

**2017 Asian Citrus Psyllid/Huanglongbing
AP17PPQFO000C024
Final Accomplishment Report**

Survey Report

Year:	2017
State:	California
Cooperative Agreement Name:	Asian Citrus Psyllid/Huanglongbing
Cooperative Agreement Number:	AP17PPQFO000C024
Project Funding Period:	October 1, 2016 - September 30, 2017
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Quarterly Report	<input type="checkbox"/>
Semi-Annual Accomplishment Report	<input type="checkbox"/>
Final Accomplishment Report	<input checked="" type="checkbox"/>

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A. Background

The first Asian Citrus Psyllid (ACP) was detected in San Diego County in 2008. Since the initial detection, the California Department of Food and Agriculture (CDFA), in conjunction with the United States Department of Agriculture (USDA), County Agricultural Commissioners, industry and other stakeholders have worked to implement basic Citrus Health Response Program (CHRP) principles. The purpose of the project is to survey for the presence of ACP and HLB, determine the extent of the ACP/HLB infestation(s), control/eradicate infestation(s), establish and enforce quarantine regulations, restrict the movement of hosts as necessary upon the detection of ACP while the status of infestation is being determined, enlist the assistance of the public through various outreach activities, perform immediate ACP/HLB identification and prepare, search for, rear and release biological control organisms. These coordinated activities are to meet the goals of CHRP, sustain the United States' citrus industry, to maintain grower's continued access to export markets, and to safeguard the other citrus growing states against a variety of citrus diseases and pests.

These pests present a major threat to citrus grown within the State. California is the top citrus-producing state in the U.S., with total 2014 production valued at over \$3.3 billion. Additionally, the establishment of ACP in California would increase the need for pesticide use by commercial and residential citrus producers, as well as require enforcement of quarantine restrictions. A 2012 study by the University of Florida showed that the presence of HLB in Florida has resulted in a loss of over \$7 billion and 6,600 jobs over the previous five years. Because HLB has been detected in Mexico and in Los Angeles County, the establishment of ACP in California will pave the way for HLB to spread. HLB would have severe consequences to both the citrus industry and to the urban landscape via the decline and the death of citrus trees.

Early detection of these pests is critical to the ability to eradicate or suppress incipient infestations. Funding this survey and related activities increases the likelihood that these pests will be found at low population levels and will allow for successful eradication/control. Additionally, enforcing quarantine regulations will mitigate the spread of ACP and HLB. Negative survey data will also be beneficial because it will determine the success of the eradication project and it supports the validity of existing state and federal regulations while promoting California's export program.

Between October 2016 and September 2017, ACP was detected for the first time in Solano, Alameda, Yolo, and Contra Costa counties. Since the first detection of ACP in San Diego County in 2008, ACP has since been detected in additional counties (as of September 30, 2017): Alameda, Contra Costa, Fresno, Imperial, Kern, Kings, Los Angeles, Madera, Merced, Monterey, Orange, Placer, Riverside, San Benito, San Bernardino, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Solano, Stanislaus, Tulare, Ventura and Yolo.

On March 23, 2012, HLB was detected in Los Angeles County. On July 10, 2015, a second HLB-positive tree was detected in San Gabriel, Los Angeles County. For this reporting period, new areas were identified. On February 24, 2017, HLB was detected in a third location in Orange County. On July 10, 2017, HLB was detected in a fourth location in Riverside County. HLB is established in areas with climates similar to California and is the most devastating of all citrus

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diseases. Because HLB has been found in California, CDFA continues to control the ACP population to slow its spread throughout the state. To determine whether these pests are spreading and to detect new infestations, trapping and visual survey are ongoing in counties that have commercial citrus production and in residential areas throughout the state. Additionally, the following operations have increased: pesticide applications, enforcement of quarantine regulations, biological control development, laboratory services, and outreach.

B. Activities

1) ACP Survey (See Attachment 1 and 2¹ for details)

Table 1. Number of Traps by County

County	Maximum # of Traps Deployed
Alameda	897
Butte	157
Calaveras	99
Contra Costa	855
El Dorado	49
Fresno	7,048
Glenn	51
Imperial	165
Kern	7,913
Kings	311
Los Angeles	585
Madera	944
Mariposa	1
Merced	617
Monterey	718
Napa	118
Orange	830
Placer	409
Riverside	85
Sacramento	1,342
San Benito	579
San Bernardino	78
San Diego	131
San Francisco	110
San Joaquin	3,203
San Luis Obispo	435
San Mateo	550
Santa Barbara	349
Santa Clara	1,511

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County	Maximum # of Traps Deployed
Santa Cruz	275
Solano	481
Sonoma	384
Stanislaus	1,724
Sutter	150
Tulare	14,389
Ventura	606
Yolo	191
Yuba	130
Total	48,470

¹Treatment activities in Attachment 1 included as reference.

