

Agriculture

Washington State Department of Agriculture's summary of pesticide-related complaint investigations during 2007.

Background

The Pesticide Management Division of the Washington State Department of Agriculture (WSDA) protects human health and the environment by ensuring the safe and legal distribution, use, and disposal of pesticides in Washington State.

WSDA investigates all complaints it receives concerning possible pesticide misuse, storage, sales, distribution, applicator licensing, and building structure inspections for wood destroying organisms. The division also inspects marketplaces, importers, manufacturers, and pesticide application sites for compliance with state and federal laws and regulations on a non-complaint basis.

Complaints

During 2007, WSDA investigated 177 complaints (Table WSDA 1). After investigation, WSDA determined that 103 (58%) complaints involved pesticide applications and 69 (39%) complaints were unrelated to actual applications. The status of five complaints was not specified. Examples of complaints unrelated to applications were structural inspections or licensing complaints. There were 104 violations associated with the 177 complaints. Appendix C lists all WSDA pesticide-related complaint investigations for 2007.

This is the lowest number of complaints that the department has received since the PIRT reports started in 1990.

Table WSDA 1. WSDA Complaints and Violations, 2003 - 2007

Year	Total Complaints	Violations
2003	222	151 (68%)
2004	200	122 (61%)
2005	193	113 (59%)
2006	206	137 (66%)
2007	177	104 (59%)

Location of Complaints

There were significant differences in population, types of pest problems, and the nature of complaints between the eastern and western portions of the state. In general, western Washington complaints were about structural pest inspections, homeowner complaints about drift, intentional misuse, and unlicensed

applicators. Most eastern Washington complaints were about agricultural applications and drift. Drift continues to be one of the most frequent types of complaint involving pesticide applications. However, complaints about potential misuse such as the wrong product used to control pests or complaints about a neighbor's use increased in frequency this year. Licensing, records and Structural Pest Inspections were the most frequent non-pesticide application complaints. With the exception of drift, complaints in 2007 continue to cover more diverse topics than in the early years of the PIRT report.

Potential instances of misuse are very diverse. Most are from residential areas and may be about a neighbor using a pesticide to control weeds or obstructing trees on the complainant's property.

In 2007, there were four complaints about bee kills. This is an increase in complaints and may be a secondary result of beekeepers observing hives more closely due to reports of Colony Collapse Disorder. Beekeepers world wide have been reporting unusually high losses of bees and have named this Colony Collapse Disorder. No full explanation for this is known as yet and the hive deaths may be a result of a combination of factors, including pesticides.

In 2007, 98 (55%) of complaint investigations occurred in eastern Washington and 79 (45%) in western Washington.

Table WSDA 2 lists the counties with the most complaint investigations from 2003 through 2007.

Table WSDA 2. WSDA Counties with the Most Complaints, 2003 - 2007

	2003		2004		2005		2006		2007
King	23	King	28	Spokane	22	Spokane	20	Pierce	14
Pierce	22	Grant	20	King	20	Grant	19	Grant	13
Grant	19	Spokane	17	Chelan	18	Pierce	18	Spokane	13
Spokane	19	Benton	15	Grant	16	Yakima	15	Snohomish	12
Yakima	13	Yakima	15	Yakima	12	King	13	King	10
Benton	12	Walla Walla	11	Douglas	11	Douglas	11	Benton	10
Chelan	12	Pierce	11	Pierce	10	Okanogan	10	Yakima	10
Clark	11	Snohomish	10	Benton	8	Franklin	9	Chelan	8
Multiple	10	Chelan	8			Whatcom	8	Whatcom	8
							Whitman	Whitman	8

