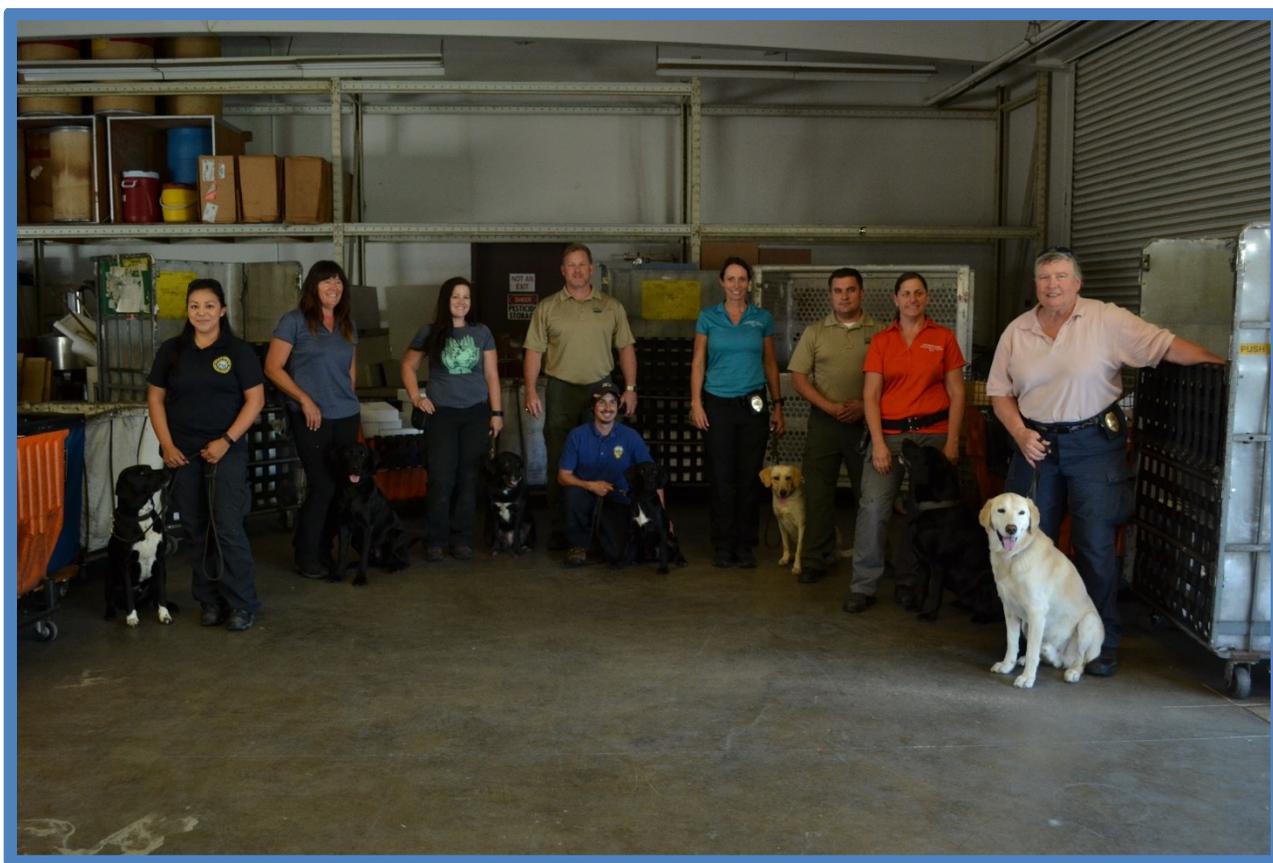


CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

CALIFORNIA AGRICULTURE DETECTOR DOG TEAM PROGRAM



Annual Report

July 1, 2017 - June 30, 2018

Pictured: Northern California USPS NDDTC class. This is the first year that the NDDTC provided the USPS training class and validation test that was developed for California. Picture courtesy of Laura McCready in Sacramento County.

CONTENTS

Purpose of Cooperative Agreement #17-8506-1165-CA	3
Work Plan Activities Performed by the CDFA	3
Work Plan Activities Performed by County Agricultural Commissioners.....	3
Replacements and Additions	4
Summary of Dog Team Interceptions at Parcel Facilities	4
USPS Progress.....	5
Graph 3: California Dog Teams - Pest Interception Totals per Facility Type.....	5
Graph 4: Comparison of Marked vs. Unmarked Parcel Interceptions by Parcel Facility	6
Significant Pest Interceptions	7
Highlights of County Dog Team Interceptions.....	12
Examples of Alameda County Dog Team Interceptions	12
Examples of Contra Costa County Dog Team and Santa Clara Interceptions	14
Examples of Fresno County Dog Team Interceptions	16
Examples of Los Angeles County Dog Team Interceptions	17
Examples of Sacramento County Dog Team and Yolo Interceptions.....	19
Examples of San Bernardino County Dog Team Interceptions	22
Examples of San Diego County Dog Team Interceptions	23
Examples of Santa Clara County Dog Team Interceptions	24

PURPOSE OF COOPERATIVE AGREEMENT #17-8506-1165-CA

The purpose of cooperative agreement #17-8506-1165-CA is to implement the use of the California Agriculture Detector Dog Teams (herein referenced as California Dog Teams) to enhance the inspection and detection of pests associated with plant products entering California via parcel delivery facilities and Airfreight terminals. By preventing the introduction of pests, the California Dog Teams play an important role in protecting agriculture, natural habitats, and the economy.

WORK PLAN ACTIVITIES PERFORMED BY THE CDFA

The California Department of Food and Agriculture (CDFA) oversaw and provided guidance for the statewide California Dog Team Program and distributed funds through cooperative agreements to County Agricultural Commissioners (CAC) for the purposes of fulfilling California Dog Team activities as outlined in the CDFA/CAC cooperative agreement. The CDFA verified that all expenses approved for payment to CAC cooperators were legitimate expenses as outlined in the CDFA/CAC cooperative agreement. The CDFA acted as the liaison between the CAC and the National Detector Dog Training Center (NDDTC) and was responsible for communicating significant pest finds and smuggling information to the United States Department of Agriculture (USDA)/Smuggling Interdiction and Trade Compliance (SITC).

WORK PLAN ACTIVITIES PERFORMED BY COUNTY AGRICULTURAL COMMISSIONERS

The California Dog Teams and inspectors were distributed as described in Table 1 and in the *map below. 12 of the 13 California Dog Teams worked at parcel facilities for the full reporting period (July 1, 2017 – June 30, 2018): Alameda (one team), Contra Costa (one team), Fresno (one team), Los Angeles (three teams), Sacramento (two teams), San Bernardino (one team), San Diego (two teams), Santa Barbara (one team), Santa Clara (one team), and Yolo (inspectors only).

Teams are based in a single county but work regionally to cover over 200 facilities in 32 of 58 California counties or 56.4 percent of the total square mileage in California.

