

**Table C1: Summary of Illness/Injury Incidents
Reported in California¹ Related to Pesticide Exposure,
Summarized Statewide and by County of Occurrence
2020**

Statewide

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
TOTALS								
Definite		127	76	40	3	8	11	116
Probable		701	223	314	89	75	126	573
Possible		89	19	24	17	29	21	68
TOTAL	704	917	318	378	109	112	158	757

County of Occurrence⁶

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
ALAMEDA								
Definite		4	3	0	0	1	0	4
Probable		15	8	6	0	1	0	15
Possible		3	0	2	0	1	0	3
TOTAL	20	22	11	8	0	3	0	22
AMADOR								
Definite		1	0	1	0	0	0	1
TOTAL	1	1	0	1	0	0	0	1
BUTTE								
Definite		1	0	1	0	0	0	1
Probable		5	1	4	0	0	1	4
Possible		1	1	0	0	0	1	0
TOTAL	7	7	2	5	0	0	2	5
COLUSA								
Definite		1	1	0	0	0	0	1
Probable		2	0	2	0	0	2	0
TOTAL	3	3	1	2	0	0	2	1
CONTRA COSTA								
Definite		4	3	0	0	1	0	4

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
Probable		11	4	3	2	2	0	11
Possible		3	1	0	1	1	0	3
TOTAL	17	18	8	3	3	4	0	18
DEL NORTE								
Probable		1	1	0	0	0	0	1
TOTAL	1	1	1	0	0	0	0	1
EL DORADO								
Probable		2	1	1	0	0	0	2
Possible		1	0	0	0	1	0	1
TOTAL	3	3	1	1	0	1	0	3
FRESNO								
Definite		3	3	0	0	0	0	3
Probable		30	10	16	2	2	10	20
Possible		8	3	5	0	0	6	2
TOTAL	32	41	16	21	2	2	16	25
HUMBOLDT								
Probable		2	0	1	0	1	0	2
TOTAL	2	2	0	1	0	1	0	2
IMPERIAL								
Definite		1	0	0	0	1	1	0
Probable		13	4	4	2	3	2	11
Possible		1	0	1	0	0	1	0
TOTAL	15	15	4	5	2	4	4	11
KERN								
Definite		7	3	3	1	0	4	3
Probable		45	9	25	5	6	20	25
Possible		5	2	0	2	1	3	2
TOTAL	41	57	14	28	8	7	27	30
KINGS								
Definite		2	1	1	0	0	0	2
Probable		2	0	1	0	1	1	1
Possible		1	1	0	0	0	0	1
TOTAL	5	5	2	2	0	1	1	4

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
LAKE								
Probable		3	1	1	1	0	0	3
Possible		2	1	0	0	1	0	2
TOTAL	5	5	2	1	1	1	0	5
LASSEN								
Probable		1	1	0	0	0	0	1
TOTAL	1	1	1	0	0	0	0	1
LOS ANGELES								
Definite		23	15	6	0	2	0	23
Probable		114	50	41	6	17	0	114
Possible		16	3	5	2	6	0	16
TOTAL	148	153	68	52	8	25	0	153
MADERA								
Probable		5	3	2	0	0	1	4
Possible		1	0	0	0	1	1	0
TOTAL	6	6	3	2	0	1	2	4
MARIN								
Probable		1	1	0	0	0	0	1
TOTAL	1	1	1	0	0	0	0	1
MENDOCINO								
Definite		1	1	0	0	0	0	1
Possible		1	0	0	0	1	0	1
TOTAL	2	2	1	0	0	1	0	2
MERCED								
Probable		7	4	2	0	1	2	5
Possible		1	0	1	0	0	0	1
TOTAL	8	8	4	3	0	1	2	6
MONTEREY								
Definite		22	3	18	0	1	3	19
Probable		133	7	90	34	2	45	88
Possible		5	2	1	1	1	2	3
TOTAL	28	160	12	109	35	4	50	110

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
ORANGE								
Definite		5	4	1	0	0	0	5
Probable		28	17	8	2	1	0	28
Possible		2	1	1	0	0	0	2
TOTAL	35	35	22	10	2	1	0	35
PLACER								
Definite		1	1	0	0	0	0	1
Probable		4	1	2	0	1	0	4
TOTAL	5	5	2	2	0	1	0	5
RIVERSIDE								
Definite		5	5	0	0	0	0	5
Probable		25	16	4	2	3	0	25
Possible		8	0	1	4	3	0	8
TOTAL	33	38	21	5	6	6	0	38
SACRAMENTO								
Definite		1	1	0	0	0	0	1
Probable		9	7	1	0	1	0	9
TOTAL	10	10	8	1	0	1	0	10
SAN BERNARDINO								
Definite		7	6	0	1	0	0	7
Probable		22	15	4	1	2	0	22
Possible		4	1	1	1	1	0	4
TOTAL	33	33	22	5	3	3	0	33
SAN DIEGO								
Definite		5	4	1	0	0	0	5
Probable		58	19	21	13	5	0	58
Possible		8	1	1	2	4	0	8
TOTAL	59	71	24	23	15	9	0	71
SAN FRANCISCO								
Probable		5	2	3	0	0	0	5
Possible		2	1	0	0	1	0	2
TOTAL	7	7	3	3	0	1	0	7