Response Time

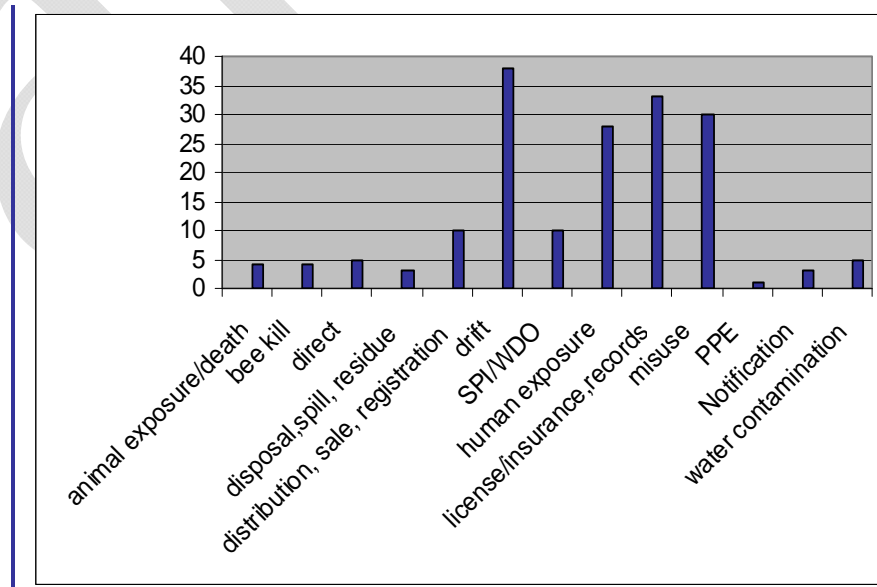
In 2007, WSDA responded within one working day for 155 (88%) of the 177 complaints. All of the 28 human exposure complaints were investigated within one working day. For two human exposure complaints, one was investigated within three calendar days. This complaint was a referral from L&I on a Friday about any possible violations from a fumigation at a cherry packing warehouse.

L&I had already responded to the initial exposure complaint. No violations were found in the WSDA investigation. The second complaint was a referral from DOH about a possible case of exposure to pesticides at a storage facility. The complainant had alleged that someone was trying to poison her by spraying pesticides around her storage area. The complainant was difficult to contact but an initial investigation was started by telephone. No basis was found for her complaint.

Nature of Complaints

Complaints for 2007 were categorized according to the nature of the initial complaint received. The categorization of complaints for 2007 is shown in **Figure WSDA 1**. Investigation may find the complaint not valid, substantiate the initial complaint, or identify additional violations. For example, an initial complaint concerns a possible drift. When the agency investigates, it may determine that drift did not occur, but may find that the applicator applied at the wrong rate or did not keep proper records. Although the applicator would not be cited for drift, he or she could be cited for being “faulty, careless, and negligent” or for record keeping violations. When complaints are associated with numerous possible violations, the most serious complaint is used to categorize the case. For example, a complaint involving human exposure caused by drift from application by an unlicensed applicator would be categorized as human exposure even if the only final outcome of the case was a Notice of Correction for record keeping. However, in general, the initial complaint is a fairly reliable indicator of the final outcome of the case and reflects the concerns of the complainant.

Figure WSDA 1. WSDA Nature of Initial Complaints by Number, 2007



In 2007, WSDA received 38 general complaints about drift plus 20 complaints specifically about human exposure due to drift. Of the 20 human exposure drift complaints, it was determined that there was some evidence of exposure in seven cases, although two appeared to be odor only. For the 38 general drift cases, 26 were complaints about drift to property, ornamentals or vehicles, and 12 were drift complaints to an agricultural crop or pasture. (Table WSDA 3). Pesticides moving off-target appears to be one of the major reasons why complaints were registered with WSDA. As in previous years, many of these complaints were not substantiated as the damage seen was due to drought, insects or frost, or the person was concerned about possible drift rather than an actual exposure. Non-agricultural complaints from actual applications generally concerned damage to ornamentals from commercial applications or from a neighbor's application, rather than human exposure.

Non-licensed individuals and misuse are two other areas where WSDA received numerous complaints (Table WSDA 3). In 2007, WSDA received 26 complaints about improper or no licensing and 30 complaints about direct misapplications or other types of misuse. The number of complaints specific to faulty Structural Pest Inspections (SPI) dropped to ten (in addition to complaints about improper SPI licenses or records). There were four reported bee kills for 2007. Insecticide residue was found in one case, no evidence of insecticides were detected in two cases although dead bees were present, and one case involved bees dying from a normally occurring toxic substance found in linden pollen.

