, \$233.30 (4); Hawaii, \$145.63 (5); Delaware, \$46.33 (8); and Maine, \$34.96 (10).

Table 23.
Leading State Pesticide Programs in Numbers of Applicator Licenses
Suspended or Revoked, 1990-92

State	Number of Licenses Suspended or Revoked Per Year (Rank) ¹		Suspensions and Revocations Per Million People (Rank) ²		Suspensions/Revocations Per 1 Million Acres of Crops (Rank) ³	
California	96.0	(1)	3.32	(5)	20.00	(2)
South Carolina	25.3	(2)	7.27	(1)	12.36	(4)
Washington	23.7	(3)	4.86	(2)	5.68	(5)
Colorado	15.3	(4)	4.64	(3)	2.61	(8)
Iowa	10.7	(5) tie	3.85	(4)	0.46	(19)
North Carolina	10.7	(5) tie	1.61	(9)	2.44	(9)
Texas	8.3	(7)	1.47	(17)	0.45	(20)
Mississippi	4.7	(8)	1.83	(8)	0.99	(13)
Connecticut	4.3	(9)	1.31	(10)	33.31	(1)
Michigan	3.0	(10)	0.32	(21)	0.46	(18)

¹ Information based on the N.C. Center for Public Policy Research's survey of state pesticide programs. Average number among 37 state pesticide programs that responded to this survey question.

² Average number of suspensions and revocations per year divided by state population (in millions) from 1990 U.S. Census. Other top 10 states in suspensions by population were: South Dakota, 2.87 (6), and Montana, 2.18 (7).

³ Average number of suspensions and revocations per year divided by state crop acreage (in millions) in 1990 as reported by the U.S. Bureau of the Census, *Statistical Abstract of the United States: 1992* (112th edition), Washington, D.C., 1992, p. 660. Other top 10 states in suspensions by crop acreage were: Massachusetts, 19.07 (3); Hawaii, 4.13 (6); New Jersey, 2.78 (7); and Nevada, 1.92 (10).

Table 24.
Leading State Pesticide Programs in Numbers of
Complaints Investigated, 1990-92

State	Number of Cases Investigated Per Year (Rank) ¹		Investigations Per 1 Million People (Rank) ²		Investigations Per 1 Million Acres of Crops (Rank) ³	
California	3,656.0	(1)	122.8	(4)	762.1	(4)
North Carolina	927.0	(2)	139.8	(3)	212.1	(9)
Oklahoma	576.3	(3)	183.2	(1)	59.4	(19)
New Jersey	503.0	(4)	65.1	(15)	1,381.9	(2)
Washington	479.3	(5)	98.5	(7)	115.0	(14)
Texas	465.3	(6)	27.4	(28)	25.1	(29)
Florida	416.0	(7)	32.1	(26)	386.6	(7)
Oregon	345.7	(8)	121.6	(5)	151.0	(12)
Ohio	325.3	(9)	30.0	(27)	32.1	(25)
Michigan	305.3	(10)	32.8	(25)	46.9	(22)

¹ Information based on the N.C. Center for Public Policy Research's survey of state pesticide programs. Average number of complaints investigated per year, 1990-92, among 40 state pesticide programs that responded to this survey question. Data available for the years 1991 and 1992 only from California, Georgia, and Vermont; available for 1992 only from Maine. Data from Florida, Georgia, Louisiana, and Texas do not include structural pest investigations.

² Number of cases investigated per year divided by state population (in millions) from 1990 U.S. Census. Other top 10 states in investigations by population were: South Dakota, 150.8 (2); Montana, 106.9 (6); Mississippi, 95.2 (8); South Carolina, 85.1 (9); and Hawaii, 80.1 (10).

³ Average number of cases investigated per year divided by acres of crops harvested (in millions) as reported by the U.S. Bureau of the Census, *Statistical Abstract of the United States: 1992* (112th edition), Washington, D.C., 1992, p. 660. Other top 10 states in investigations by crop acreage were: Connecticut, 1,803.9 (1); Hawaii, 1,122.8 (3); Rhode Island, 730.0 (5); Massachusetts, 451.9 (6); Arizona, 213.6 (8); and Maine, 185.6 (10).

Table 26.
Comparison of Pesticide Programs Based in Agricultural Agencies
with Those Based in Environmental Agencies or Universities

Criteria ¹ (Number of States Responding) ³	Type of Lead Agency ²		North Carolina ⁴
	Agriculture	Environment	
Percent of States by Type (45)	86.7%	13.3%	(Agriculture)
Population (45)	4,190,513	10,467,333	6,629,000
Crop Acreage (44)	6,424,974	2,175,400	4,370,000
Number of Staff (44)	24	87	79
Total Pesticide Budget (39)	\$1,588,223	\$8,780,483	\$4,149,424
Adjusted for Population	\$0.37	\$0.84	\$0.63
Adjusted for Crop Acreage	\$0.22	\$4.82	\$0.95
Total Fines Assessed Per Year (37)	\$19,719	\$175,605	\$60,658
Adjusted for Population	\$4.84	\$16.78	\$9.15
Adjusted for Crop Acreage	\$3.05	\$96.87	\$13.88
Average Fine (36)	\$835	\$872	\$601
Suspensions/Revocations Per Year (40)	2.8	21.3	10.7
Adjusted for Population	0.7	2.0	1.6
Adjusted for Crop Acreage	0.4	11.7	2.4
Complaints Investigated Per Year (40)	211.2	807.3	927.0
Adjusted for Population	46.6	77.1	139.8
Adjusted for Crop Acreage	31.9	445.3	212.1

¹ For a more complete description of criteria and sources of information, see Table 10 for population, crop acreage, total budget, and number of budgeted staff by state. See Table 19 for more detailed information on fines, suspensions and revocations, and regulatory actions. For descriptions of how budgets, fines, suspensions/revocations, and regulatory actions were adjusted for population and crop acreage, see Tables 11, 20, 21, and 22.

² Numbers are averages among states that responded to questions on survey. Environment category includes states with lead pesticide programs in environment, conservation, or natural resources agencies, and public universities. For lead agencies by individual states, see Table 10.

³ Number of states that responded to this question in the N.C. Center for Public Policy Research's survey of state pesticide programs.

⁴ Based on survey responses from the N.C. Department of Agriculture.