2) Huanglongbing Survey

a) Visual Survey

- (1) Performed a risk-based residential survey for HLB (Table 2).
- (2) Number of sites to survey per square mile is determined by using the risk-based factors developed by Dr. Gottwald (USDA).
- (3) Survey continued in Northern California, Central California, and with the majority in Southern California.
- (4) Performed delimitation surveys in counties not under an area wide treatment program (Table 3).
- (5) Surveyed and collected ACP and symptomatic plant tissue from ACP detection sites during delimitation surveys.
- (6) The USDA performed a quality control check on all HLB data prior to submission to Dr. Gottwald.

Table 2. Table 2. HLB Risk-based Survey Data

County	Cycle	Survey Dates		# of STRS		# of Survey Sites		# of Sites with Entomology Samples	# of Sites with Plant Samples	# of Sites Negative for Entomology and Plant Samples
		Start	End	Proposed	Completed	Proposed	Completed			
Alameda	CI-2016	10/16/2016	10/29/2016	9	9	300	314	0	0	314
	CI-2017	6/25/2017	10/14/2017	5	5	650	427	0	36	407
Butte	CI-2016	11/6/2016	11/11/2016	7	7	75	75	0	0	75
	CI-2017	9/24/2017	10/7/2017	2	2	35	35	0	2	33
Calaveras	CI-2016	1/8/2017	1/10/2017	3	3	15	9	0	0	9
Colusa	CI-2016	11/6/2016	11/12/2016	1	1	10	10	0	0	10
Contra Costa	CI-2016	10/30/2016	11/5/2016	6	6	70	70	0	0	70
	CI-2017	7/23/2017	9/2/2017	1	1	100	54	0	8	52
Del Norte	CI-2016	10/9/2016	10/15/2015	1	1	5	1	0	1	0
	CI-2017	7/31/2017	7/31/2017	1	1	5	2	0	0	2
El Dorado	CI-2016	1/4/2017	1/6/2017	8	8	55	20	0	0	20
	CI-2017	6/4/2017	6/10/2017	1	1	25	12	0	3	9

