

Table 18: The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones). Use includes primarily agricultural applications. The grand total for acres treated may be less than the sum of acres treated for all active ingredients because some products contain more than one active ingredient. Data are available at <ftp://transfer.cdpr.ca.gov/pub/outgoing/pur/data/>.

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
(3S, 6R)-3-METHYL-6-ISOPROPENYL-9-DECEN-1-YL ACETATE	0	3	0	0	7	0	24	0	10	8,683
(3S, 6S)-3-METHYL-6-ISOPROPENYL-9-DECEN-1-YL ACETATE	0	3	0	0	7	0	24	0	10	8,683
(E)-4-TRIDECEN-1-YL-ACETATE	7,672	3,942	3,905	0	0	0	1,074	0	0	0
(E)-5-DECEN-1-OL	0	0	0	0	53	83	20	166	354	264
(E)-5-DECENOL	262	118	249	166	502	837	639	348	352	832
(E)-5-DECENYL ACETATE	262	118	249	166	555	920	659	514	705	1,095
(E,E)-9, 11-TETRADECADIEN-1-YL ACETATE	956	3	474	759	608	985	466	645	349	351
(E,Z)-7,9-DODECADIEN-1-YL ACETATE	0	0	5,168	18,104	22,856	2,479	1,623	0	0	0
(S)-KINOPRENE	575	510	490	346	506	675	750	990	691	678
(S)-VERBENONE	0	0	0	0	100	0	0	<1	<1	2
(Z)-11-HEXADECEN-1-YL ACETATE	0	1,622	0	49	0	0	0	0	26	2,994
(Z)-11-HEXADECENAL	0	0	0	0	0	0	0	74	145	2,951
(Z)-4-TRIDECEN-1-YL-ACETATE	7,672	3,942	3,905	0	0	0	1,074	0	0	0
(Z)-9-DODECENYL ACETATE	1,304	123	74	1,814	392	555	1,966	950	0	0
(Z,E)-7,11-HEXADECADIEN-1-YL ACETATE	1	93	1	0	0	0	0	0	0	0
(Z,Z)-7,11-HEXADECADIENAL	109	0	763	11,336	17,283	20,591	38,681	61,037	66,068	67,233
(Z,Z)-7,11-HEXADECADIEN-1-YL ACETATE	0	93	1	0	0	0	0	0	0	0
1,4-DIMETHYLNAPHTHALENE	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,7-DIOXASPIRO-(5,5)-UNDECANE	<1	6	<1	<1	30	43	25	32	0	0
1-METHYLCYCLOPROPENE	13	61	3	1	17	21	14	10	6	13
1-NAPHTHALENEACETAMIDE	870	607	408	315	393	343	394	257	338	318
1-OCTEN-3-OL	0	0	0	0	0	0	<1	<1	0	0
2,4-DECADIENOIC ACID, ETHYL ESTER, (2E,4Z)-	0	0	0	0	0	0	179	3,246	1,308	1,014
2-METHYL-1-BUTANOL	0	0	0	0	0	<1	<1	<1	<1	<1
3,13 OCTADECADIEN-1-YL ACETATE	85	0	50	131	0	<1	0	10	25	0
3,7-DIMETHYL-6-OCTEN-1-OL	67	349	1,531	788	2,220	3,939	3,545	3,111	4,331	5,936
ACETIC ACID	2	226	110	162	3,165	3,114	10,301	15,775	10,437	18,729
AGROBACTERIUM RADIOBACTER	217	215	362	324	852	622	664	806	613	99

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AGROBACTERIUM RADIOBACTER, STRAIN KI026	1,935	5,086	81	19	4,947	9,016	754	745	<1	0
ALLYL ISOTHIOCYANATE	0	0	0	0	<1	0	0	0	<1	0
ALMOND, BITTER	87	471	74	412	271	88	68	73	0	4