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
SAN JOAQUIN								
Definite		2	0	0	1	1	0	2
Probable		14	5	5	1	3	2	12
Possible		3	0	0	0	3	2	1
TOTAL	18	19	5	5	2	7	4	15
SAN LUIS OBISPO								
Definite		2	2	0	0	0	0	2
Probable		7	2	2	1	2	2	5
TOTAL	9	9	4	2	1	2	2	7
SAN MATEO								
Definite		1	1	0	0	0	0	1
Probable		2	1	1	0	0	0	2
Possible		1	0	1	0	0	0	1
TOTAL	4	4	2	2	0	0	0	4
SANTA BARBARA								
Definite		1	1	0	0	0	0	1
Probable		16	0	8	4	4	9	7
Possible		1	0	1	0	0	1	0
TOTAL	13	18	1	9	4	4	10	8
SANTA CLARA								
Definite		7	4	3	0	0	0	7
Probable		19	5	8	1	5	0	19
Possible		2	1	0	1	0	0	2
TOTAL	27	28	10	11	2	5	0	28
SANTA CRUZ								
Definite		2	2	0	0	0	0	2
Probable		7	3	3	1	0	0	6
TOTAL	9	9	5	3	1	0	0	8
SHASTA								
Probable		9	1	0	3	5	0	9
TOTAL	8	9	1	0	3	5	0	9

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
SOLANO								
Definite		1	1	0	0	0	0	1
Probable		3	2	0	0	1	0	3
Possible		1	0	1	0	0	1	0
TOTAL	5	5	3	1	0	1	1	4
SONOMA								
Definite		1	0	1	0	0	0	1
Probable		5	1	3	0	1	0	5
Possible		1	0	0	1	0	0	1
TOTAL	7	7	1	4	1	1	0	7
STANISLAUS								
Definite		4	2	2	0	0	0	4
Probable		11	4	6	0	1	4	7
TOTAL	13	15	6	8	0	1	4	11
SUTTER								
Probable		1	0	1	0	0	1	0
TOTAL	1	1	0	1	0	0	1	0
TEHAMA								
Probable		2	2	0	0	0	1	1
TOTAL	2	2	2	0	0	0	1	1
TRINITY								
Possible		1	0	0	0	1	0	1
TOTAL	1	1	0	0	0	1	0	1
TULARE								
Definite		8	5	2	0	1	3	5
Probable		37	9	24	2	2	21	15
Possible		3	0	1	1	1	1	2
TOTAL	35	48	14	27	3	4	25	22
VENTURA								
Definite		4	4	0	0	0	0	4
Probable		11	6	4	1	0	1	10
Possible		3	0	1	1	1	2	1
TOTAL	18	18	10	5	2	1	3	15

Relationship ²	TOTAL EPISODES ³	TOTAL CASES	Type of Exposure ⁴				Intended Use ⁵	
			Direct Contact	Off-Site	Residue	Other/Unknown	Agricultural	Non-Agricultural
YOLO								
Probable		12	0	7	4	1	0	12
TOTAL	4	12	0	7	4	1	0	12
YUBA								
Probable		2	0	0	1	1	1	1
TOTAL	2	2	0	0	1	1	1	1

1. Source: California Department of Pesticide Regulation, Pesticide Illness Surveillance Program. The term “potentially related to pesticide exposure” refers to all cases reported to the program, some of which were later determined to be unrelated to pesticide exposure.

2. Relationship: Degree of correlation between pesticide exposure and resulting symptomatology.

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. Episode: An incident in which a one or more people (*cases*) experience pesticide exposure from a particular source.

4. Type of Exposure: Characterization of how an individual came in contact with a pesticide.

Direct Contact: An appreciable amount of pesticide contacted the individual’s body surface. This includes: 1) sprays or squirts from application equipment; 2) leaks or spills whether or not related to the application; and 3) deliberate immersion (as when cleaning implements in a basin with antimicrobials). This excludes drift exposures.

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.

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.

Other/
Unknown: Any of the following: 1) ingestion; 2) multiple routes of exposure; 3) residue from a spill; 4) exposure to smoke or pyrolytic products from a fire where pesticides are burning; 5) route of exposure is not known.

5. Intended Use: Agricultural/Non-Agricultural - Indicates whether the pesticide(s) were intended to contribute to the production of agricultural commodities. Intended use is not inputted in cases classified as Unrelated, Insufficient, or Unavailable.

Agricultural: The pesticide(s) were intended to contribute to the production of agricultural commodities, including livestock. This includes: 1) agricultural research facilities, 2) handling of raw agricultural commodities in packing houses, 3) drift from agricultural applications into non-agricultural areas, and 4) transportation and storage of pesticides on farm lands. It excludes forestry operations, although they are classified as agricultural for regulatory purposes. It also excludes manufacture, transportation, and storage of pesticides prior to arrival at the site of agricultural production.

Non-Agricultural: The pesticide(s) were not intended to contribute to the production of agricultural commodities. This includes: 1) residential pesticide uses, 2) structural pest control, 3) rights-of-way, 4) parks, 5) landscaped urban areas, and 6) manufacture, transportation and storage of pesticides except on farm lands.

6. County: Individual counties in California where the incident occurred. If a county is not listed, there were no reported illnesses or associated episodes/cases for that county for the year.

Whom to Contact:

California Department of Pesticide Regulation
Worker Health and Safety Branch
Physical address: 1001 I St., Sacramento, CA 95814-2828
Mailing address: P.O. Box 4015, Sacramento, CA 95812-4015
Phone: (916) 445-4222; Fax: (916) 322-8577
www.cdpr.ca.gov

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.