Stanislaus County Agricultural Report 2018

The Importance of Bees

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STANISLAUS COUNTY AGRICULTURAL COMMISSIONER

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California Department of Food and Agriculture
and
The Honorable Board of Supervisors of Stanislaus County

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In accordance with Sections 2279 of the California Food and Agricultural Code, we are pleased to submit Stanislaus County's Agricultural Report for 2018. This report provides a statistical description of Stanislaus County's agricultural production. We must emphasize that this report represents gross values of agricultural commodities and does not reflect production costs or profits.

The value of agricultural commodities produced last year in Stanislaus County decreased 2% to $3,569,999,000. This represents a small decrease of $78 million from the 2017 value of $3,648,192,000.

This report illustrates trends and challenges seen by the county's growers. Poultry remained a strong industry in Stanislaus County, with chicken values increasing $22 million. Largely due to an additional 8,496 harvested acres, almond values increased $51 million-exemplifying trends toward the more permanent, high value crop across the region.

These increases were more than offset by decreases in walnut values due to global competition; fewer nursery fruit, nut trees and vines sold; persistent depressed milk prices nationally; and the fluctuation of turkey production within the county. Overall harvested acres decreased by 28,623 acres as a result of significant reductions in silage acres harvested. As dairies close, many silage acres are being transitioned to young, non-bearing almond orchards.

Highlighted in this report is an excerpt from the Stanislaus County Crop Report Plus, a study on agriculture's economic impact (based on 2017 data). It underscores agriculture's tremendous impact on the local economy, supporting over 34,000 jobs with an economic ripple effect exceeding $7 billion.

We wish to express our appreciation to the agricultural producers, industry representatives and public agencies that provide data for this report. We would also like to express our thanks to the UC Cooperative Extension, and the Agricultural Commissioner's crop report team that compiled, designed and edited this report.

Respectfully submitted,

Milton O'Haire
Agricultural Commissioner/
Sealer of Weights & Measures
Stanislaus County

Roger Duncan
County Director, UC Cooperative Extension
Stanislaus County

THE IMPORTANCE OF BEES

Since 2013, Stanislaus County's number one commodity by value is almonds. At $1,107,328,000, almonds are a driving force in the county economy. We owe much of this prosperity to a modest but industrious insect, the honeybee.

Almonds' early bloom time is the farewell to winter for honeybees; and a boon for beekeepers. Pollination contract prices for hives are dramatically higher compared to other crops, sometimes exceeding $200 per hive, due to the high demand and relative scarcity of hives available. There are over one million bearing acres of almonds in California, nearly 15% (196,496 acres) within Stanislaus County, requiring approximately two hives per acre for pollination. Honeybees brought to California for almond pollination constitute the largest annual artificial insect migration. This seasonal spectacle is evident in January and February as nearly half of the nation's bees make their way to the California Central Valley for almond pollination before being moved to other crops such as blueberries, cherries, melons and squash later in the season.

California produces two-thirds of US fruits and nuts, and a third of the country's vegetables. While not all these commodities rely exclusively upon bees for pollination, a significant proportion experience essential increases in production with the presence of bees. We would be remiss to deny their vital role in bringing food to our tables.

Over the last 20 years, bee deaths have dramatically increased. An annual nationwide survey by the University of Maryland (representing 12% of the nation's managed colonies) shows beekeepers are still reporting astounding losses year to year. International concern for bee mortality rates has compelled numerous agencies to study speculative causes and catalysts including genetics, viruses, parasites, pesticide exposure, and nutrition among others.

In reaction to surveys like the one above, the Almond Alliance of California and the California State Beekeepers Association have partnered with the California Department of Food and Agriculture and the California Agricultural Commissioners to create two new programs to assist beekeepers and growers throughout the state. First, the BeeSafe program provides guidance in proper identification of hives to help prevent apiary theft, inspections for colony health and pest pressure, and identifying and increasing good foraging areas within the county. Working in conjunction with BeeSafe, BeeWhere assists with registering apiary locations and making it easier for beekeepers and pesticide applicators to communicate about planned pesticide applications that may be harmful to bees. This allows both parties to take the necessary precautionary steps to prevent bee mortality due to pesticide exposure.

We know that apiary health and wellness is directly tied to the prosperity of Stanislaus County and California agriculture. It is imperative that we be proactive in protecting and preserving all foraging bees in our county.

TOP 10 COMMODITIES

	CATEGORY	% OF ALL COMMODITIES	2018 VALUE	2017 VALUE
1	Almonds, All	30%	$1,107,328,000	$1,056,184,000
2	Milk, All	17%	$636,499,000	$663,650,000
3	Chickens, All	8%	$276,879,000	$254,695,000
4	Cattle & Calves, All	7%	$236,822,000	$232,962,000
5	Nursery, Fruit & Nut Trees & Vines	5%	$170,164,000	$226,748,000
6	Silage, All	4%	$135,901,000	$134,103,000
7	Walnuts	3%	$102,661,000	$163,644,000
8	Pollination, Almond	2%	$75,847,000	$67,683,000
9	Turkeys, All	2%	$64,342,000	$84,096,000
10	Peaches, All	2%	$56,601,000	$52,198,000
	TOTAL TOP 10	**80%**	**$2,863,044,000**	**$2,935,963,000**
	All Other Commodities	20%	$706,946,000	$712,229,000
	TOTAL ALL COMMODITIES	**100%**	**$3,569,990,000**	**$3,648,192,000**

"A work of arte; and yet no arte of man,
can worke, this worke, these little creatures can"

– Geffrey Whitney, 1586

SUMMARY

CATEGORY	YEAR	HARVESTED ACRES	TOTAL VALUE
Apiary Products	2018		$89,041,000
	2017		$80,706,000
Field Crops	2018	645,879	$212,742,000
	2017	681,366	$207,574,000
Fruit & Nut Crops	2018	259,901	$1,390,010,000
	2017	250,757	$1,392,747,000
Livestock & Poultry	2018		$588,352,000
	2017		$582,477,000
Livestock & Poultry Products	2018		$680,197,000
	2017		$715,117,000
Nursery Products	2018	2,777	$220,953,000
	2017	2,884	$271,049,000
Organic Products	2018	7,038	$193,609,000
	2017	8,577	$199,409,000
Other Agriculture	2018	678	$23,540,000
	2017	779	$19,793,000
Vegetable Crops	2018	28,097	$171,546,000
	2017	28,630	$179,320,000
Total	**2018**	**944,370**	**$3,569,990,000**
	2017	**972,993**	**$3,648,192,000**

APIARY PRODUCTS

CATEGORY	YEAR	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Beeswax [1]	2018	605,208	Lb	$3.61	$2,185,000
	2017	577,896	Lb	$3.50	$2,023,000
Honey [1]	2018	5,191,424	Lb	$2.00	$10,383,000
	2017	4,956,973	Lb	$2.08	$10,311,000
Pollination, Almond	2018	392,992	Colony	$193.00	$75,847,000
	2017	375,244	Colony	$180.37	$67,683,000
Pollination, Other [2]	2018				$626,000
	2017				$689,000
Total	**2018**				**$89,041,000**
	2017				**$80,706,000**