TABLE 1: Distribution of CA Dog Teams

County	Area Covered	# of Teams
Alameda	Alameda County	1
Contra Costa	San Francisco Bay Area	1
Fresno	Fresno County	1
Los Angeles	Los Angeles County	3
Sacramento	Sacramento Valley	2
San Bernardino	Inland Empire Area	1
San Diego	San Diego County	2
Santa Barbara	Santa Barbara County	1
Santa Clara	South Bay Area	1
Yolo	Sacramento Valley	0



REPLACEMENTS AND ADDITIONS

Two canines retired this reporting period. Sacramento County canine Dozer retired in November 2017 and the handler received a new dog from the NDDTC in December 2017. San Diego County handler Ted Olsen and canine Drake retired together at the end of December 2017. Both retired canines were adopted by their handlers and are enjoying life at home. Additionally, Contra Costa team Mariah deNijs and canine Cairo moved in June 2017 and are now working in Sacramento County. The San Diego and Contra Costa positions were filled with new handlers and canines. The two new teams graduated from the NDDTC in December 2017. The Sacramento handler came home from the NDDTC with her new canine partner in November 2017.

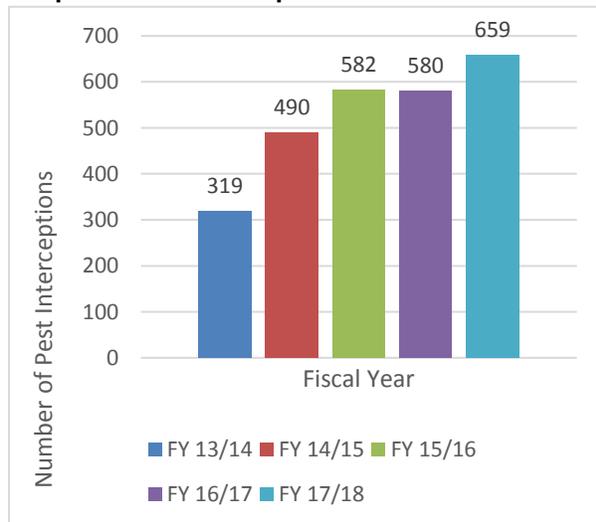
Five more canines will be retiring in July 2018 next fiscal year due to age. The canines are located in Alameda, Contra Costa, Sacramento, San Bernardino, and San Diego Counties. Four of the five teams will be receiving new canines and attending the NDDTC canine replacement class. The position in Contra Costa County is currently not scheduled to be filled due to budgeting constraints. The program expects to see a decrease in pest interceptions until the new canines are acquired, pass USDA/NDDTC certifications, and are acclimated to working in the U.S. Postal Service's (USPS) facility. This progression typically takes a minimum of at least one year.

SUMMARY OF DOG TEAM INTERCEPTIONS AT PARCEL FACILITIES

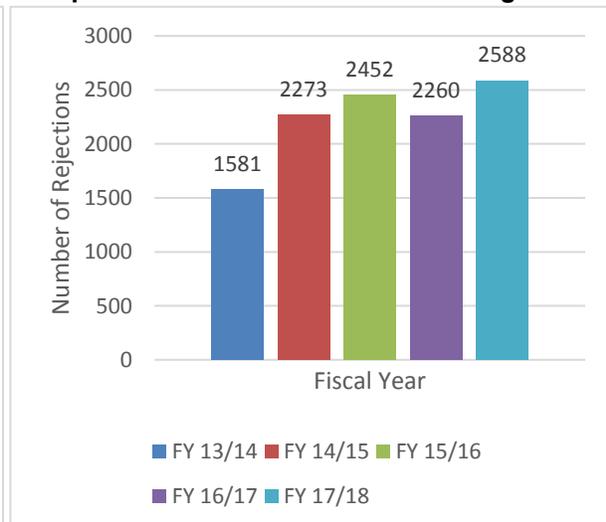
The California Dog Teams continue to demonstrate that unmarked parcels present a high-risk pathway for significant agricultural pests to enter California. During the agreement period, a total of 659 significant pests were intercepted by California Dog Teams (Graph 1). Some of these interceptions involved multiple pest specimen in a single package.

The California Dog Teams alerted on 44,567 marked and unmarked parcels containing agricultural products at the midway point of the agreement. Of the total alerted parcels, 6,461 were intercepted at USPS facilities and of these packages 68 percent (2,096) were unmarked. Additionally, the teams performed the 90 percent accuracy rate for detecting agricultural commodities in unmarked packages at private parcel facilities (i.e. FedEx and UPS). Due to the efforts of the California Dog Teams during this reporting period, 2,588 rejections have been issued for violation of state and federal plant quarantine laws and regulations (Graph 2).

Graph 1: Pest Interceptions



Graph 2: Violation of Plant Laws & Regulations



USPS PROGRESS

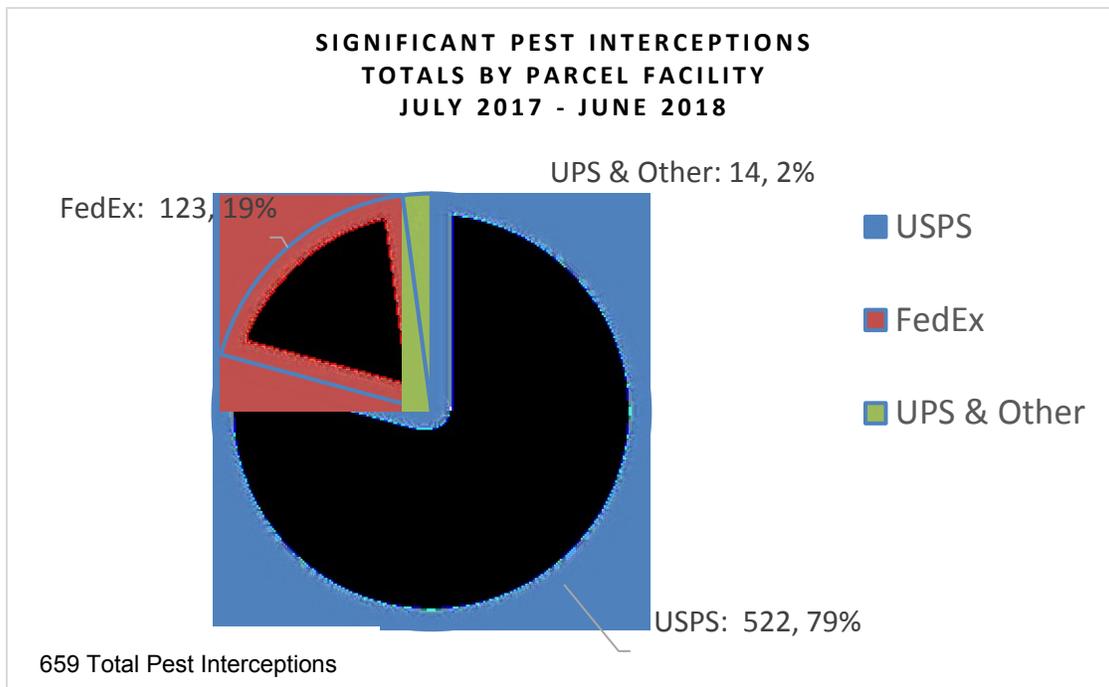
The CDFA continued laying the groundwork for Dog Teams working at the USPS processing and distribution centers. This work is conducted under a multiagency Memorandum of Understanding (MOU). This MOU requires inspectors to contact either the shipper or receiver within 24 hours to gain consent to open a parcel that the dog alerted on. Although this process is resource-intensive, data collected over the past two years demonstrate that the USPS is the highest risk parcel pathway based on the quantity of pest interceptions (Graph 3) and the quality of pest interceptions from unmarked parcels (Graph 4).