Table WSDA 3. Initial Complaints, WSDA Cases, 2007

Animal Deaths/Exposure	4	Human Exposure - Drift	20
Bee Kill	4	Human Exposure - Direct	8
Direct	5	License, Insurance, Records	33
Disposal, spill, residue	3	Misuse	30
Distribution, sale, registration	10	Notification	3
Drift to crop	12	Personal Protective Equipment	1
Drift to Property	26	Water Contamination	5

For 2007 cases, the initial complaint was compared to actions taken by the department to see if the violation was related to the complaint; that is, whether the complaint was valid. However, action may not have been taken on the case even though the complaint was valid. For instance, if the violator could not be identified for a drift case, no action could be taken. One hundred and nine (62%) of the 2007 cases had the original complaint verified (i.e., the complaint was valid). Action was taken on 104 cases. The percent of cases where action was taken on the original complaint has been steadily increasing each year. This may reflect that people are better able to recognize pesticide damage as

opposed to damage due to drought or insects or that people have a better understanding of agency roles for enforcement. This trend is allowing the agency to better utilize resources by investigating valid complaints instead of responding to complaints about issues other than pesticides.

Drift

There were 38 general complaints about drift; WSDA took action on 20 (53%) of these. There were 20 complaints about drift to humans with seven (35%) verified.

Action was taken on six of the human exposure drift cases. No action was taken on the remaining case, as no violations were determined and the complainant did not want to pursue the incident further.

Table WSDA 4. Number of WSDA Drift and Human Exposure Complaints, 2007

	Number of Complaints	Complaints Verified	Action*
Drift			
Drift to Property	18	12	NAI - 1, Verbal Warning-2, NOC - 5, NOI - 4
Drift to Crop	12	9	NAI - 3, Verbal Warning - 1, NOC - 2, NOI - 3
Drift to Ornamentals	8	3	Verbal Warning - 1, NOI - 2
Human Exposure			
From Drift	20	7	NAI - 1, NOC - 3, NOI - 3
From Direct	8	4	Verbal Warning - 1, NOC - 3

* NAI = no action indicated, NOC = notice of correction, NOI = notice of intent

For the purposes of the PIRT report in classifying complaints, actions that the agency took may not be sufficient to determine the scope of actual pesticide incidents. For drift, WSDA determined if there was sufficient evidence (ex. residue or symptoms) to decide if drift had occurred or not. Even if drift was verified, the agency may not be able to take action; for example, if the source of the drift could not be proven. The number of verified drift cases may give a better idea of areas that are problems.

Application Methods

In 2007, WSDA received 17 complaints about aerial applications, 76 complaints about ground applications, one complaint about both an aerial and a ground application, 73 complaints about items other than an application (for example, structural inspections), and ten complaints where the application method was undetermined or unknown.

Violations

Complaint investigations may result in a determination that a violation of state or federal laws or rules has occurred. During 2007, 58% of WSDA complaint investigations resulted in some type of violation. Most violations were not severe in nature (Table WSDA 5) and most violators were issued a warning or correction notice rather than issued fines or license suspensions.

Type of Activity in Complaints with Violations

Complaints are classified by WSDA according to the following type of activities:

- Agricultural: Incidents occurring in an agricultural environment such as farming, forestry, greenhouses, or Christmas tree farming.
- Commercial/industrial: Incidents by licensed operators making applications to offices, restaurants, homes, and landscapes.
- Structural Pest Inspections (SPI): A change in law established a separate definition for a license for this work. Replaces the previous WDO incident count. No pesticide applications are made.
- Residential: Includes any application of a pesticide in a residential environment by the homeowner, resident, or neighbor.
- Right-of-ways: Applications made on public land such as roadways, electric lines, and irrigation canal banks.
- Other: The WSDA code for undefined use and includes licensing, storage, registration, records, and similar activities.