1 Honey and Beeswax are based on resident colonies plus the value of the colonies during almond pollination season
2 Pollination, Other includes: Apple, Blueberry, Cherry, Cucumber, Melon, Pumpkin, Queen & Bulk Bees, Squash

FIELD CROPS

CATEGORY	YEAR	HARVESTED ACRES	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Beans, Dried All	2018	8,599					$13,711,000
	2017	9,664					$13,011,000
Blackeyed	2018	836	0.85	711	Ton	$1,010	$718,000
	2017	1,007	1.19	1,200	Ton	$925	$1,110,000
Baby Limas	2018	1,720	1.52	2,610	Ton	$913	$2,383,000
	2017	625	1.05	656	Ton	$810	$531,000
Large Limas	2018	5,197	1.35	7,020	Ton	$1,370	$9,617,000
	2017	7,841	1.07	8,400	Ton	$1,295	$10,878,000
Beans, Dried [1] Other	2018	846	0.97	821	Ton	$910	$747,000
	2017	191	1.30	248	Ton	$800	$198,000
Bean Straw	2018			7,020	Ton	$35	$246,000
	2017			8,400	Ton	$35	$294,000
Hay, Alfalfa	2018	18,639	6.72	125,000	Ton	$212	$26,500,000
	2017	21,351	6.44	138,000	Ton	$186	$25,668,000
Hay, Oat	2018	8,945	4.14	37,000	Ton	$143	$5,291,000
	2017	10,313	3.16	32,600	Ton	$111	$3,619,000
Hay, Other [2]	2018	8,287					$4,921,000
	2017	10,974					$5,310,000

FIELD CROPS continued

CATEGORY	YEAR	HARVESTED ACRES	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Pasture, Irrigated	2018	32,000			Acre	$265	$8,480,000
	2017	32,500			Acre	$305	$9,913,000
Rangeland	2018	421,449			Acre	$35	$14,751,000
	2017	421,949			Acre	$29	$12,237,000
Silage, All	2018	146,755					$135,901,000
	2017	171,512					$134,103,000
Corn	2018	81,890	27.08	2,218,000	Ton	$44	$97,592,000
	2017	92,472	25.82	2,388,000	Ton	$41	$97,908,000
Other [3]	2018	55,698					$34,434,000
	2017	70,940					$32,865,000
Sudan	2018	9,167	16.95	155,000	Ton	$25	$3,875,000
	2017	8,100	13.65	111,000	Ton	$30	$3,330,000
Miscellaneous [4]	2018	1,205					$3,187,000
	2017	3,103					$3,713,000
Total	**2018**	**645,879**					**$212,742,000**
	2017	**681,366**					**$207,574,000**

1 Beans, Dried Other includes: Jackson Wonder, Red Lima, Garbanzos
2 Hay, Other includes: Clover, Grass, Sudan, Wheat, Winter Forage
3 Silage, Other includes: Alfalfa, Broccoli Stalks, Grass, Oat, Ryegrass, Sorghum, Triticale, Vetch, Wheat, Winter Forage
4 Miscellaneous includes: Barley, Corn Earlage, Corn Grain, Corn Human Consumption, Corn-Sweet, Rice, Safflower, Wheat Grain, Wheat Straw

FRUIT & NUT CROPS

CATEGORY	YEAR	HARVESTED ACRES	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Almonds, All	2018	196,496					$1,107,328,000
	2017	188,000					$1,056,184,000
Almond Meats	2018	196,496	1.15	226,000	Ton	$4,700	$1,062,200,000
	2017	188,000	1.13	212,000	Ton	$4,848	$1,027,776,000
Almond Hulls	2018			452,000	Ton	$96.50	$43,618,000
	2017			424,000	Ton	$65	$27,560,000
Almond Shells	2018			226,000	Ton	$6.68	$1,510,000
	2017			212,000	Ton	$4	$848,000
Apricots	2018	3,678	5.77	21,200	Ton	$824	$17,469,000
	2017	3,853	8.20	31,600	Ton	$649	$20,508,000
Cherries	2018	3,411	1.82	6,210	Ton	$5,470	$33,969,000
	2017	3,067	2.52	7,700	Ton	$3,493	$26,896,000
Citrus [1]	2018	501					$4,871,000
	2017	514					$5,344,000
Grapes, All	2018	9,655					$46,709,000
	2017	9,811					$42,722,000
Red	2018	5,890	10.23	60,300	Ton	$495	$29,849,000
	2017	5,995	10.57	63,000	Ton	$477	$30,051,000
White	2018	3,765	9.92	37,300	Ton	$452	$16,860,000
	2017	3,816	7.71	29,400	Ton	$431	$12,671,000

FRUIT & NUT CROPS continued

CATEGORY	YEAR	HARVESTED ACRES	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Peaches, All	2018	5,460					$56,601,000
	2017	5,629					$52,198,000
Cling	2018	4,475	16.77	75,000	Ton	$477	$35,775,000
	2017	4,949	17.07	84,000	Ton	$456	$38,304,000
Freestone	2018	985	11.84	11,700	Ton	$1,780	$20,826,000
	2017	680	12.20	8,300	Ton	$1,674	$13,894,000
Walnuts	2018	37,468	1.84	68,900	Ton	$1,490	$102,661,000
	2017	36,618	1.86	68,100	Ton	$2,403	$163,644,000
Miscellaneous [2]	2018	3,232					$20,402,000
	2017	3,265					$25,251,000
Total	**2018**	**259,901**					**$1,390,010,000**
	2017	**250,757**					**$1,392,747,000**

1 Citrus includes: Grapefruit/Pomelos, Lemons, Oranges, Tangerines
2 Miscellaneous includes: Apples, Avocados, Berries (Blackberries, Boysenberries, Blueberries, Raspberries, Strawberries) Chestnuts, Figs Jujube, Kiwifruit, Nectarines, Olives, Pears, Pecans, Persimmons, Pistachios, Plums, Pluots, Pomegranates, Prunes, Quince, Table Grapes

LIVESTOCK & POULTRY

CATEGORY	YEAR	NUMBER OF HEAD	TOTAL VALUE
Cattle & Calves, All	2018	333,075	$236,822,000
	2017	320,460	$232,962,000
Beef Feeders [1]	2018	123,955	$31,299,000
	2017	132,440	$37,847,000
Beef Slaughter [2]	2018	42,720	$15,112,000
	2017	45,920	$12,864,000
Dairy Replacement	2018	92,000	$130,141,000
	2017	71,400	$120,667,000
Dairy Slaughter [3]	2018	74,400	$60,270,000
	2017	70,700	$61,584,000
Goats [4]	2018	13,058	$1,495,000
	2017	19,908	$2,972,000
Hogs & Pigs	2018	28,437	$3,971,000
	2017	22,992	$3,076,000
Sheep & Lambs [5]	2018	2,949	$480,000
	2017	3,791	$661,000