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County	Cycle	Survey Dates		# of STRS		# of Survey Sites		# of Sites with Entomology Samples	# of Sites with Plant Samples	# of Sites Negative for Entomology and Plant Samples
		Start	End	Proposed	Completed	Proposed	Completed			
Fresno	C1-2017	4/17/2017	10/16/2017	65	65	4,540	3,520	-	360	3,160
	C2-2017	7/24/2017	in progress	77	62	5,595	3,582	-	304	3,278
Glenn	C1-2016	11/6/2016	11/12/2016	1	1	50	30	-	-	30
Humboldt	C1-2017	8/20/2017	8/26/2017	2	2	10	-	-	-	-
Imperial	C1-2017	5/14/2017	11/2/2017	9	9	295	204	20	121	73
	C2-2017	9/17/2017	9/30/2017	6	6	85	76	3	38	37
Kern	C1-2017	4/24/2017	9/13/2017	65	65	3,735	3,181	-	147	3,034
	C2-2017	8/28/2017	in progress	62	27	3,775	868	-	41	827
Kings	C1-2017	4/17/2017	7/14/2017	6	6	165	165	-	15	150
Lake	C1-2016	10/9/2016	10/15/2016	3	3	15	-	-	-	-
Los Angeles	C1-2017	4/17/2017	in progress	307	197	19,340	12,888	6,739	1,760	4,955
Madera	C1-2016	10/3/2016	11/4/2016	43	43	395	280	-	20	260
	C1-2017	6/12/2017	7/7/2017	18	18	220	143	-	12	131
Marin	C1-2016	10/30/2016	11/5/2016	2	2	50	35	-	-	35
	C1-2017	7/16/2017	7/22/2017	1	1	25	25	-	4	21
Mariposa	C1-2016	10/24/2016	11/30/2016	2	2	25	5	-	1	4
	C1-2017	6/19/2017	6/22/2017	1	1	5	1	-	-	-
	C2-2017	8/21/2017	8/25/2017	1	1	5	2	-	-	2
Mendocino	C1-2016	10/9/2016	10/15/2016	3	3	20	5	-	3	2
	C1-2017	8/20/2017	8/26/2017	3	3	20	3	-	-	3
Merced	C1-2016	10/3/2016	11/11/2016	26	26	300	295	-	15	280
	C1-2017	5/22/2017	6/9/2017	11	11	255	236	-	11	215
	C2-2017	8/14/2017	8/18/2017	2	2	10	10	-	1	9
Monterey	C1-2017	7/10/2017	7/13/2017	2	2	55	50	-	6	44
	C2-2017	7/12/2017	8/24/2017	2	2	110	100	-	13	87
Nevada	C1-2016	12/4/2016	12/10/2016	4	4	20	-	-	-	-
Orange	C1-2017	4/19/2017	12/6/2017	73	73	6,885	5,901	4,337	1,579	746
Placer	C1-2017	5/21/2017	6/10/2017	14	14	320	197	1	25	177
Plumas	C1-2016	12/4/2016	12/10/2016	2	2	10	-	-	-	-
Plumas	C1-2017	9/24/2017	9/30/2017	1	1	5	-	-	-	-
Riverside	C1-2017	4/19/2017	10/26/2017	72	72	9,230	5,644	2,095	772	2,959
	C2-2017	8/31/2017	in progress	76	28	9,720	2,041	1,136	505	627
Sacramento	C1-2017	5/21/2017	10/21/2017	12	12	530	374	-	48	345
	C2-2017	8/27/2017	in progress	20	2	965	145	-	14	131
San Benito	C1-2017	5/8/2017	6/22/2017	4	4	165	160	-	7	153
	C2-2017	8/14/2017	8/18/2017	4	4	20	19	-	-	19
San Bernardino	C1-2017	4/19/2017	9/14/2017	49	49	5,960	4,003	1,547	660	1,943
	C2-2017	8/31/2017	in progress	46	24	5,760	1,796	927	518	579
San Diego	C1-2017	4/19/2017	11/13/2017	157	157	14,045	9,770	3,689	3,095	4,480
	C2-2017	8/20/2017	in progress	156	8	13,200	1,300	500	437	517
San Francisco	C1-2016	11/13/2016	11/19/2016	2	2	50	37	-	-	37
	C1-2017	7/16/2017	7/22/2017	1	1	100	31	-	2	29
San Joaquin	C1-2016	10/10/2016	12/6/2016	82	82	1,345	1,306	1	75	1,231
	C1-2017	4/17/2017	7/20/2017	30	30	910	745	-	32	713
	C2-2017	7/17/2017	9/15/2017	27	27	925	734	-	26	708
San Luis Obispo	C1-2017	6/12/2017	6/29/2017	4	4	135	93	-	15	78
	C2-2017	8/7/2017	8/10/2017	2	2	35	26	-	5	21
San Mateo	C1-2016	11/13/2016	11/19/2016	6	6	185	175	-	-	175
	C1-2017	9/10/2017	9/23/2017	3	3	300	223	-	5	218
Santa Barbara	C1-2017	5/8/2017	6/15/2017	5	5	350	315	2	56	257
	C2-2017	6/28/2017	8/10/2017	2	2	150	120	-	14	106
Santa Clara	C1-2017	6/18/2017	7/22/2017	9	9	550	505	-	58	447

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		Start	End	Proposed	Completed	Proposed	Completed			
Shasta	C1-2016	11/6/2016	11/12/2016	7	7	45	35	-	-	35
	C1-2017	7/31/2017	8/11/2017	4	4	85	25	-	3	22
Sonoma	C1-2016	10/30/2016	11/5/2016	1	1	50	50	-	-	50
	C1-2017	7/24/2017	8/18/2017	2	2	55	52	-	2	50
Stanislaus	C1-2017	5/15/2017	6/29/2017	16	16	950	675	-	28	647
	C2-2017	7/31/2017	10/6/2017	16	16	975	629	-	19	610
Tehema	C1-2017	7/31/2017	8/4/2017	1	1	5	3	-	1	2
Trinity	C1-2016	10/9/2016	10/15/2016	2	2	10	-	-	-	-
	C1-2017	7/31/2017	8/4/2017	1	1	5	1	-	-	1
Tulare	C1-2017	5/15/2017	7/27/2017	66	66	4,365	3,550	-	207	3,341
	C2-2017	8/21/2017	in progress	70	58	3,985	2,382	-	109	2,273
Tuolumne	C1-2016	12/5/2016	12/13/2016	16	16	95	5	-	-	5
	C1-2017	5/22/2017	6/22/2017	10	10	90	2	-	-	2
	C2-2017	8/21/2017	8/25/2017	5	5	70	4	-	-	4
Ventura	C1-2017	4/24/2017	7/20/2017	25	25	1,695	692	234	21	442
	C2-2017	8/13/2017	in progress	18	16	1,365	792	184	197	470
Yolo	C1-2016	11/27/2016	1/6/2017	5	5	50	47	-	-	47
	C1-2017	5/21/2017	5/27/2017	1	1	100	76	-	5	71
Yuba	C1-2016	11/6/2016	11/12/2016	1	1	5	5	-	-	5
	C1-2017	7/30/2017	8/6/2017	2	2	55	36	-	3	33
Total				1,897	1,487	126,370	71,454	21,415	11,465	42,444