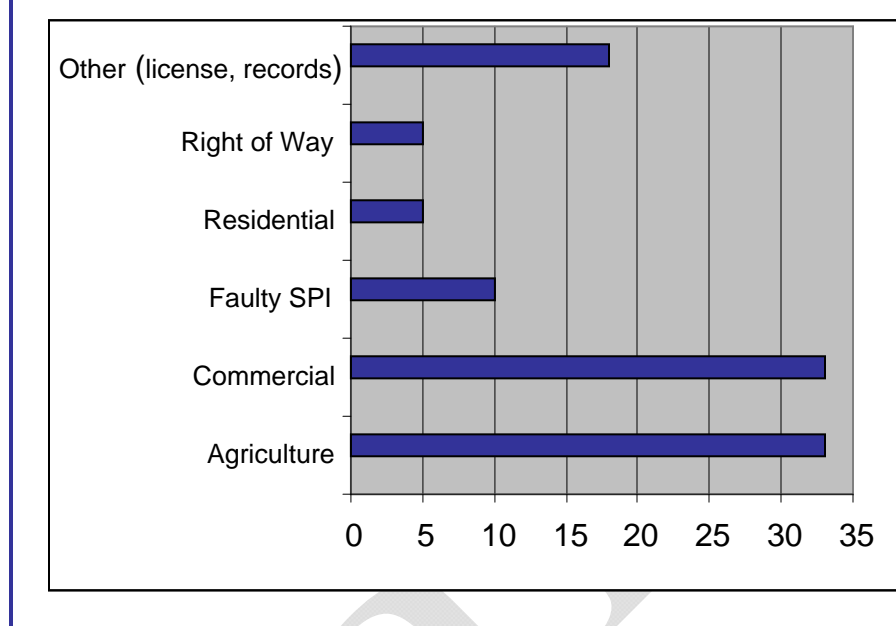
Table WSDA 5 shows complaints with violations by type of activity from 2003 through 2007.

Table WSDA 5. WSDA Violations by Type of Activity, 2003 - 2007

Activity	2003	2004	2005	2006	2007
Agricultural	39	42	39	42	33
Commercial/Industrial	38	17	36	25	33
Structural Pest Inspection	33	22	8	28	10
Residential (non commercial)	7	5	4	12	5
Right-of-Way	5	5	5	4	5
Other (licenses, records, etc.)	29	31	21	26	18
Total Violations	151	122	113	137	104

Figure WSDA 2 identifies the violations by type of activity for 2007.

Figure WSDA 2. WSDA Violations by Type of Activity, 2007



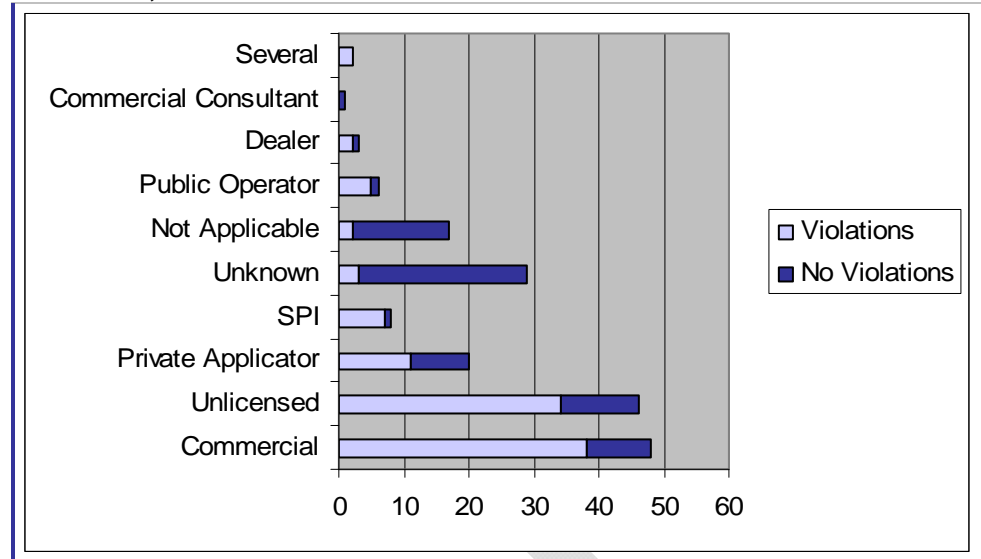
Violations alone do not give an accurate picture of pesticide exposures. For example, if drift occurs and the violator cannot be proven, no action can be taken. Sometimes the applicator has moved away, often out of state, and cannot be located. However, violations generally give a good representative picture of the validity and severity of pesticide incidents.