LIVESTOCK & POULTRY continued

CATEGORY	YEAR	NUMBER OF HEAD	TOTAL VALUE
Chickens, All [6]	2018	159,104,555	$276,879,000
	2017	156,946,000	$254,695,000
Game Birds [7]	2018	71,000	$764,000
	2017	75,160	$1,007,000
Squab	2018	596,835	$3,599,000
	2017	565,493	$3,008,000
Turkeys, All [8]	2018	8,663,708	$64,342,000
	2017	8,550,000	$84,096,000
Total	**2018**		**$588,352,000**
	2017		**$582,477,000**

1 Beef Feeders includes: Beef Heifers, Beef Replacement Heifers, Beef Steers, Drop Calves less Replacement Heifers, Feed Lot Cattle, Transient Cattle
2 Beef Slaughter includes: Beef Bulls, Beef Cows, Dairy Beef
3 Dairy Slaughter includes: Cull Bulls, Cull Cows
4 Goats includes: Cull Bucks, Cull Does, Dairy Goat Kids less Replacement Does, Meat Goats
5 Sheep & Lambs includes: Cull Ewes, Cull Rams, Lambs, Replacement Ewes, Replacement Rams
6 Chickens, All includes: Chickens, Chicks
7 Game Birds includes: Chukar, Duck, Geese, Partridge, Peacock, Pheasant, Quail
8 Turkeys, All includes: Poults, Turkeys

LIVESTOCK & POULTRY PRODUCTS

CATEGORY	YEAR	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Eggs, Chicken Market	2018	25,431,929	Doz	$1.44	$36,622,000
	2017	29,936,000	Doz	$1.45	$43,407,000
Eggs, Other [1]	2018				$3,338,000
	2017				$4,373,000
Milk, All	2018	40,386,000	Cwt*		$636,499,000
	2017	39,395,000	Cwt		$663,650,000
Market	2018	36,382,000	Cwt	$15.67	$570,106,000
	2017	36,848,000	Cwt	$16.72	$616,099,000
Manufacturing	2018	3,942,000	Cwt	$16.25	$64,058,000
	2017	2,469,000	Cwt	$18.21	$44,960,000
Milk, Goat	2018	62,000	Cwt	$37.66	$2,335,000
	2017	78,000	Cwt	$33.22	$2,591,000
Manure [2]	2018	490,000	Ton	$7.54	$3,695,000
	2017	479,000	Ton	$7.59	$3,636,000
Wool [3]	2018	24,100	Lb	$1.80	$43,000
	2017	31,034	Lb	$1.65	$51,200
Total	**2018**				**$680,197,000**
	2017				**$715,117,000**

*CWT = HUNDRED WEIGHT
1 Eggs, Other includes: Turkey Hatching Eggs, Quail, Duck Eggs
2 Manure includes: Chicken, Cow, Turkey
3 Wool includes: Alpaca Fiber, Sheep Wool

NURSERY PRODUCTS

CATEGORY	YEAR	FIELD ACRES	UNIT SOLD	TOTAL VALUE
Fruit & Nut Trees & Vines	2018	916	16,886,000	$170,164,000
	2017	853	29,000,000	$226,748,000
Ornamental Trees & Shrubs	2018	453	2,738,000	$32,738,000
	2017	497	2,428,000	$28,321,000
Miscellaneous [1]	2018	1,408		$18,051,000
	2017	1,534		$15,980,000
Total	**2018**	**2,777**		**$220,953,000**
	2017	**2,884**		**$271,049,000**

1 Miscellaneous includes: Christmas Trees, Lavender, Raspberry Transplants, Tomato Transplants, Turf

ORGANIC PRODUCTS

CATEGORY	YEAR	HARVESTED ACRES	TOTAL VALUE
All Organic Products	2018	7,038	$193,609,000
	2017	8,577	$199,409,000

OTHER AGRICULTURE

CATEGORY	YEAR	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Firewood	2018	73,686	Cord	$235.00	$17,316,000
	2017	70,400	Cord	$235.00	$16,544,000
All Other Agriculture [1]	2018				$5,455,000
	2017				$2,332,000
Seed Crops [2]	2018	678	Acres		$769,000
	2017	779	Acres		$917,000
Total	**2018**				**$23,540,000**
	2017				**$19,793,000**

1 All Other Agriculture includes: Aquaculture (Bass & Catfish), Compost, Vermiculture (Worms, Worm Castings)
2 Seed Crops includes: Blackeye Bean/Cowpea, Lima Bean, Oat, Vegetable

VEGETABLE CROPS

CATEGORY	YEAR	HARVESTED ACRES	PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL VALUE
Beans, Succulent	2018	415	1.10	457	Ton	$900	$411,000
	2017	1,882	1.10	2,070	Ton	$810	$1,677,000
Melons, All [1]	2018	3,673					$25,874,000
	2017	2,931					$32,303,000
Pumpkins	2018	471	49.28	23,200	Ton	$494	$11,461,000
	2017	377	17.00	6,400	Ton	$529	$3,386,000
Sweet Potatoes	2018	2,020	14.06	28,400	Ton	$900	$25,560,000
	2017	2,123	16.00	33,970	Ton	$660	$22,420,000
Tomatoes, All [2]	2018	8,803					$34,194,000
	2017	10,377					$47,925,000
Miscellaneous [3]	2018	12,715					$74,046,000
	2017	10,940					$71,609,000
Total	**2018**	**28,097**					**$171,546,000**
	2017	**28,630**					**$179,320,000**

1 Melons, All includes: Cantaloupe, Hami, Honeydew, Piel de Sapo, Watermelon
2 Tomatoes, All includes: Fresh, Processing
3 Miscellaneous includes: Asparagus, Beet, Broccoli, Brussels Sprout, Cabbage, Cactus Leaf, Carrot, Cauliflower, Chinese Greens, Cole Crop, Cucumber, Daikon, Edible Flower, Eggplant, Fava Bean, Garlic, Herb-Spice, Kale, Kohlrabi, Lettuce-Head, Lettuce-Leaf, Mustard Greens, Okra, Onion-Dry, Onion-Green, Pea, Pepper, Potato, Radish, Rutabaga, Spinach, Squash-All, Sweet Basil, Swiss Chard, Turnip, Vegetable, Vegetable Leaf

PEST DETECTION EMERGENCY PROJECTS 2018

To protect the agricultural and horticultural industries in Stanislaus County, 5,428 traps were placed to monitor for specific insects. Some traps contain insect pheromone attractant, while some use a food bait, and others use a color attractant.

Distribution of traps consists of 64% in residential yards, 24% in nurseries, and 12% in vineyards and orchards.

Trapping allows for early detection of invasive and destructive pests that would be detrimental to our economy, the environment, and public health.

