

**Table C9: Agricultural Drift Cases Reported in California¹ as Associated With²
Pesticide Exposure, Summarized by the Activity of the Exposed Person
and by the Type of Application Equipment Used
2021**

Type of Application Equipment Used ³	Type of Activity ⁴		
	Field Worker	Routine	Total
Helicopter	22	10	32
Ground, Other or Unspecified	3	1	4
Ground Boom, Other or Unspecified	19	0	19
Ground, Boom Below/Behind	13	2	15
Over-the-vine Boom	0	1	1
Electrostatic Sprayer	0	1	1
Air Blast Sprayers	17	17	34
Power Dusters	0	9	9
Shank Injection with Tarps	18	0	18
Pressurized Hose-line Sprayer	3	0	3
Drip Irrigation Equipment	3	0	3
Sprinkler Irrigation Equipment	0	7	7
Unknown	1	0	1
TOTAL	99	48	147

1. Source: California Department of Pesticide Regulation, Pesticide Illness Surveillance Program.

2. Associated With: Includes cases classified as definitely, probably, or possibly related to pesticide exposure.

Definite: High degree of correlation between pattern of exposure and resulting symptomatology. Requires both medical evidence (e.g., measured cholinesterase inhibition, positive allergy tests, characteristic signs observed by medical professional) and physical evidence of exposure (e.g., environmental and/or biological samples, exposure history) to support the conclusions.

Probable: Relatively high degree of correlation exists between the pattern of exposure and the resulting symptomatology. Either medical or physical evidence is inconclusive or unavailable.

Possible: Health effects correspond generally to the reported exposure, but evidence is not available to support a Definite or Probable relationship.

3. Type of Equipment Used: Defines the type of application equipment regardless of who performed the application. If the type of equipment is not represented on the table, there were no cases involving that type of equipment for the year of the report.

Helicopter:	A helicopter
Ground, Other or Unspecified:	Ground application equipment, unknown or unspecified. This includes two or more types of ground application.
Ground Boom, Other or Unspecified:	Ground application equipment with a spray boom. The following are excluded: 1) ground boom below/behind, 2) over-the-vine boom, and 3) electrostatic sprayer.
Ground Boom, Below/Behind:	Ground application equipment with a spray boom located below and behind the equipment operator with the spray nozzles pointed downward.
Over-the-Vine Boom:	Ground operated equipment with the arms of the spray boom extending over the tops of grapevines.
Electrostatic Sprayer:	Ground operated equipment designed to impart an electrical charge to the pesticide particles. The electrostatic designation for ground application equipment overrides any other type of equipment it is used with.
Airblast Sprayers:	Ground application equipment with a pump that delivers spray into an air stream created by a large fan at the back of the spray equipment.
Power Dusters:	Ground application equipment used to apply dust formulated pesticides.
Pressurized Hose-line Sprayers:	Hand-held spray equipment attached by a long hose to a power-pressurized tank.
Shank Injection with Tarps:	Ground application equipment that uses a shank or other piece of equipment to directly apply a pesticide into the soil and a tarp is placed over the soil to restrict the pesticide to the application site.
Drip Irrigation Equipment:	Chemigation through drip irrigation equipment.
Sprinkler Irrigation Equipment:	Chemigation through sprinkler irrigation equipment.
Unknown:	The type of equipment used is unknown.

4. Type of Activity: Activity of the individual at the time of exposure.

Field Worker: Works in an agricultural field performing tasks such as advising, scouting, harvesting, thinning, irrigating, driving tractor (except as part of an application), field packing, conducting cultural work in a greenhouse, etc. Researchers performing similar tasks in an agricultural field are also included.

Routine: Combination of 3 Routine Activities:

- a. Routine Indoor: Conducts activities in an indoor environment with minimal expectation for exposure to pesticides. This includes people in offices and businesses, residential structures, etc. who are not handling pesticides.
- b. Routine Outdoor: Conducts activities in an outdoor environment with minimal expectation for exposure to pesticides. This excludes field workers in agricultural fields. This includes gardeners who are not handling pesticides.
- c. Routine (Other/Unspecified): Conducts activities in an environment with minimal expectation for exposure to pesticides but is not adequately defined as indoor or outdoor. This includes individuals exposed to pesticides while inside a vehicle.

Whom to Contact:

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About the Pesticide Illness Surveillance Program Data

Pesticide-related illnesses have been tracked within the state of California for more than 50 years. The California Environmental Protection Agency, Department of Pesticide Regulation (DPR) maintains a surveillance program which records human health effects of pesticide exposure. The Pesticide Illness Surveillance Program (PISP) documents information on adverse effects from pesticide products, whether elicited by the active ingredients, inert ingredients, impurities, or breakdown products. This program maintains a database, which is utilized for evaluating the circumstances of pesticide exposures resulting in illness. This database is consulted regularly by staff who evaluate the effectiveness of the DPR pesticide safety programs and recommend changes when appropriate.