AMINO ETHOXY VINYL GLYCINE HYDROCHLORIDE	10,253	5,611	10,179	11,108	14,991	16,371	17,666	20,248	14,254	13,005
AMMONIUM BICARBONATE	<1	6	<1	<1	30	43	25	32	0	0
AMMONIUM NITRATE	643,869	679,675	726,836	815,423	866,950	1,085,578	953,176	988,166	882,542	826,319
AMMONIUM NONANOATE	0	0	0	0	0	239	284	452	443	168
AMPELOMYCES QUISQUALIS	0	22	2	0	0	0	0	0	0	0
ASPERGILLUS FLAVUS STRAIN AF36	0	0	0	260	48,833	89,337	147,011	159,586	183,128	188,090
AUREOBASIDIUM PULLULANS STRAIN DSM 14940	0	0	0	0	0	254	2,823	1,569	5,376	8,673
AUREOBASIDIUM PULLULANS STRAIN DSM 14941	0	0	0	0	0	254	2,823	1,569	5,376	8,673
AZADIRACHTIN	86,813	82,652	71,628	69,862	98,176	113,976	159,397	193,929	174,958	175,108
BACILLUS AMYLOLIQUEFACIENS STRAIN D747	0	0	0	0	2,337	29,684	41,678	38,545	57,375	90,584
BACILLUS AMYLOLIQUEFACIENS STRAIN MBI 600	0	0	0	0	2	<1	0	0	165	1,607
BACILLUS FIRMUS (STRAIN I-1582)	0	0	0	0	0	0	12	45	41	43
BACILLUS MYCOIDES ISOLATE J	0	0	0	0	0	0	0	0	0	11,591
BACILLUS POPILLIAE	0	0	0	0	0	<1	<1	<1	<1	0
BACILLUS PUMILUS, STRAIN QST 2808	91,795	75,509	72,582	84,154	76,067	68,102	83,406	89,435	83,158	95,230
BACILLUS SPHAERICUS 2362, SEROTYPE H5A5B, STRAIN ABTS 1743	<1	<1	9	<1	231	38	110	118	233	542
FERMENTATION SOLIDS, SPORES AND INSECTICIDAL TOXINS										
BACILLUS SUBTILIS GB03	5	2	<1	6	<1	20	302	467	609	2,293
BACILLUS SUBTILIS VAR. AMYLOLIQUEFACIENS STRAIN FZB24	0	0	0	0	406	1,702	3,516	4,328	152	<1
BACILLUS THURINGIENSIS (BERLINER)	41	82	127	877	292	248	91	249	247	573
BACILLUS THURINGIENSIS (BERLINER), SUBSP. AIZAWAI, GC-91	40,440	48,842	40,395	18,657	25,262	22,511	28,611	26,155	25,221	48,924
PROTEIN										
BACILLUS THURINGIENSIS (BERLINER), SUBSP. AIZAWAI, SEROTYPE H-7	20,510	7,888	6,847	7,766	5,897	3,296	2,941	1,360	421	802

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
BACILLUS THURINGIENSIS (BERLINER), SUBSP. ISRAELENSENSIS, SEROTYPE H-14	4,719	501	1,873	337	773	1,110	1,254	1,713	334	836
BACILLUS THURINGIENSIS (BERLINER), SUBSP. KURSTAKI STRAIN SA-12	21,008	19,700	10,721	8,197	15,379	9,855	10,751	10,850	13,664	3,214
BACILLUS THURINGIENSIS (BERLINER), SUBSP. KURSTAKI, SEROTYPE 3A,3B	8,671	7,807	2,269	3,063	1,972	818	453	145	274	776
BACILLUS THURINGIENSIS (BERLINER), SUBSP. KURSTAKI, STRAIN EG 2348	2,147	1,302	688	3,428	644	3,580	4,038	2,502	4,480	4,004
BACILLUS THURINGIENSIS (BERLINER), SUBSP. KURSTAKI, STRAIN EG2371	0	0	<1	<1	0	0	0	0	0	0