Target pests are shown with corresponding trap

Red Imported Fire Ant

Traps Deployed: 134
Crops Affected:
Infests agricultural & residential settings, natural habitats. Dangerous to children, elderly, pets, & wildlife

European Corn Borer

Traps Deployed: 8
Crops Affected: Corn, green bean, oat, potato, & rhubarb

European Grapevine Moth

Traps Deployed: 395
Crops Affected: Grapes & spurge laurel

Mexican Fruit Fly

Traps Deployed: 221
Crops Affected:
Apple, apricot, citrus, nectarine, pear, plum, peach, & pomegranate

Vine Mealybug

Traps Deployed: 41
Crops Affected:
Grapes

Agricultural Commissioner

Pest Detection Program

Japanese Beetle

Traps Deployed: 204
Crops Affected:
Roses & turf

Gypsy Moth

Traps Deployed: 204
Crops Affected:
Most trees

Asian Citrus Psyllid

Traps Deployed: 643
Crops Affected: Citrus
(vector for Huanglongbing Disease)

Glassy-Winged Sharpshooter

Traps Deployed: 1,914
Crops Affected: Almond, citrus, grape, & peach
(vector for Pierce's Disease)

Apple Maggot

Traps Deployed: 54
Crops Affected:
Pome & stone fruit

Light Brown Apple Moth

Traps Deployed: 435
Crops Affected: Alfalfa, almond, apple, berries, broccoli, citrus, corn, grapes, stone fruit, & tomato

Mediterranean Fruit Fly

Traps Deployed: 435
Crops Affected: Almond, apple, apricot, citrus, fig, grape, nectarine, olive, peach, pear, plum, pomegranate, tomato, & walnut

Oriental Fruit Fly

Traps Deployed: 435
Crops Affected: Apple, citrus, cucumber, fig, grape, pear, pomegranate, stone fruit, tomato, & walnut

Melon Fruit Fly

Traps Deployed: 221
Crops Affected:
Apple, bean, cantaloupe, cucumber, grape, orange, peach, pear, tomato, & watermelon

Champ Trap (General Fruit Fly)

Traps Deployed: 84

2018 EXPORT CERTIFICATES

Export Certificates are issued to certify that the commodity meets the plant cleanliness requirements of the importing country

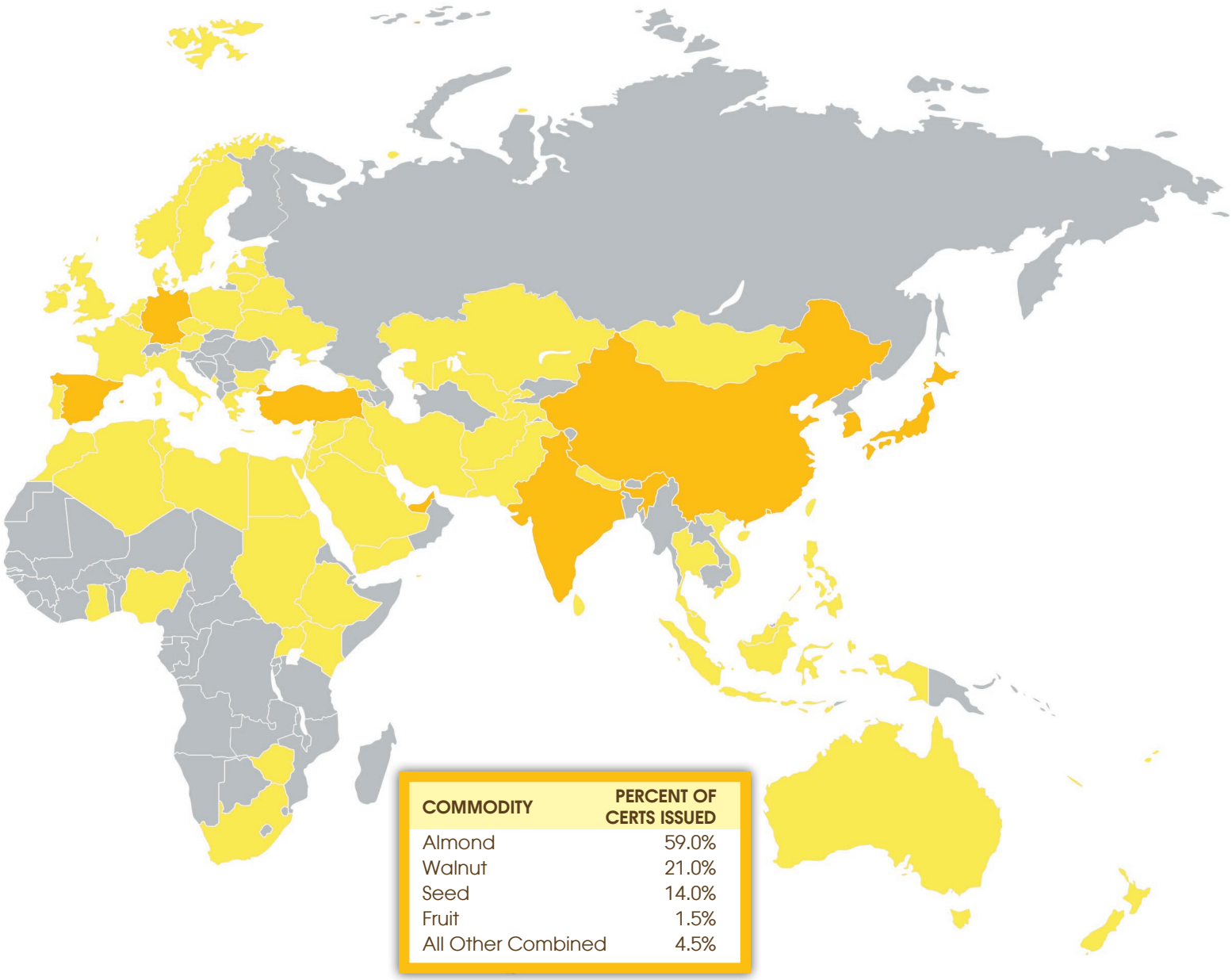
**Not all countries require export certificates*

Total Certificates Issued
9,150
to 101 Countries

Top 10 countries exported to in 2018

Other countries exported to in 2018

COUNTRY	CERTS	COUNTRY	CERTS	COUNTRY	CERTS	COUNTRY	CERTS	COUNTRY	CERTS
Japan	965	Afghanistan	2	Bolivia	14	Denmark	8	Georgia	4
Republic of Korea	679	Algeria	33	Brazil	105	Dominican Rep.	11	Ghana	1
Spain	679	Argentina	49	Bulgaria	15	Ecuador	28	Greece	34
Hong Kong	611	Australia	130	Canada	26	Egypt	46	Guatemala	49
United Arab Emer.	428	Austria	5	Chile	108	El Salvador	11	Guyana	1
Turkey	390	Bahrain	27	Colombia	23	Estonia	4	Honduras	13
Germany	373	Barbados	5	Costa Rica	24	Ethiopia	7	Indonesia	144
India	357	Belarus	2	Croatia	4	Fiji	1	Iran	21
China	299	Belgium	81	Cyprus	3	France	141	Iraq	33
Mexico	243	Belize	2	Czech Republic	1	French Polynesia	56	Ireland	10