County survey cycles have been separated into their respective reporting periods, by bulk work completed, accounting for temporal overlap.

Table 3. Delimitation Visual Survey

County	# of Sites Surveyed
Alameda	38
Contra Costa	29
Fresno	57
Kern	238
Kings	27
Merced	6
Monterey	8
San Benito	4
San Luis Obispo	8
San Joaquin	28
Santa Clara	1,409
Tulare	131
Total	1,983

Surveys are continuing the HLB positive citrus tree area in Hacienda Heights, Los Angeles County. Dr. Gottwald's risk-based survey also continued in San Gabriel, Los Angeles County

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from the July 2015 detections. The affected San Gabriel area began to expand; while more HLB-infected trees were detected in San Gabriel and Cerritos, Los Angeles County. In response, CDFA surveyed 800 meters around each detection site and continued to implement the risk-based survey (Tables 4-8).

Table 4. Hacienda Heights Survey Data

	Cycle 5	Cycle 6	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
Survey Dates	10/3/16 10/11/16	11/2/16 12/15/16	1/13/17 2/28/17	3/1/17 4/26/17	5/11/17 6/27/17	7/6/17 8/31/17	9/5/17 9/20/17
# of Sites Visited	118	391	450	601	362	267	34
Plant Samples Collected	11	68	106	147	52	22	4
ACP Samples Collected	117	298	299	419	292	226	34
Sites Negative for ACP/Plant Samples	0	68	103	136	60	33	1

Table 5. San Gabriel Expansion (1-9) 800 Meter Survey Data

	800 m
Survey Dates	1/9/17-3/27/17
# of Sites Visited	3,696
Plant Samples Collected	1,043
ACP Samples Collected	26
Sites Without Hosts	558

Table 6. San Gabriel Expansion (9-19) 800 Meter Survey Data

	800 m
Survey Dates	1/9/17-9/27/17
# of Sites Visited	6,887
Plant Samples Collected	2,989
ACP Samples Collected	1398
Sites Without Hosts	1,767

Table 7. Hacienda Heights Expansion (2) 800 Meter Survey Data

	800 m
Survey Dates	10/19/16-10/20/16
# of Sites Visited	101
Plant Samples Collected	57
ACP Samples Collected	17
Sites Negative for ACP/Plant Samples	36

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Table 8. San Gabriel Cluster Survey Data

	Cycle 3	Cycle 1	Cycle 2	Cycle 3
Survey Dates	10/3/16- 12/16/16	1/4/2017- 4/26/17	5/24/17- 8/24/17	9/12/17- 9/28/17
# of Sites Visited	2,130	5,315	968	147
Plant Samples Collected	507	2,585	126	22
ACP Samples Collected	1,844	2,624	728	110
Sites Negative for ACP/Plant Samples	467	904	162	277

Between October 1, 2016 and March 31, 2017, 20 more HLB-positive trees were detected in Los Angeles County including two from Cerritos. These detections prompted survey in Cerritos, Los Angeles County 800m around each detection site (Tables 9-12). All the infected trees were treated, removed, bagged, and disposed of at a nearby landfill.