BACILLUS THURINGIENSIS (BERLINER), SUBSP. KURSTAKI, STRAIN SA-11	100,581	101,522	111,686	84,003	81,518	95,890	111,644	108,411	95,637	120,911
BACILLUS THURINGIENSIS (BERLINER), SUBSP. SAN DIEGO	0	<1	<1	0	0	0	0	0	0	0
BACILLUS THURINGIENSIS SUBSPECIES KURSTAKI STRAIN BMP 123	1,898	310	73	0	0	0	0	0	0	0
BACILLUS THURINGIENSIS SUBSPECIES KURSTAKI, GENETICALLY ENGINEERED STRAIN EG7841 LEPIDOPTERAN ACTIVE TOXIN	451	62	3	200	373	5	99	116	473	8
BACILLUS THURINGIENSIS VAR. KURSTAKI STRAIN M-200	0	<1	0	0	0	0	0	<1	0	1
BACILLUS THURINGIENSIS VAR. KURSTAKI, GENETICALLY ENGINEERED STRAIN EG7826	1,298	250	0	0	1,320	0	0	0	9	0
BACILLUS THURINGIENSIS, SUBSP. AIZAWAI, STRAIN ABTS-1857	49,890	41,724	37,209	35,288	41,718	36,837	68,895	70,570	86,966	111,131
BACILLUS THURINGIENSIS, SUBSP. AIZAWAI, STRAIN SD-1372, LEPIDOPTERAN ACTIVE TOXIN(S)	2,343	2,136	1,057	640	4	112	47	306	120	77
BACILLUS THURINGIENSIS, SUBSP. ISRAELENSENSIS, STRAIN AM 65-52	2,497	270	758	1,052	1,305	793	2,544	2,009	1,419	1,088

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
BACILLUS THURINGIENSIS, SUBSP. KURSTAKI, STRAIN ABTS-351, FERMENTATION SOLIDS AND SOLUBLES	134,290	120,661	162,444	152,239	164,082	147,814	192,454	152,721	192,923	229,834
BACILLUS THURINGIENSIS, SUBSP. KURSTAKI, STRAIN HD-1	15,173	20,295	18,369	15,662	15,228	10,138	7,887	11,007	2,241	2,696
BACILLUS THURINGIENSIS, VAR. KURSTAKI DELTA ENDOTOXINS CRY IA(C) AND CRY 1C (GENETICALLY ENGINEERED) ENCAPSULATED IN PSEUDOMONAS FLUORESCENS (KILLED)	25	52	2	<1	10	0	<1	0	<1	0
BACTERIOPHAGE ACTIVE AGAINST XANTHOMONAS CAMPESTRIS PV. VESICATORIA AND PSEUDOMONAS SYRINGAE PV. TOMATO	0	0	0	11	25	21	12	0	0	0
BALSAM FIR OIL	0	0	<1	0	<1	<1	<1	<1	<1	0
BEAUVERIA BASSIANA HF 23	0	0	0	0	0	0	0	0	32	69
BEAUVERIA BASSIANA STRAIN GHA	2,091	2,188	1,686	2,706	4,010	6,857	10,900	14,356	11,144	16,933
BETA-CONGLUTIN	0	0	0	0	0	0	0	9,032	12,422	15,510
BUFFALO GOURD ROOT POWDER	3,227	8	138	0	25	161	200	224	114	154
BURKHOLDERIA SP STRAIN A396 CELLS AND FERMENTATION MEDIA	0	0	0	0	0	0	196	5,531	6,816	17,299
BUTYL MERCAPTAN	0	0	0	0	<1	0	0	0	0	0
CANOLA OIL	1,388	1,541	4,786	3,872	2,329	5,788	4,272	7,455	20,332	47,851
CAPSICUM OLEORESIN	528	325	388	238	576	546	1,541	1,997	2,084	3,774
CARBON DIOXIDE	<1	<1	<1	26	38	5	20	19	2	<1
CASTOR OIL	4	12	<1	<1	<1	<1	<1	<1	<1	0
CHENOPODIUM AMBROSIOIDES NEAR AMBROSIOIDES	0	6,355	9,265	6,868	13,400	22,552	25,820	19,072	15,804	15,002