COMMODITY	PERCENT OF CERTS ISSUED
Almond	59.0%
Walnut	21.0%
Seed	14.0%
Fruit	1.5%
All Other Combined	4.5%

COUNTRY	CERTS
Israel	149
Italy	226
Jamaica	16
Jordan	192
Kazakhstan	17
Kenya	20
Kuwait	31
Latvia	19
Lebanon	115
Libya	10

COUNTRY	CERTS
Lithuania	25
Malaysia	135
Mongolia	1
Montenegro	1
Morocco	41
Nepal	1
Netherlands	206
New Caledonia	5
New Zealand	50
Nicaragua	4

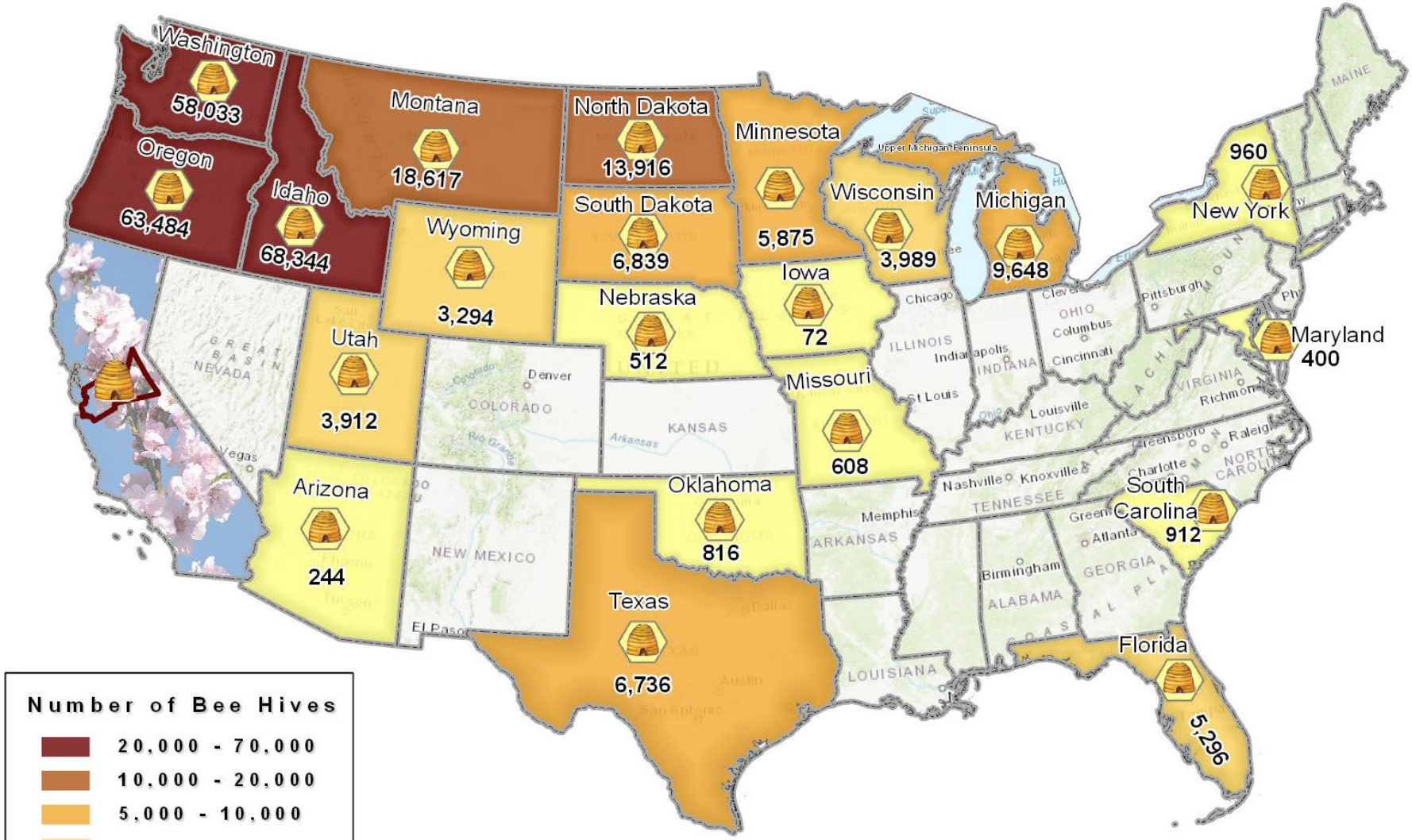
COUNTRY	CERTS
Nigeria	2
Norway	21
Pakistan	99
Panama	13
Peru	90
Philippines	30
Poland	6
Portugal	13
Qatar	35
Saudi Arabia	155

COUNTRY	CERTS
Singapore	99
South Africa	99
Sri Lanka	7
Sudan	7
Sweden	24
Switzerland	68
Syria	23
Taiwan	159
Tajikistan	1
Thailand	185

COUNTRY	CERTS
Trinidad & Tobago	2
Tunisia	6
Uganda	1
Ukraine	18
United Kingdom	177
Uruguay	5
Uzbekistan	2
Venezuela	1
Vietnam	211
Yemen	20
Zimbabwe	1

2018 Bee Shipments to Stanislaus County

Where Do All Those Bees Come From?



272,507 bee hives shipped to Stanislaus County from 21 states

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

CA-almond blossoms- Gold555Engel-11944902, BeeHive, https://www.freepik.com/free-vector/hand-painted-honey-organic-honey-with-flowers_895107.htm

Agricultural Commissioner's Apiary Programs

Quarantine Enforcement

Bee colonies coming into Stanislaus County from other counties or states may be inspected for various quarantine compliances including Red Imported Fire Ant, Africanized or Overly Defensive Bees, Hive Beetle, & American Foulbrood. Abatement actions are also performed through quarantine enforcement.

BeeSafe

Working with stakeholders, the BeeSafe program assists with preventing apiary theft, registration of colonies moving throughout California, improvement of colony health & survival through increased foraging opportunities, & reducing pesticide exposure.

Honey Grading & Labeling

Honey grading & labeling requirements are set under Fruit, Nut & Vegetable Standardization, in addition to labeling requirements under Weights & Measures.

In general, honey sold to the public will have identity, resposibility, & quantity on the label.

Bee Registration & BeeWhere

Beekeepers are required to register with the County Agricultural Commissioner's Office & are notified when a planned pesticide application toxic to bees occurs within a mile of the colony location. BeeWhere streamlines registration online while working in conjunction with the BeeSafe Program & Cal Ag Permits. Beekeepers, Pest Control Advisors & Farmers will receive automatic alerts if colonies are within proximity of a scheduled pesticide application, allowing measures to be taken to prevent apiary loss incidents.

beewherecalifornia.com

Bee Swarm Removal

The County Agriculture Department maintains a voluntary list of beekeepers that provide swarm removal. The County does not perform removals or recommend beekeepers.

