

Practice or Metric		Your Selection & Use Statewide
Bee Health and Pollination Module		
Introduction and General Information - Pollination Efficiency		
Best Management Practices Guide		
01	Was the operation aware of the Almond Board's guide, 'Honey Bee Best Management Practices for California Almonds'? <i>If you answered 'No,' then skip to question 4.</i>	Yes
	02. Were practices in the guide specific to the internal farm operation used?	Yes
	03. Were practices in the guide relevant to the farm's role in communication and coordination with parties throughout the pollination and pest management communication chain used?	Yes
Agreements with Beekeepers		
04	Was a pollination agreement executed with the beekeeper? <i>If you answered 'No,' then skip to question 7.</i>	Yes
	05. Was the pollination agreement executed with the beekeeper documented?	No
	06. The agreement stipulated (Answer 'Yes' to all that apply):	
	06.01. hive strength	Yes
	06.02. number of hives placed	Yes
	06.03. price per hive	Yes
	06.04. payment schedule	Yes
	06.05. hive access	Yes
	06.06. hive inspection	Yes
	06.07. potential pesticide applications	Yes
	06.08. hive maintenance	Yes
	06.09. hive removal date	Yes
07	Were hives put into place no later than the timing recommended by the University of California (about 10% bloom)?	Yes
08	Were hives placed at sites not susceptible to pesticide drift from outside sources?	Yes
09	Was abundant potable water, free from contamination, provided for bees?	Yes
10	Did the operation ensure that the beekeeper registered locations of the hives with the county agricultural commissioner's office?	Yes
11	Was an inspection completed by the beekeeper, or third party consultant, to ensure expectations for hive strength were met (two hives per acre having an average of eight frames of bees, with six-frame minimum strength is common)?	Yes

12	Were arrangements made with the beekeeper about which pesticides could be applied if daytime applications were necessary while hives were present, and, if an application(s) was necessary, was the beekeeper provided with 48-hour advance notice?	Yes
13	Was notification given to the person responsible for pesticide recommendations, as well as the applicator, which and when during the day, pesticides could be applied while hives were present?	Yes
14	Were beekeepers advised to remove hives based on timing recommended by the University of California (about 90% of latest blooming variety is at petal fall)?	Yes
Pest Monitoring		
15	Was the orchard monitored by a licensed PCA for insects, mites, diseases and pest natural enemies (i.e., beneficials) at least once every two weeks during the growing season? (Diseases should be monitored weekly during bloom and spring.) <i>If you answered 'No,' then skip to question 20.</i>	Yes
	16. Were written or electronic scouting reports kept by or provided to the farm owner or staff to inform decision making? <i>If you answered 'No,' then skip to question 18.</i>	Yes
	17. Was a year-end review of pest levels and trends completed to improve future decision-making?	Yes
	18. Were scouting data, university guidelines, and practical experience used to design and implement management strategies for insects, mites, and diseases?	Yes
	19. Was pest monitoring done using repeatable representative processes (e.g., as recommended by the UC Statewide IPM Program)?	No
20	During bloom and spring periods, were decisions to spray for diseases based on temperature and rainfall patterns conducive for disease development?	Yes
21	To determine necessary fungicides, rates and timings, were disease symptoms monitored weekly prior to and during bloom, throughout spring, and until the weather was no longer conducive for disease development?	Yes
Pesticide Risk Mitigation		
22	Before applying pesticides to the orchard during bloom, were beekeepers with hives on nearby properties notified using an appropriate communication method (e.g., through the County Ag Commissioner, BeeWhere, CalAgPermits, etc.)?	Yes
23	Did the operation ensure that pesticides with label cautions "highly toxic to bees," "toxic to bees," "residual times," or "extended residual toxicity" were not used during bloom?	Yes
24	Except for possibly <i>Bacillus thuringiensis</i> , did the operation ensure that insecticides (including tank mixes with fungicides) were not applied during bloom?	Yes
25	During bloom, were necessary fungicides (or <i>Bacillus thuringiensis</i>) applied in the late afternoon or evening when bees and pollen were not present?	Yes
26	Were water sources for pollinator bees covered before or replaced after pesticide applications?	Not applicable
27	Was the orchard manager familiar with common symptoms of honey bee exposure to pesticides?	Yes
28	If incidences of possible pesticide-related bee incidences were observed, were they immediately reported to the county agricultural commissioner's office?	Not applicable
29	If effective alternatives existed, were broad-spectrum insecticides and acaricides (e.g., pyrethroids, organophosphates and carbamates), not used because of their potential negative effects on beneficial and non-target organisms?	Not applicable
30	Prior to applying newly registered pesticides, were impacts to bees and natural enemies checked using information from labels and other sources (such as the UC IPM website) and was the product with the fewest precautions and/or shortest residual considered for use?	Yes
31	Before applying pesticides to the orchard anytime of the year, were beekeepers with hives on nearby properties notified using an appropriate communication method (e.g., through the County Ag Commissioner, BeeWhere, CalAgPermits, etc.)?	Yes
Spray Activities		
	If a custom applicator or farm management company was primarily responsible for applying pesticides, you may have to answer 'Not applicable' for some of the following questions related to spray equipment and applications. However, please answer 'Not applicable' ONLY if necessary.	
32	Prior to each air blast and/or aerial application, was the weather checked for current and forecasted wind speed and direction, inversion conditions, temperature and rain?	Yes
33	To minimize drift from inversions and wind, were air blast and/or aerial applications made only when winds were between 2 and 8 mph?	Yes