Because of the risks associated with the USPS, California Dog Teams are concentrating their efforts on processing and distribution systems.

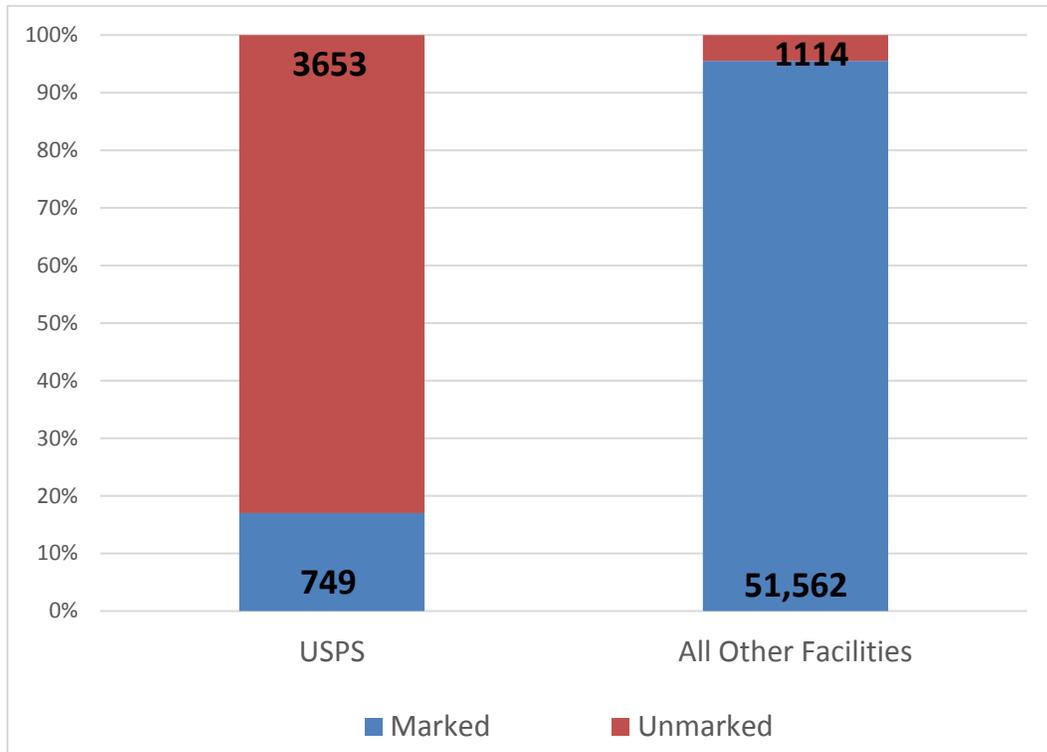
Graph 3 illustrates the distribution of pest interceptions by the California Dog Teams at different parcel facilities. The much higher frequency of interceptions at the USPS demonstrates the risk of parcels entering California through the USPS.

Graph 4 illustrates the much higher occurrence of unmarked parcels at the USPS than at private parcel facilities. Consequently, the California Dog Teams have increased their inspection hours at the USPS facilities.

GRAPH 3: CA DOG TEAMS - PEST INTERCEPTION TOTALS PER FACILITY TYPE



GRAPH 4: COMPARISON OF MARKED VS. UNMARKED PARCEL INTERCEPTIONS BY PARCEL FACILITY



The pursuit of search warrants to open parcels when inspectors are unable to gain consent began in Fiscal Year 14-15 as a pilot program in Santa Clara County (San Jose USPS). All parcels opened with a search warrant contained agricultural material. The CDFA continues to work with the USDA on expanding the ability to seek search warrants at all USPS locations when inspectors are unable to gain consent.

A new Call Center pilot program was developed and operated in four counties this fiscal year. The call center supported the California Dog Team USPS package permissions task. The purpose of the call center was to provide a centralized call center team that efficiently and cost-effectively lessened the burden for individual counties without any loss in customer service or rates of consent. The call center was meant to supplement county efforts to locate individuals and acquire permissions. The call center was staffed by individuals that were hand-picked for the specific task and seasonally employed by Sacramento County Department of Agriculture.

The Call Center pilot program was highly successful and increased the percentage of consent rates from two years prior (Table 2).

TABLE 2: Call Center Consent Percentage Rate Increase

County	FY 15/16 (before the Call Center pilot program)	FY 17/18 (during the Call Center pilot program)
Alameda	56%	91.2%
San Diego	34%	92.3%
Santa Clara	48%	87.6%
Yolo	71%	91%

Additionally, a statewide USPS consent list was developed and established. The list provides repeat shippers/businesses the option to sign a “blanket permission” form for any future shipments counties may encounter.

SIGNIFICANT PEST INTERCEPTIONS

During this agreement period, California Dog Teams were extremely successful at protecting California agriculture by intercepting significant pests of agriculture before they could be introduced into California. Table 3 below lists the number and type of actionable pests which includes 185 actionable A-rated pests, 469 actionable Q-rated pests, and five actionable W-rated pests.

Table 3: Significant Pest Interceptions

July 1, 2017 – June 30, 2018



Scientific Name	Common Name	Rating	Origin and Interceptions
Acanthothrips/sp	thrip	Q	FL
Acari	mite	Q	HI
Acrididae	locust	Q	TN
Adaina/simplicius	moth	Q	MI
Ageratum/conyzoides	tropical whiteweed	Q	MI
Aleurodicus/dispersus	spiraling whitefly	A	AS
Aleurodicus/rugioperculatus	rugose spiraling whitefly	Q	FL
Aleurotrachelus/sp.	whitefly	Q	PR
Aleurovitreus/sp	whitefly	Q	FL
Aleyrodidae	whitefly	Q	DC, FL (2), HI, OR, WI