Apiary Loss Investigation

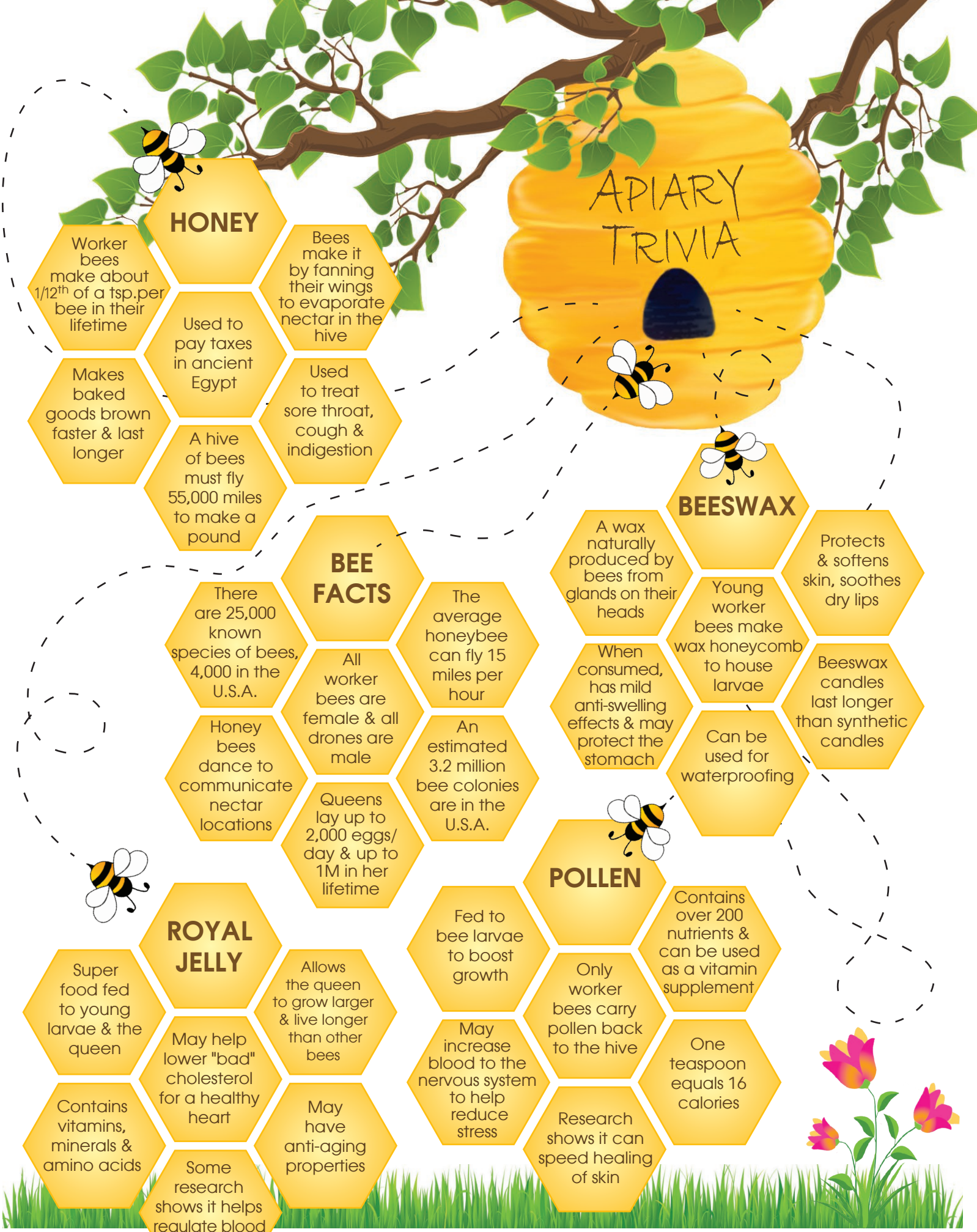
County inspectors investigate apiary loss due to suspected pesticide exposure.

Colony Strength Inspection

Acting as an independent third party, the County may perform colony strength inspections during pollination by grower or beekeeper request. This program assists with market fairness in pollination contracts.

Apiary Certified Producers

Beekeepers wishing to sell honey at Certified Farmers' Markets may request a Certified Producer's Certificate from the County. The apiary is inspected to confirm honey production. The Certified Producer program assures consumers that the producer is selling products of their own production.


APIARY TRIVIA
HONEY
Worker bees make about 1/12th of a tsp.per bee in their lifetime
Bees make it by fanning their wings to evaporate nectar in the hive
Used to pay taxes in ancient Egypt
Used to treat sore throat, cough & indigestion
Makes baked goods brown faster & last longer
A hive of bees must fly 55,000 miles to make a pound
BEESWAX
A wax naturally produced by bees from glands on their heads
Protects & softens skin, soothes dry lips
Young worker bees make wax honeycomb to house larvae
When consumed, has mild anti-swelling effects & may protect the stomach
Beeswax candles last longer than synthetic candles
Can be used for waterproofing
BEE FACTS
There are 25,000 known species of bees, 4,000 in the U.S.A.
The average honeybee can fly 15 miles per hour
All worker bees are female & all drones are male
Honey bees dance to communicate nectar locations
An estimated 3.2 million bee colonies are in the U.S.A.
Queens lay up to 2,000 eggs/ day & up to 1M in her lifetime
POLLEN
Fed to bee larvae to boost growth
Contains over 200 nutrients & can be used as a vitamin supplement
Only worker bees carry pollen back to the hive
May increase blood to the nervous system to help reduce stress
One teaspoon equals 16 calories
Research shows it can speed healing of skin
ROYAL JELLY
Super food fed to young larvae & the queen
Allows the queen to grow larger & live longer than other bees
May help lower "bad" cholesterol for a healthy heart
Contains vitamins, minerals & amino acids
May have anti-aging properties
Some research shows it helps regulate blood pressure

How Does Agricultural Income in Stanislaus County Compare to State Totals?