34	Were low-drift nozzles used for air blast and/or aerial sprayers to optimize spray placement and minimize off-target movement?	Yes
35	Was the air blast spray pattern adjusted according to the orchard's average tree size and shape? (Examples of adjustments include reducing size of lower nozzles for a mature orchard with a thin lower canopy and shutting off top nozzles for a young orchard with short trees.)	Yes
36	When shifting between foliar sprays and dormant or bloom sprays for air blast sprayers, were the fan speed, pressure, and/or nozzle type adjusted for the canopy density?	Yes
37	To reduce drift, was the air blast sprayer(s) operated at the lowest pressure providing uniform coverage?	Yes
38	Were sprayer shields or drift guards used to keep sprays on target (e.g., for weed sprayers)?	Yes
39	Were ultra-low-volume spray equipment or target-sensing sprayers (e.g., SmartSpray (R) or WeedSeeker (R) technology) used to reduce spray volumes or amounts of pesticides?	No
Sensitive Sites		
40	Were sprayers turned off when making row turns and spraying not resume until the nozzles were adjacent to the first trees?	Yes
41	Was a map of sensitive sites (e.g., aquatic areas, residences, schools, pollinator and pest natural enemy habitat) and associated buffer zones within or near the orchard created and reviewed with everyone involved in pesticide applications?	Not applicable
42	Was spraying discontinued when winds blew in the direction of nearby waterways (e.g., creeks or irrigation canals) or other sensitive sites (e.g., residences, schools, pollinator and pest natural enemy habitat)?	Not applicable
43	When operating air blast sprayers next to open or sensitive sites (e.g., aquatic areas, residences, schools, pollinator and pest natural enemy habitat), were the two rows directly adjacent to these sites sprayed on the outer side only (i.e., to direct spray into the orchard)?	Not applicable
Alternative Forage for Pollinators		
44	Were hedgerows of flowering shrubs, such as coyote brush, maintained along at least some edges of the farm to provide alternative nutrition sources for managed and native pollinators and pest natural enemies?	No
45	Was vegetation maintained on or adjacent to the farm that provided pollen and nectar sources for pollinator bees before and/or after almond bloom (includes nutritional ground cover)? <i>If you answered 'No' or 'Not Applicable', then skip to question 48.</i>	No
	46. Have natural habitat areas or set aside plantings with flowering plants and/or nesting habitat for managed and native pollinators been established or maintained in unfarmed areas on or within 2 miles of the orchard?	
	47. Has cover crop recommended for providing forage to pollinators (e.g., mustards, clovers, vetch and/or wildflowers) been planted in an adjacent, neighboring field within 2 miles of the orchard?	
48	Was the combined acreage of hedgerows and other vegetation types, such as natural habitat areas, set aside plantings, and/or adjacent cover crops, equivalent to at least 3% of the orchard planted area?	No
49	Was a cover crop (pre-existing or planted ground cover) intentionally grown between orchard rows? <i>If you answered 'No,' then skip the remaining questions.</i>	No
	50. Was the ground cover purposely planted? <i>If you answered 'No,' then skip the remaining questions.</i>	
	51. Was the cover crop recommended for providing forage to pollinators (e.g., mustards, clovers, vetch and/or wildflowers)?	