Scientific Name	Common Name	Rating	Origin and Interceptions
Alternanthera/sessilis	sessile joyweed	W	FL
Anastrepha/obliqua	west Indian fruit fly	A	PR (3)
Anastrepha/suspensa	Caribbean fruit fly	A	FL (2)
Aonidiella/orientalis	oriental scale	A	FL (9), IA
Aphididae	aphid	Q	CA, DC, FL (4), GA, HI, MA, MI, NC, SC (2), TN (2), Unkwn
Arctiidae	moth	Q	EC
Argyrotaenia/amatana	pondapple leafroller moth	Q	FL
Aspidiella/hartii	armored scale	Q	NJ
Aspidiotus/destructor	coconut scale	A	FL (2)
Aulacaspis/tubercularis	armored scale	Q	AL, FL (11), GA (2), PR
Azolla/caroliniana	Carolina mosquito fern	Q	WA
Bephratelloides/cubensis	eurytomid wasp	Q	FL
Bephratelloides/sp.	eurytomid wasp	Q	FL (2), PR
Bicilia/iarchasalis	moth	Q	FL
Blastobasidae	moth	Q	FL (2)
Brachymyrmex/sp.	ant	Q	HI (2)
Bucculatrix/sp.	ribbed cocoon maker	Q	VA
Cacocharis/cymotoma	moth	Q	FL
Camponotus/planatus	ant	Q	FL
Camponotus/sp.	carpenter ant	Q	MI
Candidatus Liberibacter/asiaticus	citrus greening huanglongbing	A	FL
Cardiocondyla/sp.	ant	Q	FL (2)
Cerambycidae	long horned beetle	Q	CA, MI
Ceroplastes/floridensis	florida wax scale	A	FL
Ceroplastes/rusci	fig wax scale	A	FL (4)
Ceroplastes/sp.	wax scale	Q	FL (4), GA
Ceroplastes/stellifer	stellate scale	A	AS, HI
Chionaspis/sp.	armored scale	Q	FL
Cicadellidae	leafhopper	Q	FL (2), TN, TX (3)
Cinara/sp.	aphid	Q	FL
Coccidae	scale	Q	AS, CA, EC (2), FL (21), HI (3), MI, PR (6), TH, TX, VA
Coccus/capparidis	capparis soft scale	Q	FL
Coccus/viridis	green scale	A	DE, FL
Colletotrichum/aracearum	Leaf spot; Not known to occur in US.	Q	CN

Scientific Name	Common Name	Rating	Origin and Interceptions
Colletotrichum/henanse	leaf spot; First domestic identification of this species.	Q	IA
Colletotrichum/sp.	Leaf spot; Not known to occur in US.	Q	IA
Conotrachelus/sp.	weevil	Q	MN
Coreidae	true bug	Q	TX
Corythucha/sp.	lace bug	Q	HI
Crambidae	grass moth	Q	FL
Crematogaster/sp.	ant	Q	PR
Curculionidae	true weevil	Q	AR, CT, HI LA, MD, MO, NC, PA, VT, WI
Cydia/caryana	hickory shuckworm	A	AR (2), LA
Darapsa/sp.	Virginia creeper sphinx	Q	MS
Delphacidae	planthopper	Q	AS
Diaphania/indica	cucumber moth	Q	FL
Diaphorina/citri	Asian citrus psyllid	A	FL
Diaspididae	scale	Q	AL, CA (3), EC, FL (34), GA, HI (5), MN, OH, PR (9), SC, TX
Dichromothrips/smithi	thrip	A	CA
Dysmicoccus/grassii	mealybug	A	FL (23), GA, PR (4), TX
Dysmicoccus/neobrevipes	gray pineapple mealybug	A	FL (12), HI (3)
Dysmicoccus/texensis	scale	A	PR
Elsinoe/australis	sweet orange scab	A	FL (2)
Epiphyas/postvittana	light brown apple moth	A	CA
Erinnyis/alope	sphinx moth	Q	FL
Eriophyes/annonae	eriophyid mite	Q	FL
Ferrisia/sp.	mealybug	Q	FL (2)
Fiorinia/externa	diaspidid scale	A	NC
Fiorinia/phantasma	phantasma scale	Q	AS
Fiorinia/theae	tea scale	A	LA
Formicidae	ant	Q	FL
Frankliniella/tritici	flower thrips	A	WI
Fridericia/sp.	plant	Q	GA
Gastropoda	slug	Q	FL (2), HI
Gelechia/sp.	gelechiid moth	Q	FL
Gelechiidae	moth	Q	HI
Gymnosporangium/juniperi-virginianae	Cedar apple rust	A	MA (4), MD (3), NC, RI, WI
Hemiptera	true bug	Q	FL, HI (2), IL (2)

Scientific Name	Common Name	Rating	Origin and Interceptions
Hendecasis/duplifascialis	moth	Q	IN (2), NJ (3), NY (2), Unkwn (3)
Heteroptera	true bug	Q	FL
Homoptera	true bug	Q	FL
Hydrilla/verticillata	hydrilla	W	FL
Insecta	insect	Q	CA, DC, FL (18), GA (2), HI (3), MI, MS, TN, TX (4), WA, Unkwn (2)
Ischnaspis/longirostris	black thread scale	A	CA, EC, FL, HI
Limnobium/laevigatum	south American spongeplant	W	TX
Lonchaeidae	lance fly	Q	FL (4)
Maconellicoccus/hirsutus	pink hibiscus mealybug	A	FL (16), GA
Marasmiellus/sp.	Stem necrosis	Q	FL
Melanaspis/sp.	armored scale	Q	FL
Milviscutulus/mangiferae	mango shield scale	A	FL, HI
Miridae	capsid bug	Q	FL (2), TX
Mycetaspis/personata	masked scale	A	CA, PR
Myllocerus/undecimpustulatus undatus	weevil	A	FL
Neosilba/sp	fly	Q	FL (3)
Nipaeococcus/viridis	mealybug	Q	FL
Nylanderia/sp	ant	Q	HI
Nymphaea/mexicana	banana waterlily	W	FL
Nymphoides/peltata	yellow floatingheart	W	OH
Ochetellus/glaber	ant	A	HI
Oligochaeta	annelid worm	Q	MN
Oligonychus/sp.	spider mite	Q	FL
Ortheziidae	ensign scale	Q	EC (2)
Ostrinia/nubilalis	European corn borer	A	FL
Paracoccus/marginatus	mealybug	A	FL (4)
Paraulacizes/irrorata	sharpshooter	Q	FL
Parlatoria/pseudaspidotus	vanda orchid scale	A	AS, FL
Phalacrooccus/howertoni	soft scale	Q	FL (@), PR (2)
Pheidole/megacephala	bigheaded ant	Q	FL
Pheidole/sp.	ant	Q	CA, FL (16), HI (9)
Phenacoccus/parvus	mealybug	Q	GA
Phlaeothripidae	thrip	Q	HI (2)
Phosphila/turbulenta	cutworm	Q	MS
Phyllachora/microsiegia	sooty blotch	Q	FL
Pinnaspis/buxi	boxwood scale	A	EC (2)