CHROMOBACTERIUM SUBTSUGAE STRAIN PRAA4-1	0	0	0	0	1,424	38,138	61,191	62,467	43,369	48,820
CINNAMALDEHYDE	556	0	0	<1	0	0	0	0	0	110
CITRIC ACID	919,736	903,198	1,203,850	1,320,272	1,389,231	1,542,590	1,686,325	1,923,049	2,201,886	2,149,026
CLARIFIED HYDROPHOBIC EXTRACT OF NEMO OIL	64,156	47,422	42,281	40,421	41,973	60,212	85,369	87,905	65,673	59,508
CODLING MOTH GRANULOSIS VIRUS	1,487	1,139	984	3,450	3,417	4,339	4,530	3,683	2,938	4,426
CONIOTHYRIUM MINITANS STRAIN CON/M/91-08	0	1,204	395	1,107	1,697	4,286	4,886	6,194	4,104	5,134
CORN GLUTEN MEAL	3	0	0	0	0	0	0	0	0	0

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CORN SYRUP	7,991	14,316	12,877	27,721	27,760	15,992	14,206	18,817	18,940	48,495
COTTONSEED OIL	157,432	74,386	127,730	177,622	95,344	98,797	78,736	67,349	41,034	36,733
COYOTE URINE	0	0	<1	12	<1	<1	<1	<1	<1	<1
CYTOKININ	0	0	0	199	2,409	352	3,290	1,966	1,910	3,506
DIALLYL DISULFIDE	0	0	0	0	0	0	0	0	225	222
DIHYDRO-5-HEPTYL-2(3H)-FURANONE	<1	<1	<1	0	0	0	0	0	0	0
DIHYDRO-5-PENTYL-2(3H)-FURANONE	<1	<1	<1	0	0	0	0	0	0	0
E,E-8,10-DODECADIEN-1-OL	21,585	15,300	15,283	17,872	15,850	18,241	16,548	10,772	12,889	17,096
E-11-TETRADECEN-1-YL ACETATE	5,996	5,592	5,405	1,701	4,485	4,396	489	696	369	990
E-8-DODECENYL ACETATE	54,242	46,757	49,591	45,656	49,300	47,640	41,405	42,615	39,608	37,898
ENCAPSULATED DELTA ENDOTOXIN OF BACILLUS THURINGIENSIS VAR. KURSTAKI IN KILLED PSEUDOMONAS FLUORESCENS	91	37	0	<1	<1	0	0	0	0	0
ESSENTIAL OILS	0	<1	4	<1	<1	<1	<1	<1	181	70
ETHYLENE	0	0	4	70	49	36	21	28	77	26
EUCALYPTUS OIL	0	0	2	<1	0	0	0	0	0	0
EUGENOL	0	0	0	0	<1	<1	<1	<1	<1	<1
FARNESOL	422	503	1,597	826	2,227	3,940	3,547	3,121	4,331	5,936
FENUGREEK	87	471	74	412	271	88	68	73	0	4
FERRIC SODIUM EDTA	0	0	0	3,049	8,428	8,038	10,540	12,522	13,115	13,697
FISH OIL	0	0	0	<1	382	252	0	0	66	0
FORMIC ACID	51	10	60	1	368	5	178	1,203	60	1
FOX URINE	0	0	<1	12	<1	<1	<1	<1	<1	<1
GAMMA AMINOBUTYRIC ACID	12,905	1,786	835	542	1,811	384	314	287	0	0
GARLIC	288	374	1,123	1,369	12,410	14,485	8,509	4,767	7,185	3,815
GERANIOL	67	349	1,531	788	2,220	3,939	3,545	3,111	4,331	5,936
GERMAN COCKROACH PHEROMONE	<1	<1	<1	<1	<1	<1	<1	0	<1	<1
GIBBERELLINS	490,530	513,398	491,246	505,204	528,680	548,185	530,086	522,989	544,434	501,455
GIBBERELLINS, POTASSIUM SALT	8	0	34	150	795	0	0	0	0	58
GLIOCLADIUM VIRENS GL-21 (SPORES)	1,090	716	1,401	1,076	3,172	5,444	5,187	7,439	7,140	4,914
GLUTAMIC ACID	12,905	1,786	835	542	1,811	384	314	287	0	0