United States	**$374,341,092,000**
California	$50,264,375,000
Iowa	$26,605,200,000
Texas	$22,769,150,000
Nebraska	$21,315,097,000
Minnesota	$17,119,482,000
Illinois	$15,931,846,000
Kansas	$15,655,934,000
North Carolina	$11,480,620,000
Wisconsin	$11,330,883,000
Indiana	$10,579,799,000
Washington	$10,246,081,000
Missouri	$9,882,152,000
South Dakota	$8,954,744,000
Arkansas	$8,922,845,000
Georgia	$8,865,601,000
Hawaii	$8,865,601,000
Ohio	$8,481,031,000
North Dakota	$7,846,655,000
Florida	$7,642,257,000
Michigan	$7,339,359,000
Idaho	$7,206,960,000
Colorado	$6,723,375,000
Pennsylvania	$6,721,799,000
Oklahoma	$6,677,279,000
Mississippi	$5,652,139,000
Kentucky	$5,572,923,000
Alabama	$5,490,879,000
New York	$5,212,391,000
Oregon	$4,791,588,000
Arizona	$4,747,655,000
Stanislaus County	**$3,648,192,000**
Montana	$3,535,204,000
Tennessee	$3,480,910,000
Virginia	$3,473,692,000
Louisiana	$3,069,187,000
New Mexico	$2,954,741,000
South Carolina	$2,302,813,000
Maryland	$2,194,795,000
Utah	$1,742,929,000
Wyoming	$1,440,875,000
Delaware	$1,348,273,000
New Jersey	$1,077,769,000
Vermont	$812,594,000
West Virginia	$707,929,000
Maine	$702,402,000
Nevada	$658,352,000
Connecticut	$532,816,000
Massachusetts	$380,593,000
New Hampshire	$208,964,000
Rhode Island	$71,553,000
Alaska	$37,666,000

Source: USDA Economic Research Service 2017
(Compared to 2017 Stanislaus County Data)

STANISLAUS COUNTY AG FACTS

AG CENSUS HIGHLIGHTS

Total Number of Farms: 3,621

-Family Farms: 94%

-Orchard Farms: 64%

Land in Farms: 722,546 Acres

-Average Size: 200 Acres

-Individual or Family Owned: 72%

-Orchards: 34%

Average Age of Stanislaus County Farmer: 59.6

Portion of State Ag Sales: 6%

Rank in US Ag Sales: 6th

Source: 2017 U.S. Census

COMMODITY RANKINGS IN THE STATE

1ST	Apricots Turkey	Squab
2ND	Dry Beans Irrigated Pasture Silage	Honey Nursery Products
3RD	Almonds Peaches	Chickens
4TH	Chicken Eggs Milk & Cream	English Walnuts Sudan Hay
5TH	Cherries	Grain Hay

Source: California Agricultural Statistics Review 2017-2018 & Squab Producers of California

Economic Contributions
of the Agricultural Industry

FOR 2017

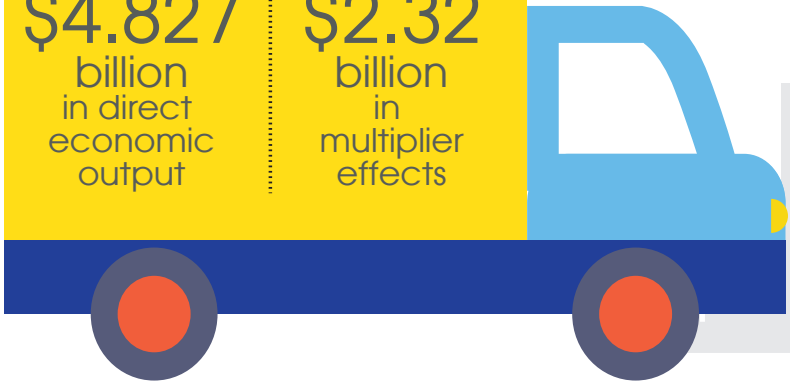
$7.148 billion

Stanislaus County Agriculture's total contribution to the local economy

$19.5 MILLION PER DAY

$4.827 billion in direct economic output

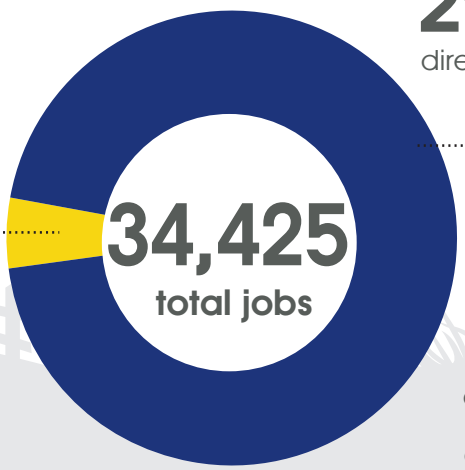
$2.32 billion in multiplier effects



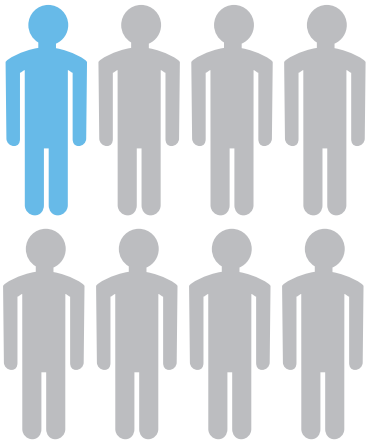
Employment Effects
of the Agricultural Industry

29,192 direct employees

5,232 additional jobs attributable to multiplier effects: expenditures by agricultural companies and their employees



Agriculture accounted for 1 dollar out of every $8.00 of the county's direct economic output



ONE in EIGHT

jobs in Stanislaus County directly attributable to the agricultural industry

Excerpt taken from the Crop Report Plus Series – Economic Contributions of Stanislaus County Agriculture. To view the full report, please visit our website at stanag.org.

National Ag Science Center Hall Of Fame

2018 Recipient - Garton Tractor

Local and family-owned Garton Tractor, Inc. is known for "consistently providing its customers with an experience that exceeds their needs in Sales, Service, Parts, and Rentals with Quality People, Products, and Facilities."

Since "Bud" Garton's 1954 acquisition of Corforth Tractor in Turlock, Garton Tractor has expanded to include 10 locations state-wide, including three in Stanislaus County.

Four generations of the Garton family are now involved in continuing the family legacy of "Quality People, Quality Products." Day to day operations are maintained by Bud's sons Bill and Tom as president and vice president, respectively, and grandsons Ben, Grant, Drew, and Ross.

A perennial supporter of the local community, Garton's contributions include support of the Turlock Unified School District Ag Farm, sponsorship for Danielle's Gift helping children & young adults in crisis situations, as well as fundraising for the Stanislaus County Office of Education and Turlock Christian Schools. Garton Tractor has a lasting reputation as a steady but reserved presence within the community while maintaining high standards and dedication to continual improvement in everything they do.

Stanislaus County Farm Bureau Distinguished Service Award

Since 2006, Sheriff Adam Christianson has used the "Three P's" of prevention, protection, and prosecution in fighting crime in Stanislaus County; achieving national Farm Bureau recognition as a leader in fighting rural crime.

Under his leadership, Christianson initiated the Owner-Applied Number program to link recovered stolen property with rightful owners. He also encouraged a partnership with the Rural Crimes Task Force and the Stanislaus County Farm Bureau to reach out to the community via online interaction on Facebook with the Stanislaus Rural Crime Alert page.

With a lifetime career in policework and emergency response, he led the Sheriff's Department to great successes as well as navigated cuts and heartbreaking losses within the department during his term as Sheriff.

Instrumental in advocating for and ultimately building the newest jail in the state in Stanislaus County as well as a state-of-the-art recidivism diversion center and Coroner's Office, Sheriff Adam Christianson retired from the Sheriff's Office in January of 2019.