Scientific Name	Common Name	Rating	Origin and Interceptions
Pinnaspis/strachani	lesser snow scale	A	CA, FL (4), HI (5), PR (2)
Planococcus/lilacinus	mealybug	A	FL
Planococcus/minor	pacific mealybug	A	FL, HI (2),
Platycoryphza/nigrivirga	tipu psyllid	Q	TN
Popillia/japonica	Japanese beetle	A	MN
Prococcus/acuteus	slender soft scale	Q	FL
Pseudaonidia/duplex	camphor scale	Q	VA
Pseudaonidia/trilobitiformis	trilobe scale	A	AS, EC, FL, GA, HI (2), LA, NC, SC
Pseudaulacaspis/cockerelli	magnolia white scale	A	FL (2)
Pseudaulacaspis/pentagona	white peach scale	A	CA, FL (7), HI (2)
Pseudococcidae	mealybug	Q	AR, AS, CA (3), DE, FL (38), HI (30), IA (2), KS (2), LA, MI, MN, NC, OH, OR, PR (4), SC (2), TX (2), VA
Pseudococcus/jackbeardsleyi	mealybug	A	HI, PR
Pseudococcus/odermatti	mealybug	Q	FL (4)
Pseudococcus/sp.	mealybug	Q	MX
Pseudomyrmex/sp.	ant	Q	FL
Psychidae	bagworm moth	A	FL, WI
Psyllidae	psyllid	Q	FL (2)
Pupisoma/sp.	snail	Q	FL
Rotala/sp.	rotala	Q	FL
Selenaspis/articulatus	rufous scale	A	PR
Sitobion/luteum	aphid	Q	CA
Solanum/torvum	turkey berry	Q	FL
Solenopsis/invicta	red imported fire ant	A	FL, MI
Sphenophorus/sp.	weevil	Q	MN
Spodoptera/eridania	southern armyworm	A	FL
Subulinidae	land snail	Q	TX
Succinea/sp.	snail	Q	GA
Technomyrmex/sp.	ant	Q	FL, MI, PR (2)
Tetraleurodes/sp.	redbanded whitefly	Q	GA
Tetramorium/sp.	ant	Q	FL
Tetranychidae	mite	Q	FL
Tetranychus/sp.	tetranychid mite	Q	FL (2), LA, NJ, OH, SC
Thripidae	thrip	Q	IL, PR
Thrips/parvispinus	thrip	Q	HI

Scientific Name	Common Name	Rating	Origin and Interceptions
Thysanoptera	thrip	Q	DC (3), FL (4), HI (2), KS, PR (3), TX (2)
Tineidae	moth	Q	LA
Tortricidae	leafroller moth	Q	FL (4)
Tropiduchidae	planthopper	Q	FL
Tuckerella/sp.	peacock mite	Q	FL, PR
Vallisneria/spiralis	tapegrass	Q	FL
Wasmannia/auropunctata	ant	A	FL (5), PR
Xanthomonas/axonopodis pv. citri	Citrus canker	A	FL
Zonitidae	true glass snail	Q	HI

659 Total Interceptions

HIGHLIGHTS OF COUNTY DOG TEAM INTERCEPTIONS

Dog team interceptions from July 1, 2017 to June 30, 2018 resulted in the interception of 185 A-rated pests, 469 Q-rated pests, and five W-rated pests. Of these pest interceptions, there were five federal noxious weeds including hydrilla and south American sponge plant. Plant pests included huanglongbing (HLB), Asian Citrus Psyllid, Citrus canker, European corn borer, hickory shuckworm, and Japanese beetle. Also of note, five fruit fly interceptions included west Indian and Caribbean fruit flies. These quarantine pests are not known to occur in California and the dog team interceptions were critical to prevent the establishment of these detrimental pests in California. The narratives below detail examples of interesting interceptions during the reporting period.

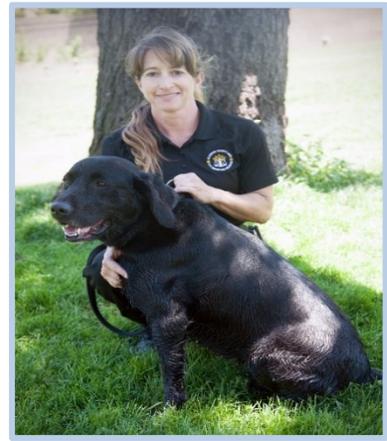
EXAMPLES OF ALAMEDA COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. Citrus Canker and HLB
2. Thrips
3. Hydrilla

Citrus Canker and HLB

On August 23, 2017, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo, Inspector Chris Craft, and Inspector Elizabeth Topete intercepted an unmarked and uncertified parcel from Florida at the USPS in Oakland.



Alameda County Inspector/Handler Lisa Sampson and dog Cosmo intercepted a package containing kaffir limes from Florida. The shipment was found to be infested with Citrus canker and citrus greening disease (HLB); photos courtesy of Alameda County

Alameda County Inspectors Craft and Topete obtained permission from the shipper to open the parcel for inspection.

The parcel contained four pounds of *Citrus hystrix* (kaffir limes) and other nonagricultural items. The limes were confiscated and the remainder of the parcel was released. Upon inspection of the limes, Inspectors Craft and Topete found suspect pests and symptoms of possible diseases on the limes.

Pest and infested lime samples were submitted to the Plant Pest Diagnostics (PPD) Laboratory for identification and were identified as the following:

- A-rated *Xanthomonas axonopodis* pv. *citri* (Citrus canker)
- A-rated *Candidatus Liberibacter asiaticus* (citrus greening, huanglongbing)
- Q-rated Diaspididae (scale)
- Q- rated Pseudococcidae (mealybug)



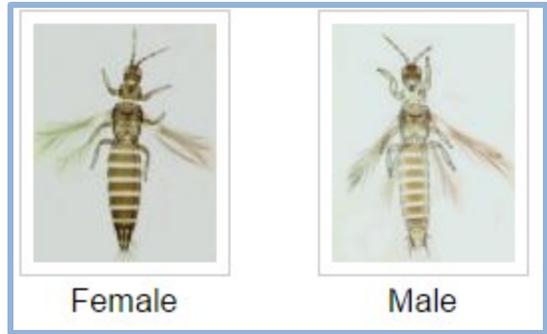
Thrips

On February 22, 2018, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo, Investigator Elisabeth Topete, and Agricultural Biologist Chris Craft intercepted an unmarked and uncertified parcel from Lakewood (CA) at the USPS facility in Oakland. Permission was obtained from the shipper to open and inspect the parcel which contained orchid plants.

Upon inspection, Agricultural Biologist Craft and Investigator Topete found that the plants were heavily infested with live suspect pests.

Pest samples were submitted to the PPD Laboratory for identification and were identified as the following:

- A-rated *Dichromothrips smithi* (thrips) Pest and Damage Report (PDR): 010P06809715
- Q-rated *Sitobion luteum* (aphid) PDR: 010P06809716
- Q- rated Pseudococcidae (mealybug) PDR: 010P06809718



Dichromothrips smithi; image retrieved from:
http://blogs.cdfa.ca.gov/Section3162/?attachment_id=1805

Hydrilla

On April 26, 2018, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo and Agricultural Biologist Elisabeth Topete intercepted an unmarked and uncertified parcel from Florida at the USPS facility in Oakland. Permission was obtained from the shipper to open the parcel for inspection. The parcel contained two aquatic plants shipped through an online transaction.

Samples of the live aquatic plants were collected and submitted to the PPD Laboratory for identification. The plants were identified as Q-rated *Rotala* sp. (rotala) PDR: 010P06809766 and Q-rated *Vallisneria spiralis* (tapegrass) PDR: 010P06809767.



Alameda County Dog Team intercepted two aquatic plant species from Florida; photos courtesy of Alameda County

EXAMPLES OF CONTRA COSTA COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. Unmarked and Uncertified Package from Hawaii
2. European Corn Borer

Unmarked and Uncertified Package from Hawaii

On July 11, 2017, Contra Costa County Dog Team Inspector/Handler Cecilie Siegel with dog Conan and Santa Clara County Inspector Nick Otterlei intercepted an unmarked and uncertified package from Hawaii at the USPS facility.