GS-OMEGA/KAPPA-HXTX-HV1A (VERSITUDE PEPTIDE)	0	0	0	0	0	0	0	0	1	0
HARPIN PROTEIN	1,998	1,562	1,631	1,582	115	95	0	0	112	<1
HEPTYL BUTYRATE	0	0	<1	<1	<1	<1	<1	<1	<1	<1
HYDROGEN PEROXIDE	9,361	14,521	23,208	38,233	21,790	22,955	28,040	32,676	68,991	65,527
HYDROPRENE	200	82	<1	<1	2	4	<1	<1	7	28
IBA	3,862	150	227	1,156	1,283	962	940	489	808	1,437

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
INDOLE	0	0	0	0	0	<1	0	<1	<1	<1
IRON HEDTA	0	0	0	0	<1	2	<1	<1	<1	2
IRON PHOSPHATE	6,569	4,561	6,345	5,477	6,519	6,286	8,109	8,618	13,322	11,961
KAOLIN	47,438	66,781	82,636	51,099	57,630	80,075	88,044	101,628	115,418	103,011
KINOPRENE	20	3	4	9	3	6	25	7	3	<1
LACTIC ACID	0	0	0	0	0	0	0	38	59	219
LACTOSE	99,526	77,363	80,273	91,525	68,442	80,242	61,764	81,390	77,746	74,024
LAGENIDIUM GIGANTEUM (CALIFORNIA STRAIN)	<1	0	0	0	0	0	0	0	0	0
LAURYL ALCOHOL	7,782	4,705	5,495	6,443	6,623	7,807	5,681	5,725	4,689	4,327
LAVANDULYL SENECHIOATE	4,316	2,375	7,025	11,754	6,666	5,869	6,294	8,424	18,076	74,825
LIMONENE	64,151	55,465	29,621	15,514	73,605	29,552	32,924	45,208	40,224	68,051
LINALOOL	7	1	<1	<1	<1	<1	2	<1	<1	<1
MARGOSA OIL	0	0	40	4,260	7,977	9,546	19,013	19,917	25,809	32,236
MENTHOL	0	0	2	<1	0	20	0	0	0	0
METARHIZIUM ANISOPLIAE STRAIN F52	0	0	0	0	202	133	634	122	55	2
METARHIZIUM ANISOPLIAE, VAR. ANISOPLIAE, STRAIN ESF1	<1	0	<1	<1	0	0	0	0	0	0
METHOPRENE	42	211	4	896	<1	<1	<1	<1	42	106
METHYL ANTHRANILATE	219	550	380	2,043	215	1,092	808	895	1,463	2,490
METHYL EUGENOL	0	0	0	<1	0	<1	0	0	<1	<1
METHYL NONYL KETONE	<1	1	<1	0	0	<1	<1	<1	<1	<1
METHYL SALICYLATE	0	<1	0	0	0	0	0	0	0	10
MUSCALURE	<1	739	300	68	40	50	139	41	19	178
MYRISTYL ALCOHOL	7,782	4,705	5,495	6,443	6,623	7,807	5,681	5,725	4,689	4,327
MYROTHECIUM VERRUCARIA, DRIED FERMENTATION SOLIDS & SOLUBLES, STRAIN AAC-0255	5,257	5,331	4,840	5,136	4,274	4,456	3,637	8,775	6,473	4,075
N6-BENZYL ADENINE	1,775	2,072	3,352	1,691	1,666	2,954	2,630	2,595	2,999	2,321
NAA	3,331	47	38	219	655	293	109	210	84	84
NAA, AMMONIUM SALT	10,445	9,024	9,140	9,075	11,922	10,611	9,703	9,966	778	671
NAA, ETHYL ESTER	73	1	23	396	384	112	189	37	44	7,899
NAA, POTASSIUM SALT	0	0	0	0	0	6	110	35	8,819	8,650
NAA, SODIUM SALT	37	257	0	0	0	153	85	55	11	0
NATAMYCIN	0	0	0	0	0	7	32	35	27	5
NEROLIDOL	422	503	1,597	826	2,227	3,940	3,547	3,121	4,331	5,936
NITROGEN, LIQUEFIED	<1	<1	<1	<1	<1	<1	5	0	0	0
NONANOIC ACID	498	703	412	828	479	2,166	2,074	1,040	653	1,884