Type of License in Complaints with Violations

In 2007, WSDA licensed approximately 5,300 commercial applicators and operators and 11,800 private applicators. WSDA also issued approximately 9,900 other individual license types for a total of over 27,000 licensees. Although WSDA licenses fewer commercial applicators than private applicators, commercial applicators make many more applications per licensee and more applications on land not owned by the applicator. This increases the probability of complaints for commercial applicators. Further information about WSDA license types is available in Appendix D.

In 2007, commercial applicators were involved in 48 complaints with 38 violations. Private applicators were involved in 20 complaints with 11 violations. Unlicensed applicators were involved in 46 complaints with 34 violations. Most of these applicators were unlicensed and conducting structural pest inspections that required a licensed inspector ([Figure WSDA 3](#)).

Figure WSDA 3. WSDA Type of Licensee Involved in Cases with and Without Violations, 2007



Agricultural Complaints

In agriculture, most complaints with violations involve pesticides applied to orchards. This is not unexpected, as orchards tend to be located in more populous areas and may be on smaller acreages intermixed with other crops, housing, and heavily traveled roads. This increases the potential for complaints about possible drift. The most frequent agricultural complaints in 2007 were from applications to orchards drifting on property or other crops. The next most frequent were complaints about drift from applications to wheat.

Non-Agricultural Complaints

In 2007, investigations due to faulty Structural Pest Inspections and licenses, recordkeeping or distribution were the most frequent non-agricultural complaints. Generally, complainants felt that the individual using pesticides was not properly licensed for the work being done or that they overlooked conditions conducive to further structural damage. The most frequent type of violation cited by WSDA was failure to keep accurate or adequate records (for instance, did not record conditions conducive to rot or the presence of insects) and failure to obtain the proper license type for the application.

One company was cited for operating a fraudulent rat control business. They were issued a Notice of Intent. Another case involved an allegation of health effects to a person and his dog after they walked on park lawns before the spray had dried. The applicator was issued a Notice of Correction.

Complaint distribution has been consistent over the years and points to the need for greater education of applicators, particularly for drift reduction techniques. Some violations may reflect the transient nature of employment or lack of applicator training and some, particularly for structural pest inspections, may reflect willful fraud. Economic pressure to sell real estate may encourage inspectors to overlook possible wood-destroying organism conditions. The number of preventable violations points to the continuing need for a strong agency enforcement program. Given that the estimated number of applications is in the hundreds of thousands, the number of complaints directed to the department for serious offenses is relatively small.

Cases Involving Children

In 2007 children were involved directly or indirectly in two cases. Pesticide exposure was verified in both cases. The first case involved twenty-one people, some children, who reported health symptoms when a campground was fogged at night for mosquito control over a period of five days. The Department of Health reported four of these cases as “possible”. Malathion was used. The applicator was issued a Notice of Correction. The other case involved drift of kaolin, endosulfan and cyhalothrin from an application to pears. The complainant said her daughter had burning eyes. The applicator was issued a Notice of Correction.

Severity of Reported Complaints

The WSDA rates the severity of a case after complaint investigation is complete. **Table WSDA 6** gives a detailed description of each rating. As in previous years, the majority of complaints were assigned a severity rating of “2” or less.