Table 9. Cerritos 800 Meter Survey Data

	800 m
Survey Dates	12/8/16 - 2/4/17
# of Sites Visited	2,149
Plant Samples Collected	1,414
ACP Samples Collected	1,169
Sites Without Hosts	785

Table 10. Cerritos Expansion (2) 800 Meter Survey Data

	Partial 800 m
Survey Dates	1/18/17 - 2/2/17
# of Sites Visited	77
Plant Samples Collected	37
ACP Samples Collected	27
Sites Without Hosts	42

Table 11. Cerritos Expansion (3) 800 Meter Survey Data

	Partial 800 m
Survey Dates	1/18/17 - 2/13/17
# of Sites Visited	35
Plant Samples Collected	28
ACP Samples Collected	21
Sites Without Hosts	13

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Table 12. Cerritos 80 Meter Survey Data (200 Meters)

	200m around find sites
Survey Dates	5/20/17 - Ongoing
# of Sites Visited	320
Plant Samples Collected	149
ACP Samples Collected	15
Sites Without Hosts	148

From February 24, 2017 to May 16, 2017, 29 HLB-positive plants and 157 ACP were collected from three cities previously unrecognized for positive HLB samples. In response, CDFA surveyed 800 meters around detections in Anaheim, La Habra, and Fullerton, Orange County (Tables 13-15).

Table 13. Anaheim 800 Meter Survey Data

	800 m
Survey Dates	3/24/2017 - 9/19/17
# of Sites Visited	7,707
Plant Samples Collected	2,975
ACP Samples Collected	2,150
Sites Without Hosts	4,776

Table 14. La Habra 800 Meter Survey Data

	800 m
Survey Dates	3/29/2017 - 9/12/2017
# of Sites Visited	1,287
Plant Samples Collected	489
ACP Samples Collected	266
Sites Without Hosts	804

Table 15. Fullerton 800 Meter Survey Data

	800 m
Survey Dates	5/28/2017 - 9/12/2017
# of Sites Visited	1,844
Plant Samples Collected	725
ACP Samples Collected	300
Sites Without Hosts	1,139

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On July 10, 2017 an HLB-positive ACP was collected in Riverside, Riverside county and identified on July 25, 2017, prompting an 800 Meter survey (Table 16).

Table 16. Riverside 800 Meter Survey Data

	800 m
Survey Dates	7/26/17 - 9/13/17
# of Sites Visited	1,353
Plant Samples Collected	458
ACP Samples Collected	95
Sites Without Hosts	968

More HLB-positive plant and ACP samples were collected in Anaheim over the same period of February to June causing slow expansion; but, it wasn't until June 26, 2017 that HLB-positive psyllids collected would prompt a name convention change in the project. Positive psyllids were beginning to be collected in the city of Anaheim but not within the current 800-meter area. In response, the street name was used and CDFA surveyed 800 meters around detections (Table 17).

Table 17. S Flore 800 Meter Survey Data

	800 m
Survey Dates	7/31/17 - 9/19/17
# of Sites Visited	454
Plant Samples Collected	239
ACP Samples Collected	139
Sites Without Hosts	108

Between June 26, 2017 and September 30, 2017 three more areas were recognized to host HLB infected plant and ACP. Of the three new areas, Pico Rivera, Los Angeles county was heavily populated with HLB-positive ACP samples with 53 trees collected over this period; S Oertly, another new Anaheim project area was created with the detection of two HLB-positive trees and another two ACP. HLB-Positive ACP were detected in Whittier, Los Angeles county on August 30, 2017 prompting a 800-meter survey around the detection (Tables 18-20).

Table 18. Pico Rivera 800 Meter Survey Data

	800 m
Survey Dates	3/24/17 - 9/19/17
# of Sites Visited	7,707
Plant Samples Collected	2,975
ACP Samples Collected	2,150
Sites Without Hosts	4,776

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Table 19. S Oertly 800 Meter Survey Data

	800 m
Survey Dates	3/29/17 - 9/12/17
# of Sites Visited	1,287
Plant Samples Collected	489
ACP Samples Collected	266
Sites Without Hosts	804

Table 20. Whittier 800 Meter Survey Data

	800 m
Survey Dates	5/28/17 - 9/12/17
# of Sites Visited	1,844
Plant Samples Collected	725
ACP Samples Collected	300
Sites Without Hosts	1,139

3) Quarantine

- a) Trigger: A quarantine is warranted on the detection of one or more psyllids or an HLB detection.
- b) Regulated Articles: All articles capable of harboring ACP and HLB shall be regulated in accordance with the most recent Federal Domestic Quarantine Order (USDA 2008) and state interior quarantine.
- c) Staff may monitor harvesting operations to assure packing bins/cartons are free from citrus plant parts.
- d) Staff may monitor treatment operations at citrus production nurseries.