NONANOIC ACID, OTHER RELATED	498	701	412	828	459	2,166	2,074	1,040	653	1,214

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
NOSEMA LOCUSTAE SPORES	30	132	12	12	1,612	1,206	910	750	50	<1
OIL OF ANISE	<1	0	0	<1	<1	<1	<1	<1	<1	<1
OIL OF BLACK PEPPER	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
OIL OF CEDARWOOD	0	0	15	0	0	0	0	<1	<1	0
OIL OF CITRONELLA	2	0	34	<1	0	0	<1	<1	<1	<1
OIL OF GERANIUM	0	0	15	0	0	0	0	0	0	0
OIL OF JOJOBA	11,566	7,203	8,255	1,762	1,075	316	323	83	16	5
OIL OF LEMON EUCALYPTUS	0	0	0	<1	<1	0	0	0	0	0
OIL OF LEMONGRASS	0	0	15	0	0	0	0	0	0	0
OIL OF ORANGE	0	0	0	0	0	0	0	21,472	37,651	66,182
OIL OF PEPPERMINT	<1	0	15	0	0	0	0	0	0	0
OXYPURINOL	0	0	0	0	0	0	6	0	0	0
PAECILOMYCES FUMOSORSEUS	0	0	0	0	2,105	12,822	18,487	19,076	31,000	26,576
APOKA STRAIN 97										
PANTOEA AGGLOMERANS STRAIN E325, NRRL B-21856	0	698	55	25	50	50	0	0	0	0
PHENYLETHYL PROPIONATE	<1	94	<1	<1	<1	<1	<1	<1	<1	<1
PHOSPHORIC ACID, MONOPOTASSIUM SALT	0	<1	1,021	1,275	561	219	<1	1,837	3,142	2,284
PIPERINE	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
POLYHEDRAL OCCLUSION BODIES (OB'S) OF THE NUCLEAR POLYHEDROSIS VIRUS OF HELICOVERPA ZEA (CORN EARWORM)	98	254	302	14,752	1,297	337	518	1,011	4,902	8,857
POLYOXIN D, ZINC SALT	1,067	1,299	19,082	69,306	95,645	143,483	165,601	191,654	231,730	242,341
POTASSIUM BICARBONATE	41,899	69,155	101,283	118,378	75,183	85,879	85,701	112,047	156,418	161,835
POTASSIUM PHOSPHITE	49,951	36,665	92,671	82,243	115,570	131,552	214,918	199,571	299,200	386,639
POTASSIUM SILICATE	68	274	48	808	537	3,524	12,973	13,499	12,133	14,928
POTASSIUM SORBATE	0	2	105	0	0	0	0	0	0	0
PROPYLENE GLYCOL	420,161	381,957	591,117	659,648	676,156	974,892	1,069,976	1,107,603	1,122,432	1,206,077
PROPYLENEGLYCOL MONOLAURATE	0	3	12	0	0	159	76	0	0	0
PSEUDOMONAS FLUORESCENS, STRAIN A506	1,943	2,463	1,472	1,281	372	431	1,178	376	601	524
PSEUDOMONAS SYRINGAE, STRAIN ESC-10	0	0	3	0	0	<1	0	0	0	0
PURPUREOCILLIUM LILACIUNUM STRAIN 251	0	0	1,115	2,330	3,531	20,039	25,826	32,089	26,924	22,463
PUTRESCENT WHOLE EGG SOLIDS	<1	33	2	<1	<1	<1	<1	<1	<1	<1
PYTHIUM OLIGANDRUM DV74	0	0	0	2	2	63	0	0	0	0

Table 18: (continued) The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
QST 713 STRAIN OF DRIED BACILLUS SUBTILIS	75,619	81,252	99,317	117,901	124,598	141,250	138,006	140,735	130,054	128,026
QUILLAJA	27,814	22,595	22,949	30,225	22,907	28,538	30,232	31,107	53,339	53,857