Table WSDA 6. Severity Rating of WSDA Complaint Cases, 2003 - 2007

Rating	2003	2004	2005	2006	2007	Criteria
0	22 10%	26 14.5%	29 15%	21 10%	29 16%	Problem not due to pesticides and/or no cause determined; Structural Pest Inspection with no violations.
1	51 23%	65 32.5%	77 40%	63 30%	54 31%	Pesticides involved, no residue, no symptoms occurred; possible pesticide problem, not substantiated; issues involving records, registration, posting, notification (multiple chemical sensitivity) or licensing; DOH classified "unlikely" or "insufficient information".
2	112 50%	83 41.5%	54 28%	92 45%	57 32%	Residue found, no health symptoms (human, animal); health symptoms not verified; multiple minor violations; off label use; worker protection violations; PPE violations with no health symptoms; plants with temporary or superficial damage only; Structural Pest Inspection faulty inspections; DOH classified "possible".
3	22 10%	18 9%	16 8%	12 6%	25 14%	Minor short-term health symptoms (rash, eye irritation, shortness of breath, dizzy, nausea, vomiting); bee kills of less than 25 hives; minor fish kills; economic plant damage under \$1000; evidence of deliberate economic fraud; DOH classified "probable".
4	13 6%	8 4%	17 9%	14 7%	10 5%	Short-term veterinary or hospital care; bee kills of greater than 25 hives; significant fish kills; significant economic plant damage (over \$1000); environmental damage; illness involving children; DOH classified "probable".
5	2 1%	0	0	4 2%	2 1%	Veterinary or hospital care overnight or longer; physician diagnosed children's illness as caused by pesticides; animal death due to pesticides; significant environmental damage; DOH classified "definite".
6	0	0	0	0	0	Human death due to pesticides.
Total	222	200	193	206	177	

In 2007, of the ten cases with a severity rating of 4, seven were issued Notices of Intent (NOI). Five were drift from applications to wheat. One was a drift to wild rye seed from an application to a right of way and one was a drift to a cherry orchard from an application to weeds. For the remaining three cases, a Notice of Correction was issued for an application that resulted in a bee kill and No Action

was taken on two cases. The first case involved secondary poisonings when dogs ingested mice poisoned by chlorophacinone (a rodenticide) in an orchard. No violations were noted and the dogs apparently had been allowed to run freely. Both dogs recovered. The other case was herbicide injury to grapes where no source could be determined.

The two cases with a severity rating of 5 were dog deaths and bird deaths. No action was taken in either case.

- Two eagles became ill from ingestion of small birds that had died from eating carbofuran, azoxystrobin and famphur (Insecticide and Fungicides). The eagles recovered but no source was found for the pesticides.
- Young dogs died after eating mice poisoned by chlorophacinone in an orchard. There was no evidence of misuse by the applicator. Again, the dogs had been allowed to run free.

Type of Pesticide Involved

In 2007, herbicides were involved in 82 complaints and insecticides in 51 complaints. There were relatively fewer complaints about other pesticides such as fungicides (16), fumigants (3), and rodenticides (8). This may be because there are more obvious detrimental effects from herbicide and insecticide misuse and because herbicides and insecticides are generally applied at a higher frequency with more power equipment over larger areas.

Overall, complaints about applications in 2007 continue to show a greater variety of pesticides than seen in previous years. There were two complaints about azinphos-methyl and two complaints about endosulfan drift. These two products are labeled as "Danger/Poison" and complaint numbers have been tracked closely because of their toxicity and their use in orchards. For the past several years there have been few complaints about these products but in 2007, WSDA received two complaints for each. The azinphos-methyl complaints were a human exposure drift complaint and a drift to property. The endosulfan drifts were also human exposure and property. NOCs were issued for the endosulfan incidents, NOIs were issued for the azinphos-methyl incidents. Complaints on both products continue to be minimal even though they increased in frequency this year. Applicators may be using more pest-specific products with a greater diversity of active ingredients and placing less reliance on broad-spectrum pest control products. This change could increase the number of single-product complaints, resulting in fewer, more general, complaints.

