

**Table C12: Illnesses and Injuries Reported California<sup>1</sup> Associated With<sup>2</sup>  
Pesticide Exposure, Summarized by Type of Exposure and Type of Illness  
2020**

Type of Exposure <sup>3</sup>	Systemic/ Respiratory <sup>4</sup>		Topical <sup>4</sup>		TOTAL	
	Definite/ Probable	Possible	Definite/ Probable	Possible	Definite/ Probable	Possible
Direct Spray/Squirt	18	1	50	1	73	2
Multiple Exposures	8	0	1	0	10	1
Off-site Movement	204	13	23	3	354	24
Other	11	4	9	4	31	8
Residue	42	12	31	3	92	17
Spill/Other Direct	121	13	87	4	226	17
Unknown	11	10	16	6	42	20
<b>TOTAL</b>	<b>415</b>	<b>53</b>	<b>217</b>	<b>21</b>	<b>828</b>	<b>89</b>

**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 Exposure:** Characterization of how an individual came into contact with a pesticide. Exposure categories not listed on the table indicate that no illnesses occurred under that category.

**Direct Spray/  
Squirt:** Material propelled by the application or mix/load equipment. Contact with the material can be by direct projection or ricochet. This includes exposure of mechanics working on application or mix/load equipment when the material is forced out by pressure.

Multiple Exposures:	Contact with pesticides occurred through two or more mechanisms.
Off-site Movement:	Spray, mist, vapors, or odor carried from the target site by air. Off-site movement must be related to an application or mix/load activity.
Other:	Other known route of exposure not included in other exposure categories. This includes, but is not limited to: 1) residue from a spill and 2) exposure to smoke or pyrolytic products from a fire where pesticides are burning.
Residue:	The part of a pesticide that remains in the environment for a period of time following an application or drift. This includes odor after the completion of an application.
Spill/ Other Direct:	Any of the following: 1) contact made during an application or mixing/loading operation where the material is not propelled by the equipment; 2) expected direct contact during use (e.g., washing dishes in a disinfectant solution); 3) leaks, spills, etc. not related to an application.
Unknown:	Type of exposure is not known.

**4. Type of Illness:** Categorization of the type of symptoms experienced.

Systemic:	Any health effects not limited to the respiratory tree, skin, and/or eyes. Cases involving multiple illness symptom types including systemic symptoms are included in the systemic category.
Respiratory:	Health effects involving any part of the respiratory tree.
Topical:	Health effects involving only the eyes and/or skin. This excludes outward physical signs (e.g., miosis, lacrimation) related to effects on internal bodily systems. These signs are classified under ‘Systemic.’

**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.