REYNOUTRIA SACHALINENSIS	0	1,297	70,363	90,533	94,088	96,188	95,988	105,535	127,941	124,699
S-ABSCISIC ACID	34	502	5,195	9,498	14,974	11,645	12,761	11,202	11,471	12,079
S-METHOPRENE	47,284	47,190	65,114	61,532	87,637	49,491	53,371	102,129	76,961	53,800
SAWDUST	19	<1	<1	0	74	108	0	0	160	0
SESAME OIL	846	1,448	1,912	1,938	39	1	0	0	0	0
SILVER NITRATE	0	0	<1	<1	5	0	0	0	<1	1
SODIUM BICARBONATE	17	57	1	967	1,026	291	544	706	796	162
SODIUM CARBONATE PEROXYHYDRATE	219	1,453	3,666	6,554	13,797	11,764	17,035	8,051	10,137	7,129
SODIUM CHLORIDE	<1	<1	<1	2	73	207	135	66	134	144
SODIUM LAURYL SULFATE	14	<1	<1	<1	<1	<1	<1	<1	<1	<1
SORBITOL OCTANOATE	0	268	0	42	0	0	0	0	0	<1
SOYBEAN OIL	2,460	3,792	6,160	3,636	3,300	4,524	6,275	5,476	7,018	7,906
STREPTOMYCES GRISEOVIRIDIS STRAIN K61	<1	<1	<1	1	<1	5	10	18	5	4
STREPTOMYCES LYDICUS WYEC 108	1,910	4,009	6,998	6,404	10,367	16,071	14,050	16,546	20,474	15,959
SUCROSE OCTANOATE	448	930	1,172	148	1	5	10	2	12	<1
SUGAR	4,717	4,507	1,526	5,807	4,843	1,062	1,427	452	504	86
THYME	<1	68	<1	<1	<1	<1	<1	<1	<1	<1
THYME OIL	0	0	0	0	0	0	0	<1	<1	<1
THYMOL	60	50	422	10	18	1	1	1,267	490	41
TRICHODERMA HARZIANUM RIFAI STRAIN KRL-AG2	201	320	7,253	871	1,087	994	2,517	2,346	2,200	2,243
TRICHODERMA ICC 012 ASPERELLUM	0	0	0	86	704	604	35	251	159	92
TRICHODERMA ICC 080 GAMSII	0	0	0	86	704	604	35	251	159	92
TRIMETHYLAMINE	0	0	0	0	0	<1	0	<1	<1	<1
ULOCLADIUM OUDEMANSII (U3 STRAIN)	0	0	0	0	0	19	707	406	150	28
VANILLIN	87	471	74	412	271	88	68	73	0	4
VEGETABLE OIL	231,954	211,586	292,218	457,698	266,226	350,771	243,680	311,693	405,341	603,533
XANTHINE	0	0	0	0	0	0	6	0	0	0
YEAST	4,560	3,957	1,306	5,261	3,729	325	142	220	25	6
YUCCA SCHIDIGERA	18	598	2,316	4,907	16,093	19,524	11,285	7,347	9,376	6,287
Z,E-9,12-TETRADECADIEN-1-YL ACETATE	0	1,622	<1	49	<1	<1	<1	<1	<1	43
Z-11-TETRADECEN-1-YL ACETATE	5,040	5,589	4,931	942	3,877	3,411	23	51	20	639
Z-8-DODECENOL	54,242	46,757	49,591	45,656	49,300	47,640	41,405	42,615	39,608	37,898

Table 18: (continued) *The reported cumulative acres treated with pesticides that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones).*

AI	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Z-8-DODECENYL ACETATE	54,242	46,757	49,591	45,656	49,300	47,640	41,405	42,615	39,608	37,898
TOTAL	4,166,774	3,980,553	4,901,362	5,475,269	5,578,994	6,548,468	6,925,394	7,487,450	8,015,293	8,536,811