Table 21. Asian Citrus Psyllid State Interior Quarantine Area

County	Quarantine Area (sq. miles) as of 9/30/2017
1 SAN DIEGO	4,247
2 IMPERIAL	4,484
3 ORANGE	800
4 LOS ANGELES	4,098
5 RIVERSIDE	7,306
6 SAN BERNARDINO	20,110
7 VENTURA	1,834
8 SANTA BARABRA	2,556
9 TULARE	4,838
10 FRESNO	6,006

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11	KERN*	2,304
12	SAN LUIS OBISPO*	537
13	SANTA CLARA*	215
14	ALAMEDA*	252
15	CONTRA COSTA*	219
16	SAN JOAQUIN*	767
17	MADERA*	262
18	SAN BENITO*	106
19	STANISLAUS*	339
20	MERCED*	533
21	SAN MATEO*	59
22	SAN FRANCISCO*	17
23	KINGS*	416
24	MONTEREY*	193
25	PLACER*	201
26	SOLANO*	323
27	NAPA*	33
28	YOLO*	54
29	SACRAMENTO*	98

*Partial County Quarantine **TOTAL: 63,207**

Quarantine regulations continued to be implemented by cooperative efforts from USDA PPQ, CDFA Pest Exclusion/Emergency Quarantine Response Program (EQRP), and County Agricultural Commissioners. Areas of enforcement included monitoring of grower treatments and movement of citrus operations, nursery treatments, movement of citrus nursery stock for direct planting, movement of budwood under permit, inspections of USDA-approved screen houses every 30 days, monitoring the 180-square mile HLB quarantine area, and assisting USDA staff for interstate shipping and movement of fruit leaving the quarantine area for compliance with ACP-free requirements.

Bulk Citrus

All the previous compliance agreements signed by CDFA were voided effective March 31st, 2017 and instead new compliance agreements were signed with the growers, packers, and haulers. During this reporting period, total of 6,300 compliances were signed statewide as shown below:

Table 22. Bulk Citrus

BULK CITRUS	
# Compliance agreement with growers	5,362
# Compliance agreement with transporters	673
# Compliance agreements with packers	265
TOTAL COMPLIANCES with multiple exhibits	6,300

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To transport bulk citrus either within or from an ACP quarantine area, the fruit must be completely safeguarded in transit. For an effective enforcement of ACP regulations for the movement of bulk citrus fruit, CDFA entered into cooperative agreements with local counties effective April 1st, 2017.

In order to move bulk fruit from an ACP quarantine to a packing house located outside the quarantine area for processing and final packing, bulk fruit must either be field cleaned to render the fruit free of leaf and stem or for movement of bulk citrus fruit with leaf and stem it must be treated with an approved insecticide and harvested within 14 days after the treatment (spray and harvest option).

During this reporting one-year period, total of 177,655 bins were moved to packing houses located outside the quarantine area for processing and final packing. Approx. 93% of bulk fruit was moved under spray and harvest option and 7% was field cleaned. See below:

Table 23. Bins

# Bins moved under spray and harvest QC permit 1377	165,785
# Bins moved under field cleaning QC Permit 1255	11,870
# TOTAL BINS	177,655

1Bin=approx. 900 lbs

Table 24. Compliances and Regulatory Data

# Compliance agreement with production nurseries	35
# Holds issued at production nurseries	112
# Plants on Hold at production nurseries	664,050
# Plants treated at production nurseries	5,340,822
# Treatments at production nurseries	907
# Plants Voluntarily destroyed	50,647

Huanglongbing Regulatory Activities

The total quarantine area under HLB quarantine as of September 30, 2017 is 564 sq. miles which covers portions of Los Angeles, Orange, Riverside (Table 25).

Combined, there are thirty-two Certified Farmers Markets (CFM) and ten Swap Meets located inside the HLB quarantine area. Staff continues monitoring CFMs and Swap meets on a periodic basis and all remained in compliance.

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Three nurseries in Orange County have built the CDFA approved insect resistant structures and placed a total of 2,037 citrus trees inside it. These are in addition to the only one CDFA approved insect resistant structure builds at a nursery in Los Angeles County which contains 124 plants.

Table 25. HLB Quarantine Area in California

County	Area(Sq. Miles)
Los Angeles*	314
Orange*	183
Riverside*	67
San Bernardino*	27
TOTAL	591

*Partial County Quarantine

Table 26. HLB Quarantine Activities by Counties

Activity	Los Angeles	Orange	Riverside/San Bernardino
Regulatory visits	4,298	2569	142
Hold notices issued to Residential find sites	35	28	2
Total plants voluntarily destroyed	1,814	8,005	854
Number of Insect Resistant Structures	1	3	0
Plants in Approved Insect Resistant Structure	122	2037	0
Compliance Agreements signed with Fruit Sellers	265	247	46
Total Certified Farmers Markets Under Compliance	17	12	3
Total Swap Meets Under Compliance	6	3	1

(4) Diagnostics

ACP Identification: Adult identification is performed at CDFA’s Plant Pest Diagnostic Center (PPDC) – Entomology lab (Table 34).