The package contained two *Ananas* sp. (pineapples). Santa Clara County Inspector Otterlei obtained permission from the receiver to open and inspect the package. Upon inspection, suspect pests were found near the base of the fruit.

Pest samples were submitted to the PPD Laboratory for identification and were identified as Q-rated Pseudococcidae (immature female mealybugs) and Q-rated Acari (partial mite specimen).

European Corn Borer

On May 3, 2018, Contra Costa County Dog Team Inspector/Handler Cecile Siegel with dog Conan and Yolo County Inspector Bill Lyon intercepted an unmarked and uncertified parcel from Florida at the USPS facility in West Sacramento. The parcel contained *Cucumis* sp. (cucumbers) and *Murraya koenigii* (curry) cut foliage. Permission was obtained from the shipper to open the parcel for inspection.

Upon inspection of the parcel, Inspector Lyon found suspect pests throughout the fruit and leaves.

Pest samples were submitted to the PPD Laboratory for identification and were identified as the following:

- A-rated *Ostrinia nubilalis* (European corn borer) PDR: 570P06216089
- Q-rated suspect Auchenorrhyncha nymph PDR: 570P06216091
- Q-rated Tortricidae PDR: 570P06216092
- A-rated *Pinnaspis strachani* (lesser snow scale) PDR: 570P06216094
- Q-rated *Acanthothrips* sp. (thrips) PDR: 570P06216095



Top - curry leaves

Bottom – cucumbers from Florida; photos courtesy of Yolo County





Left to right - *Ostrinia nubilalis*, Auchenorrhyncha nymph, and *Pinnaspis strachani* found on cucumbers and curry leaves from Florida; photos courtesy of Yolo County



Left - Tortricidae

Right - *Acanthothrips* sp.; photos courtesy of Yolo County



EXAMPLES OF FRESNO COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. Multiple Rated Pests in Unmarked Package

Multiple Rated Pests in Unmarked Package

On May 17, 2018, Fresno County Dog Team Inspector/Handler Samantha Tomlinson with dog Soya traveled to Yolo County to work at the USPS sectional center. An unmarked and uncertified package was intercepted at the West Sacramento facility from Pago Pago, American Samoa. The



Cut flowers from Hawaii infested with *Planococcus*



Shipment of *mangifera* sp. and unidentified tropical leaves from American Samoa; photos courtesy of Yolo County

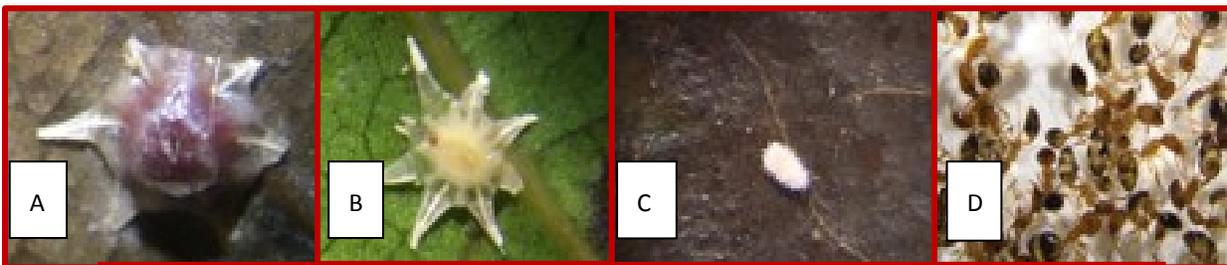
package contained one pound of *Mangifera* sp. (mango) and one pound of unidentified tropical leaves. Permission was obtained through the Sacramento Dog Team Call Center to open the package for inspection.

Upon inspection of the mangos and unidentified tropical leaves, Yolo County Inspector Bill Lyon found approximately 300 aggressive ants inside which were cooled down and removed. A variety

of other suspect pests were found on the leaves. The pest samples were collected and submitted to the PPD Laboratory for identification and were identified as the following:

- A-rated *Parlatoria pseudaspidotus* (vanda orchid scale) PDR: 570P06216111
- A-rated *Ceroplastes stellifer* (stellate scale) PDR: 570P06216113
- A-rated *Aleurodicus disperses* (spiraling whitefly) PDR: 570P06216116
- A-rated *Pseudaonidia trilobitiformis* (trilobe scale) PDR: 570P06216119
- Q-rated Coccidae (scale) PDR: 570P06216112
- Q-rated *Fiorinia phantasma* (tea scale of camellia) PDR: 570P06216115
- Q-rated Pseudococcidae (mealybug) PDR: 570P06216117
- Q-rated Delphacidae (planthopper) PDR: 570P06216118

The aggressive ants were identified as C-rated *Monomorium pharaonis* (pharaoh ant) PDRs: 570P06216114 and 570P06216110.



A & B - *Ceroplastes stellifer*, C – Pseudococcidae, D - *Monomorium pharaonic* ants found on mango and unidentified leaves from American Samoa; photos courtesy of Yolo County

EXAMPLES OF LOS ANGELES COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. Federal Noxious Weed
2. Driftwood from Hawaii
3. Mosquito Fern

Federal Noxious Weed

On July 20, 2017, Los Angeles County Inspector/Handler Lauren Eckert with dog Sedona, Inspector Laura Kopase, and CDFA Environmental Scientist Sonia Oran were working at the USPS facility in Los Angeles. Sedona alerted the group to a parcel that had arrived from Florida. Permission was obtained from the receiver to open and inspect the parcel. The parcel contained mangos and berries of an unknown type. Inspector Kopase and Scientist Oran inspected the parcel for possible pests. The unknown berries were sampled and submitted to the PPD Laboratory



Q-rated Federal Noxious Weed - *Solanum torvum* from Florida; photo courtesy of Los Angeles County

for identification. The PPD Laboratory identified the berries as Q-rated *Solanum torvum*, a federal noxious weed.

Driftwood from Hawaii

On November 1, 2017, Los Angeles County Dog Team Inspector/Handler Lauren Eckert with dog Sedona and Inspector Sunny Thompson intercepted an unmarked and uncertified package from Hawaii at the FedEx facility in the City of Industry.

The contents of the oddly shaped box, which inspectors thought was a car or machine part, turned out to be driftwood.

Upon inspection, Inspector Thompson noticed that many of the pieces of wood had insect burrowing holes. Several of the branches were collected as samples and the package was placed on hold for further examination. Deputy Rob Smice cut open one of the pieces of wood and found ants inside.

The ant samples were submitted to the PPD Laboratory for identification and were identified as Q-rated *Pheidole* sp. (big headed ant).



Wood from Hawaii infested with *Pheidole* sp.; photos courtesy of Los Angeles County

Noxious Weeds

On January 30, 2018, Los Angeles County Inspector/Handler Diana Eckert with dog Agent and Inspectors Matt Meares and Laura Kopase intercepted a box from Pennsylvania at the FedEx facility in Carson. The box was unmarked and contained moss from Pennsylvania.