2018 Recipient
Sheriff
Adam Christianson

Yellow Mustard, *Photos by A. Fulford*

Attracting Pollinators With Cover Crops

Anthony Fulford, Nutrient Management and Soil Quality Advisor

Insect pollinators play a major role in maintaining agricultural productivity in California. Numerous crops, especially tree fruit crops like almonds that dominate the Central Valley landscape, depend on pollinators to transfer pollen throughout the orchard. Optimal pollen transfer is required to maximize flower fertilization, fruit set, and ultimately harvestable yield. Common pollinator insect species such as bees, wasps, moths, and butterflies forage for the pollen and nectar of flowering plants. Therefore, it is possible to grow flowering plant species with the primary goal of supplying food resources that will attract insect pollinators. While there are many flowering plants to choose from, a carefully selected mix of cover crop species can serve the dual purpose of building healthy soils and pollinator habitats.

Keeping the soil surface covered and increasing cropping system biodiversity are two components of healthy soils that can be achieved with cover crops. Additionally, with knowledge of proper cover crop species selection, the increased aboveground biodiversity cover crops provide can be manipulated to include species that are attractive to insect pollinators. For example, there are now commercially available cover crop species mixes designed to provide food resources for bees in almond orchards prior to almond bloom. The forage habitat provided by cover crops attracts bees to the orchard and allows them to remain healthy and active until almond bloom. Flowering cover crop species that attract insect pollinators to orchards typically include mustards such as White and Yellow Mustard, clovers such as Crimson, Rose, and Berseem Clover or Vetch. The mustards and clovers will typically be a mix of these various species, while vetch can be planted as a single species.

Cover crops have the potential to provide a diverse forage habitat for bees that keeps the colony healthy and supports the pollen transfer orchards rely on to maintain optimal productivity. However, adoption barriers such as the additional costs associated with planting cover crop seed and the water demand of cover crops must be addressed and offset by benefits to tree health and productivity to ensure economic and agricultural sustainability. Currently, UC Cooperative Extension is working to identify best management practices and economic tradeoffs of planting cover crops in almond orchards. These research efforts will help us gain a better understanding of how it may be possible to use cover crop selection to build healthy pollinator habitats and sustain agricultural productivity.

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What's the Buzz on Bees?

Elina L. Niño, Apiculture Extension Specialist, UC Davis

Every February California becomes home to approximately two million honeybee colonies. They are used for pollination of nearly 200,000 acres of almond trees in Stanislaus County and later in the year for pollination of over 20 other crops in the state. While many wild bee species contribute to plant pollination, honeybees are easy to transport from place to place, they are generalists consuming pollen and nectar from numerous plant species, and there are thousands of foragers per colony that contribute to pollen transfer, making them the most important commercially available pollinator.

Unfortunately, beekeepers are still experiencing high colony losses. The latest (2018-2019) preliminary report based on the national beekeeper survey recorded 37.7% average annual colony mortality. Winter mortality was the highest since the survey began 13 years ago when Colony Collapse Disorder (CCD) was first reported. While the exact cause of CCD remains a mystery, scientists agree that it was likely caused by a combination of various environmental and biological factors.

An aptly named parasitic mite, Varroa destructor, feeds on fat bodies of adult and developing honeybees, transmits pathogens and suppresses bee's immune response, thereby amplifying the effect of various pathogens. This is one of the top issues that beekeepers face today. Researchers at UC Davis are exploring new options for biopesticides to manage mite loads particularly because many prior options have lost efficacy. Potentially a more sustainable approach to combat these mites is breeding for Varroa-resistant bees which is another avenue of research at UC Davis.

Pathogens to which honeybees are exposed are many and range from viruses to bacterial diseases and fungi. The bacterial disease American Foulbrood has the potential to become a more prevalent problem since the new Food and Drug Administration rule requires beekeepers to obtain a Veterinary Feed Directive from a veterinarian in order to purchase antibiotics. This rule is in effect to prevent antibiotic contamination of foods for human consumption, including honey. However, veterinarians do not necessarily have adequate training to diagnose honeybee diseases. UC Davis researchers are developing learning resources for veterinarians.

Pesticides have probably been the most passionately debated issue as some can cause sublethal effects and mortality in honeybees and other pollinators. Realistically, pesticides will remain a crucial component of agricultural production and we need to do our best to protect pollinators while utilizing pesticides as a part of an integrated pest management approach.

Lastly, studies show that negative effects of many of these stressors can be alleviated when bees have access to optimal nutrition. Efforts are underway at the University of California to develop and evaluate the best supplemental forage for bees in both agricultural and urban settings.

For more information: https://elninobeelab.ucdavis.edu/

Bees with Varroa Mite & Deformed Wing Virus

Queen marked green surrounded by workers

UC employee evaluating bees

Truck transporting bee hives

AGRICULTURAL COMMISSIONER PROGRAMS

PESTICIDE USE ENFORCEMENT:

- Provides for the proper, safe, & effective use of pesticides for agricultural production & protection of public health & safety
- Prohibiting, regulating or ensuring proper stewardship of pesticides for environmental protection
- Ensuring safe working conditions, use of proper protective equipment & training for employees working with or around pesticides
- Pesticide use reporting, incident investigations, outreach activities, & monitoring applications

PEST EXCLUSION:

- Interior Pest Exclusion
  - enforcement of quarantines, inspection of packages, phytosanitary certification of exports
- Exterior Pest Exclusion
  - enforcement of quarantines for materials subject to infestation that have crossed into California with a Stanislaus County destination
- Nursery and Seed
  - licensing, pest cleanliness inspections, registration & certification, truth in labeling & quality, soil & plan laboratory permitting

FRUITS, NUTS & VEGETABLE STANDARDIZATION:

- Compliance of California's minimum standards for quality & marketing produce commercially grown &/or marketed in the state
- Direct Marketing, Certified Producers & Certified Farmers Markets
- Organic law enforcement
- Local protection to growers, marketers & consumers

PEST ERADICATION:

- Local government liaison to CDFA after a pest species is discovered
- Eradication of that particular pest species

PEST DETECTION:

- Early detection of insect pests
- Administering specific "action plans" for unwanted agricultural pests
- Maintaining properly trained & equipped pest detection teams

APIARY INSPECTION:

- Registration of site location of honeybee colonies in the county
- Colony strength & health inspections

PEST MANAGEMENT:

- Managing nuisance pests of agriculture & human health
- Programs include: glassy-winged sharpshooter, ground squirrels, capeweed, etc

CROP STATISTICS:

- Annual agricultural report regarding the gross production & value of the county's commodities
- Agriculture disaster surveys used by other agencies offering disaster relief

SEED CERTIFICATION:

- Inspect retail & wholesale seed sellers
- Obtain samples for seed germination & purity testing
- Labeling inspections for compliance with state requirements
- Certification services for growers & processors in cooperation with the California Crop Improvement Association

NURSERY INSPECTION:

- Inspections of growing, propagation, production & sale sites of nursery stock to assure cleanliness from pests, true variety & vigorous healthy plants for sale to the consumer

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