HLB Diagnostics: HLB diagnostics is performed at PPDC on ACP and suspect citrus and other host plant samples submitted to the lab as per the work instruction provided by the USDA – Center for Plant Health Science and Technology (CPHST) for DNA extraction and polymerase chain reaction (PCR) detection of citrus HLB pathogens.

All samples were assigned an accession number to prevent disclosure of the sample collection site. Results were submitted to PPDC and entered into the PDR database.

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HLB diagnostics are summarized in Table 27.

Table 27. HLB Testing

2016-2017 Month	PLANT	ACP CDFA	ACP ARIZONA	Monthly Total
2016 Oct	4,340	7,531	1,669	13,540
2016 Nov	3,867	6,456	3,165	13,488
2016 Dec	5,182	6,156	580	11,918
2017 Jan	3,461	3,880	444	7,785
2017 Feb	4,830	2,425	43	7,298
2017 Mar	4,094	1,705	2,758	8,557
2017 Apr	7,509	2,649	1,106	11,264
2017 May	8,150	4,247	789	13,186
2017 June	6,648	4,628	320	11,596
2017 July	4,708	5,003	-	9,711
2017 Aug	8,263	5,574	3,206	17,043
2017 Sep	5,285	5,164	729	11,562
Total	66,337	55,418	14,809	136,948

5) Outreach

To comply with Food and Agricultural Code 5779, CDFA sponsored 109 informational public meetings in counties where ACP or HLB were detected prior to pesticide applications. All residents were informed of the symptoms of HLB and the devastation this disease will cause. The public meetings are a collaborative effort with multiple agencies participating in the meetings, summarized in Table 28.

Table 28. ACP/HLB Informational Public Meetings

County	Location	Date
Alameda	Union City	2/23/2017
Alameda	Oakland	2/28/2017
Alameda	Oakland	9/26/2017
Contra Costa	Pleasant Hill	3/22/2017
Contra Costa	El Sobrante	3/30/2017
Fresno	Kingsburg	10/10/2016

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Fresno	Fresno	10/20/2016
Fresno	Fresno	11/15/2016
Fresno	Clovis	12/6/2016
Fresno	Fowler	12/15/2016
Fresno	Fresno	2/16/2017
Fresno	Fresno	4/12/2017
Fresno	Kingsburg	4/26/2017
Fresno	Orange Cove	7/27/2017
Imperial	Calexico	2/1/2017
Imperial	Calexico	9/18/2017
Kern	Bakersfield	10/6/2016
Kern	Arvin/Lamont	10/18/2016
Kern	Bakersfield	11/21/2016
Kern	Maricopa	12/5/2016
Kern	Delano	12/12/2016
Kern	Bakersfield	3/1/2017
Kern	Dustin Acres	4/13/2017
Kings	Hanford	10/10/2016
Kings	Stratford	11/28/2016
Kings	Stratford	3/13/2017
Los Angeles	Cerritos	12/28/2016
Los Angeles	San Gabriel	2/15/2017
Los Angeles	San Gabriel	4/19/2017
Los Angeles	Hacienda Heights	4/24/2017
Los Angeles	San Gabriel	5/16/2017
Los Angeles	Cerritos	5/22/2017
Los Angeles	La Puente	5/30/2017
Los Angeles	San Gabriel-Rosemead	6/29/2017
Los Angeles	San Gabriel	7/19/2017
Los Angeles	Cerritos	8/15/2017
Los Angeles	San Gabriel	8/22/2017
Los Angeles	Pico Rivera	8/28/2017

County	Location	Date
Merced	Santa Nella	11/9/2016
Orange	Anaheim	4/17/2017
Orange	La Habra	4/27/2017
Orange	Anaheim	5/24/2017
Orange	Anaheim	6/5/2017
Orange	Fullerton	6/22/2017
Orange	Anaheim	6/26/2017