Inspectors Meares and Kopase found several larvae and mature insects after thoroughly examining the moss and accompanying box.

The pests were submitted to the PPD Laboratory for identification. Results indicated that the DNA was consistent with Q-rated *Crambus agitatellus* (double-banded grass-veneer moth) larvae.

Crambus agitatellus in the adult stage; photo retrieved from: <https://www.inaturalist.org/taxa/133447-Crambus-agitatellus>

Mosquito Fern Noxious Weed

On April 5, 2018, Los Angeles County Dog Team Inspector/Handler Lauren Eckert with dog Sedona and Inspector Laura Kopase intercepted a marked parcel at the USPS facility in Los Angeles. The parcel contained California Aquatic Plant certification (hydrilla-free) originating from Michigan but shipped from Ohio.

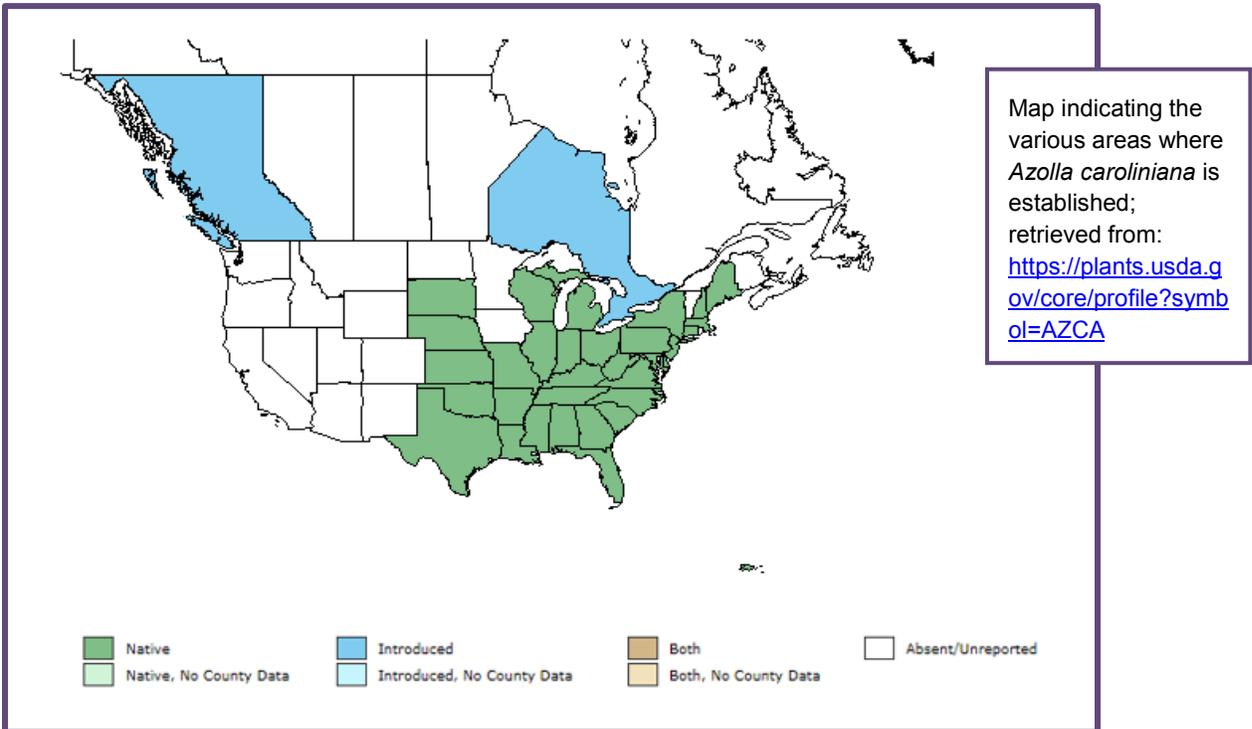


After obtaining permission to open the box, Inspector Kopase found assorted water lilies, taro root, and a suspicious water fern.

Plant samples from the fern were submitted to the PPD Laboratory for identification and were identified as Q-rated *Azolla caroliniana* (Carolina mosquito fern).

Shipment of *Azolla caroliniana* shipped from Ohio; photo courtesy of Los Angeles County

Both the shipper and receiver gave permission to remove the *Azolla caroliniana* from the shipment.



EXAMPLES OF SACRAMENTO COUNTY DOG TEAM AND YOLO INTERCEPTIONS

Summary of Interception Highlights:

1. Multiple Shipments of Infested Mangos from Florida

2. Cedar Apple Rust
3. Canine Yeti's First A-Rated Find

Multiple Shipments of Infested Mangos from Florida

On June 28, 2017, Yolo County Inspectors Bill Lyon and Michelle Lawson assisted Sacramento County Dog Team Handler Mariah DeNijs and dog Cairo at the West Sacramento USPS Facility. Inspectors Lyon and Lawson intercepted an unmarked package from Florida. The package contained approximately ten pounds of mature *Mangifera indica* (mangos). Yolo County inspectors obtained permission from the shipper to inspect the package.

Upon inspection, insect eggs were found near the base of the fruit stem of the mangos. Pest samples were submitted to the PPD Laboratory for identification and were identified as Q-rated insect eggs.

On the following day, June 29, 2017, Yolo County Inspectors Bill Lyon and Michelle Lawson once again assisted Sacramento County Dog Team Handler Mariah DeNijs and dog Cairo at the West Sacramento USPS facility.

Yolo County Inspectors intercepted two unmarked packages from Florida. The first package contained about ten pounds of large, mature *Mangifera indica* (mangos) and the second package contained three large, mature mangos. Permission for inspection was obtained from the receiver for the first package and from the shipper for the second package.

Upon inspection of the packages, suspect pests were found on the surface of the fruit. Pest samples were submitted to the PPD Laboratory for identification and were identified as Q-rated *Tuckerella* sp. (peacock mite) and Q-rated Diasididae (scale) all found in the first package. The second package contained A-rated *Aonidiella orientalis* (oriental scale).



Oriental scale on mangos from Florida; photos courtesy of Yolo County

Cedar Apple Rust

On August 2, 2017, Yolo County Inspectors Bill Lyon and Michelle Lawson assisted Sacramento County Dog Team Inspector Jennifer Berger and dog Dozer at the West Sacramento USPS facility.

An unmarked package from Wisconsin was intercepted at the facility. San Joaquin County Inspector Rand Medina assisted the inspectors and obtained permission from the receiver to inspect the package. The package contained approximately ten pounds of crabapples with leaves.

The inspectors examined the leaves after seeing possible symptoms of a plant pathogen. The fruit was also examined and subsequently a suspect pest was found within the fruit.

Leaves and pest samples were submitted to the PPD Laboratory where they were identified as A-rated *Gymnosporangium juniper-virginianae* (cedar apple rust) and Q-rated Curculionidae (weevil larva).