Herbicide drift constitutes the greatest number of complaints. Two herbicides, 2, 4-D (13 complaints) and glyphosate (18 complaints), were again the most frequently reported active ingredients in 2007 investigations (Table WSDA 7). This is consistent with previous years' numbers and probably reflects the frequency of use, use by unlicensed (untrained) applicators and the high visibility

of misuse of these products. Many complaints involved tank mixes of several products or complaints about drift from an unspecified or unknown pesticide.

Table WSDA 7. Active Ingredients Most Commonly Involved in WSDA Complaints, 2007

Active Ingredient	
2,4-D (Phenoxy)	13
Glyphosate	18
Bifenthrin	6
Metsulfuron methyl	6
Dicamba	5

Complaints reported to WSDA should be regarded as indicators of potential problem areas rather than a definitive summary of all misapplications. For example, drift involving products such as sulfur and kaolin (clay) may occur more often than reported. Such products are more identifiable. People may be less worried about unknown effects from these products. These products also have minimal health effects and minimal detrimental effects on non-target plants and property.

Enforcement Actions

Complaint investigations may result in the determination that a violation of state or federal laws or rules has occurred. Generally, first offenders or minor infractions are given a Notice of Correction and a period of time to come into compliance. For more serious infractions, WSDA follows the penalty matrix for any legal actions as specified in WAC 16-228-1130.

Cases that may be taken to court are listed as Notice of Intent. The violator may pay the penalty as stated or they have the right to appeal and take the case to court. The court may impose the fine and/or license suspension given by the agency or it might dismiss the case. As cases appealed may take several years to settle, all cases are listed as NOI in order to complete this report. Final settlement of these cases can be determined by contacting WSDA.

Sometimes more than one corrective action is taken on a case. In this report, only one corrective action per category is identified. For example, if more than one Notice of Correction was issued, the action would be listed as one Notice of Correction. However, if more than one type of corrective action was taken, such as a Notice of Correction and a Notice of Intent (which could happen if several applicators were involved in the same investigation), both types are listed.

The corrective actions taken in 2007 are listed in [Table WSDA 8](#). (See [Appendix D](#) for definitions of the Enforcement Actions.)

Table WSDA 8. WSDA Agency Actions, 2003 - 2007

	2003	2004	2005	2006	2007
No action indicated	71	76	77	69	73
Verbal warning	3	1	6	5	11
Advisory letter/Warning letter	8	4	9	12	5
Notice of correction	116	98	76	93	60
Notice of intent/Administrative action	26	20	23	22	26
Referred/ Stop Sale	0	2	2	0	2
Notice of correction/Notice of intent	0	0	0	5	0
Total actions	224	201	193	206	104

Fines and License Suspensions Levied In 2007

In addition to license suspensions, the agency assessed \$25,175 in fines during 2007. (Note: some incidents occurred prior to 2007 and not all 2007 cases have been finalized). The maximum fine was \$4,800 against a company that had failed to pay a previous fine for distributing unregistered products in Washington. The minimum fine collected was \$0 but the company will not be allowed to obtain a license in Washington for five years.

The average fine was \$839. There were five fines that exceeded \$1,500.

Except for the five year denial of a license, the maximum license suspension was 49 days. For this case, the applicator drifted on several construction workers working on a nearby road. He was fined \$2,000 and his license suspended for 49 days. The five year suspension resulted from several complaints against a pest control company operating without a license and failing to complete work that had been paid for. The company will not be allowed to become licensed in Washington for five years and must cease advertising their services. Another case, with a license suspension of 20 days and a \$1,000 fine, involved damage by a commercial company to landscape plants. Most of the remaining license suspensions were for periods of two to nine days.

Other Agencies Involved

WSDA works in cooperation with other state and local agencies in the collection of evidence and testimony. Cooperating agencies may independently report their involvement in these cases or they may do no further independent investigation.

In 2007, WSDA consulted with other state, federal and local agencies, including local police, in 50 investigations. The agencies most frequently consulted were Department of Health (21), Department of Ecology (12), the Environmental

Protection Agency (4), the Food and Drug Administration (3) and the Department of Labor & Industries (3). One case was referred to another enforcement body (DOE) during 2007.

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