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Orange	La Habra	7/26/2017
Orange	Anaheim	8/10/2017
Orange	Anaheim	8/16/2017
Orange	Anaheim	8/30/2017
Orange	Anaheim	9/20/2017
Placer	Roseville	6/26/2017
Riverside	UC Riverside	11/10/2016
Riverside	Hemet	11/14/2016
Riverside	Coachella	11/15/2016
Riverside	Hemet	3/23/2017
Riverside	Hemet	7/31/2017
Riverside	Riverside	8/9/2017
Riverside	UC Riverside	9/19/2017
San Benito	Hollister	10/13/2016
San Bernardino	Redlands	10/10/2016
San Bernardino	Redlands	8/21/2017
San Diego	San Ysidro	10/24/2016
San Diego	San Ysidro	2/7/2017
San Joaquin	Manteca	10/11/2016
San Joaquin	Lodi	10/27/2016
San Joaquin	Tracy	11/10/2016
San Luis Obispo	San Luis Obispo	10/5/2016
San Luis Obispo	Nipomo	10/12/2016
San Luis Obispo	San Luis Obispo	11/7/2016
San Luis Obispo	Nipomo	12/9/2016
San Luis Obispo	San Luis Obispo	12/14/2016
Santa Barbara	Santa Barbara	10/13/2016
Santa Barbara	Santa Barbara	10/18/2016
Santa Barbara	Santa Barbara Carpinteria	9/19/2017
Santa Clara	San Jose	10/5/2016
Santa Clara	San Jose	11/1/2016
Santa Clara	San Jose	12/19/2016

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Solano	Fairfield	1/17/2017
Tulare	Visalia	10/17/2016
Tulare	Pixley	10/19/2016
Tulare	Lemon Cove	10/24/2016
Tulare	Sultana	10/25/2016
Tulare	Porterville	11/14/2016
Tulare	Visalia	11/30/2016
Tulare	Tipton	12/8/2016
Tulare	Visalia	2/21/2017
Tulare	Lemon Cove	5/15/2017
Tulare	Orosi	5/31/2017
Tulare	Porterville	5/31/2017
Tulare	Terra Bella	6/20/2017
Tulare	Strathmore	8/23/2017
Ventura	Santa Paula	10/3/2016
Ventura	Camarillo	10/6/2016
Ventura	Santa Rosa Valley	10/20/2016
Ventura	Ventura	11/17/2016
Ventura	Ojai	11/21/2016
Ventura	Piru	2/28/2017
Ventura	Fillmore	3/1/2017
Ventura	Moorpark	3/8/2017
Ventura	Ventura	3/27/2017
Ventura	Ojai West	3/27/2017
Ventura	Oxnard	5/18/2017
Ventura	Oxnard East-Lake Sherwood	6/1/2017
Ventura	Ojai	6/27/2017
Ventura	Moorpark	8/3/2017
Ventura	Piru	8/7/2017
Ventura	Santa Paula	9/14/2017
Ventura	Camarillo Valley	9/28/2017
Yolo	West Sacramento	2/28/2017

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Table 29: 2017 Nuffer, Smith and Tucker Outreach Report

Tactic	Results	Impressions (if available)
<p>Media relations – English, Spanish, Asian and trade media relations</p> <p>Proactive press releases, op-eds, media alerts and interviews</p> <p>Responsive to local/county needs and media inquiries</p>	101 earned media stories	2.9 million
<p>Advertising – Hyperlocal placements raised awareness in specific communities while regional placements reached a broader audience</p>	1,055 ads	11 million
<p>Public service announcement</p>	PSA ran throughout the state	152 million
<p>Community events – Secured CPDPP presence at community events in key regions to speak with residents and distribute information</p>	10 community events, 3,000 conversations	—
<p>Informational materials – Updated and distributed collateral materials</p>	Distributed 45,000 pieces of literature on ACP/HLB	—
<p>CaliforniaCitrusThreat.org and CitrusInsider.org – Management, updating and sharing of CPDPP websites</p>	—	61,000
<p>CPDPP social media – Management, posting and sharing of CPDPP’s Facebook and Twitter accounts</p>	—	554,406
<p>Industry events – CPDPP participation in meetings reaching key industry segments</p>	1,800 attendees	—
<p>Elected official/city government outreach – Desk-side meetings, phone and webinar briefings, city council presentations and conference attendance help CPDPP build relationships with elected officials who then help educate residents and industry</p>	<ul style="list-style-type: none"> – 136 “City Partners” agreed to distribute education material to residents – Met with 90 percent of cities in HLB quarantine area – Webinar participation from 25 cities – Attended 4 conferences, leading to 147 new elected official contacts 	—

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Approved and signed by

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California Department of Food and Agriculture
Plant Health and Pest Prevention Services

Beth Stone-Smith, ADODR Date
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APHIS, Plant Protection and Quarantine