A - Crabapple leaf infested with *Gymnosporangium juniper-virginianae* B - weevil larva in fruit; photos courtesy of Yolo County

Canine Yeti's First A-Rated Find

On May 25, 2018, Sacramento County Dog Team Inspector/Handler Jennifer Berger with dog Yeti and Inspector Michelle King intercepted a properly marked package from Florida at the FedEx facility in Rancho Cordova. The package contained a 25-foot garland of *Ruscus hypoglossum* (Israeli ruscus) and *Gaultheria shallon* (salal leaves) originating from Hawaii. Certification was not found with the package.

Upon inspection of the garland, Inspector King found several live suspect scale insects on the leaves.

Pest samples were submitted to the PPD Laboratory for identification and were identified as A-rated *Pseudaulacaspis cockerelli* (magnolia white scale).



Garland of Israeli ruscus and salal leaves from Florida (Hawaii origin), infested with *Pseudaulacaspis cockerelli*; photos courtesy of Sacramento County

EXAMPLES OF SAN BERNARDINO COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. A-rated Pests from Ecuador
2. Uncertified Chestnuts from Missouri

A-rated Pests from Ecuador

On July 17, 2017, San Bernardino County Inspector/Handler Kristina Cummings with dog Bishop and Inspector Kenny Nguyen intercepted a marked and certified box from Ecuador at the UPS in Ontario.

The box contained cut flowers and green foliage. Upon inspection of the cut flowers and foliage, Inspectors Nguyen and Cummings found suspect insects.

Pest samples were submitted to the PPD Laboratory for identification and were identified as A-rated *Ischnaspis longirostris* (black thread scale), A-rated *Pseudaonidia trilobitiformis* (trilobe scale), A-rated *Pinnaspis buxi* (boxwood scale), and Q-rated Diaspididae (scale).



Cut flowers and foliage from Ecuador; photo courtesy of San Bernardino County

Uncertified Chestnuts from Missouri

On October 6, 2017, San Bernardino County Dog Team Inspector/Handler Kristina Cummings with dog Bishop and Inspectors Kenny Nguyen and Shannon Lehrter intercepted an unmarked and uncertified box from Missouri at the USPS in Redlands.

The box contained *Castanea* sp. (chestnuts). Inspector Nguyen obtained permission from the shipper to open the box for inspection.



Infested chestnuts from Missouri; photo courtesy of San Bernardino County

Upon inspection of the chestnuts, Inspector Lehrter found suspect pests burrowed in the chestnuts.

Pest samples were submitted to the PPD Laboratory for identification and were identified as Q-rated Curculionidae (beetle).

EXAMPLES OF SAN DIEGO COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. Multiple Pests
2. First Interception of Plant Disease in US

Multiple Pests

On August 29, 2017, San Diego County Dog Team Inspector/Handler Ted Olsen with dog Drake and Senior Agricultural/Standards Inspector Nicole Goss intercepted five unmarked and uncertified shipments from Florida and Connecticut. An additional certified shipment from Ohio was also intercepted at the USPS facility. Permission to open the parcels was obtained by Inspector Goss. Details of the interceptions are as follows:

Pest and Pest Rating	Host and Origin
Q-rated Pseudococcidae (mealybug) A-rated <i>Dysmicoccus neobrevipes</i> (gray pineapple mealybug) A-rated <i>Dysmicoccus grassii</i> (mealybug)	<i>Annona</i> sp. (sugar apples) from Florida
Q-rated <i>Tetranychus</i> sp. (tetranychid mite)	Marked and certified <i>Alocasia</i> sp. (elephant ear) plant from Ohio
Q-rated Curculionidae	<i>Malus</i> sp. (apple fruit) from Connecticut
A-rated <i>Dysmicoccus grassii</i> (mealybug)	<i>Annona</i> sp. (sugar apples) from Florida

First Interception of Plant Disease in US

On May 17, 2018, San Diego County Dog Team Inspector/Handler Jeremy Partch with dog Venus and Inspector Jasmine Lopez intercepted an unmarked and uncertified package from Florida at the USPS facility in San Diego. Permission was obtained from the receiver to open the package for inspection. The package contained one *Ochna integerrima* (yellow Mai) plant with roots and soil.

Upon inspection of the plant, Inspector Lopez found symptoms of suspect disease throughout the plant. A sample was submitted to the PPD Laboratory for identification and was identified as Q-rated *Phyllachora microsiegia*, confirmed by Megan Romberg at the USDA in Beltsville, Maryland. This marks the first interception of this plant disease in the country.

EXAMPLES OF SANTA CLARA COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. Package with Multiple Pests from Florida
2. Infested Bananas and Mangos
3. Japanese Beetle

Package with Multiple Pests from Florida

On July 13, 2017, Santa Clara County Dog Inspector/Handler Marithza Hernandez with dog Hendrix and Dog Team Supervisor Helena Roberts intercepted an unmarked and uncertified package from Florida at the USPS in San Jose.

Permission was obtained from the shipper to open the package. The package contained mangos, mango leaves, herbs, and plant cuttings.

Upon inspection of the package materials, suspect pests were found on the mango leaves and herbs.

Pest samples were submitted to the PPD Laboratory for identification and were identified as the following:

- A-rated *Paracoccus marginatus* (mealybug)
- A-rated *Maconellicoccus hirsutus* (pink hibiscus mealybug)
- Q-rated Pseudococcidae (immature female mealybug)
- Q-rated Aphididae (immature aphid)
- Q-rated Thysanoptera (immature thrip)
- Q-rated *Bicilia iarchasalis* (moth)
- Q-rated *Diaphania indica* (moth)



Santa Clara County dog Hendrix; photo courtesy of Santa Clara County

Infested Bananas and Mangos

On August 9, 2017, Santa Clara County Dog Team Inspector/Handler Marithza Hernandez with dog Hendrix and County Biologist Paulo Philippidis intercepted an unmarked and uncertified parcel from Florida at the FedEx in Sunnyvale. The parcel contained banana and mango leaves.

Upon inspection, County Biologist Philippidis found suspect pests on the banana and mango leaves.

Santa Clara County Dog Hendrix after an interception of a shipment from Florida; photo courtesy of Santa Clara County



Pest samples were submitted to the PPD Laboratory for identification and were identified as the following:

- A-rated *Spodoptera eridania* (southern armyworm)
- Q-rated (Insect eggs)
- A- rated Aleyrodidae (whitefly larvae)

A-Whitefly larva B-insect eggs on mango leaves; photo courtesy of Santa Clara County



Japanese Beetle

On August 18, 2017, Santa Clara County Dog Team Inspector/Handler Marithza Hernandez with dog Hendrix and County Biologist Nick Otterlei intercepted an unmarked and uncertified package from Minnesota at the USPS facility in San Jose. Permission was obtained from the shipper to open the package for inspection. The package contained crab apples.

Upon inspection of the package, County Biologist Otterlei found a suspect Japanese beetle underneath the fruit toward the bottom of the box.

A pest sample was submitted to the PPD Laboratory for identification and was identified as A-rated *Popillia japonica* (Japanese beetle).



Japanese beetle found underneath crab apples from Minnesota; photo courtesy of Santa Clara County

***A-rated**, a pest of economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment.

***Q-rated**, an organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.

***W-rated**, a species listed as a noxious weed on California Code of Regulation 4500.