










TREE NUTS

Product Use Overview



| California |

	Product	Key Problems / Uses	Product Benefits and Use Recommendations
Insecticides—Foliar	Asana® XL Insecticide	Codling moth, leafrollers, navel orangeworm, peach twig borer, walnut aphid, walnut husk fly	Dormant treatment provides the best start for early season pest control in orchards. Offers extended control with unique cottonseed oil formulation for proven, rainfast protection. Labeled rate range: 4.8–14.5 fl oz/A. REI: 12 hours. PHI: 21 days after treatment. Asana is a restricted use pesticide.
	Azera® Insecticide	Aphids, beetles, loopers, oriental fruit flies, pear psylla, thrips, weevils, worms	Controls insects by quick knock down, ingestion and insect growth regulation. Apply when target pest(s) populations are observed. Labeled rate range: 16–56 oz/A. REI: 12 hours. PHI: 0 days. 
	Belay® Insecticide	Aphids, hickory shuckworm, leafhoppers, lygus, mealybugs, pecan nut casebearer, pecan weevil, plant bugs (including leaf footed bug), stink bugs, walnut husk fly	Post-bloom spray for tree nuts (excluding pistachios). Labeled rate range: 3–6 fl oz/A. Use 6 fl oz/A for lygus, mealybugs, hickory shuckworms and stink bugs. Maximum 12 fl oz/A per season. Must not be applied during bloom or if bees are actively foraging. REI: 12 hours. PHI: 21 days.
	Danitol® 2.4 EC Spray	Fruitworms, leafrollers, navel orangeworm, peach twig borer, stink bugs	Controls many commonly occurring insect pests without flaring mites. Apply at threshold by airblast at a water volume that can ensure complete coverage. Labeled rate range: 10 ² / ₃ –21 ¹ / ₃ fl oz/A. REI: 24 hours. PHI: 3 days. Danitol is a restricted use pesticide.
	DiPel® DF Biological Insecticide	Armyworms, codling moth, fall webworm, leafrollers, peach twig borer, red humped caterpillar, walnut caterpillar	Labeled rate range: 0.5–2 lb/A. For peach twig borer, apply when 20–40% of over-wintering larvae have emerged. Apply again at 80–100% emergence. <i>DiPel</i> can be tank mixed with fungicides. Use in combination or rotation with other insecticide chemistries for superior control. REI: 4 hours. PHI: 0 days. 
	PyGanic® Crop Protection EC 1.4/5.0	Aphids, leafhoppers, leafrollers, lygus, mites, pear psylla, thrips, whiteflies, worms	Controls a broad spectrum of insects. <i>PyGanic</i> 1.4: 16–64 fl oz/A. <i>PyGanic</i> 5.0: 4.5–17 fl oz/A. REI: 12 hours. PHI: 0 days. 
	Seize™ 35 WP Insect Growth Regulator	Peach twig borer (suppression), scales (including San Jose scale and black scale)	Highly effective insect growth regulator. Apply at dormant, delayed dormant or in-season. Use with spray oil at dormant, delayed dormant timings. One application per season max. Labeled rate range: 4–5 oz/A. REI: 12 hours. PHI: 21 days.
	XenTari® Biological Insecticide	Armyworms, codling moth, fall webworm, leafrollers, red humped caterpillar, twig borer, walnut caterpillar	Treat when larvae are young (early instars) before crop is damaged. Labeled rate range: 0.5–2 lb/A. REI: 4 hours. PHI: 0 days. 
	Zeal® Miticide¹	European and Pacific red mites, spider mites (including two-spotted spider mite)	Long-lasting mite control with translaminar activity. One application per year. <i>Zeal</i> is a mite growth regulator that affects all mite life stages, including eggs. Flexible application window during the growing season: preventive, threshold or hull split for almonds. Labeled rate: 3 oz/A per season. REI: 12 hours. PHI: 28 days.
Insecticide—Soil	Esteem® Ant Bait	Ants (pavement, fire ants)	Apply 1.5–2 lb/A when ants are foraging six to eight weeks before almond harvest. <i>Esteem</i> Ant Bait can also be applied following harvest to provide additional management of protein-feeding ants. REI: 12 hours. PHI: 24 hours.


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Nematicide	DiTera [®] DF Biological Nematicide	Nematodes	Protects roots from nematode damage. Labeled broadcast rate range: 0.31–2.4 lb/A 1,000 sq ft (13.5–104.5 lb/A). Apply after harvest and at spring root flush for best results. REI: 4 hours. 
	Actinovate [®] AG Biological Fungicide	Botrytis, brown rot, powdery mildew, walnut blight	Actinovate AG is a biological fungicide/bactericide for use in suppressing soilborne and foliar diseases. Contains <i>Streptomyces lydicus</i> strain WYEC 108, a beneficial bacterium with multiple modes of action. Labeled rate range 3–12 oz/A. REI: 1 hour. PHI: 0 days. 
Fungicides	Quash [®] Fungicide	Broad spectrum disease control	In almonds , apply 2.5 oz/A for shot hole, 3.5 oz/A for rust, powdery mildew and anthracnose, and 2.5–3.5 oz/A for brown rot/blossom blight, scab, rust, Alternaria and hull rot. In pistachios , apply 4 oz/A for Botrytis blossom and shoot blight, Botryosphaeria panicle and shoot blight and Alternaria late blight. In walnuts , apply 3.5 oz/A for Botryosphaeria blight. Maximum of two sequential applications and no more than four applications per season. Maximum 14 fl oz/A per year. REI: 12 hours. PHI: 25 days.
	Chateau [®] Herbicide SW	Annual ryegrass, filaree, fleabane, mallow, marestail and more than 90 tough annual broadleaf and grass weeds	Proven, broad spectrum, long-lasting preemergence herbicide. Farm-friendly and weather-ready. Chateau stays where you put it; won't leach or co-distillate; no photo-degradation; remains active until ¼-inch rainfall or irrigation releases its activity. Labeled rate: 12 oz/A. Maximum 24 oz per year. Use with a burndown herbicide if emerged weeds are present. In-season, apply 2–4 oz/A with burndown herbicides for added residual. Length of residual weed control is rate-dependent. Be sure to clean out sprayer thoroughly after each use. REI: 12 hours. PHI: 60 days.
Herbicides	Select Max [®] Herbicide with Inside Technology [™] (non-bearing)	Annual and perennial grasses	Superior postemergence for systemic grass control with outstanding crop safety. Non-bearing use only. Lower volatile organic compound (VOC) formulation than other clethodim formulations. NIS okay. Labeled rate range: 9–16 fl oz/A. REI: 24 hours. PHI: 1 year.
	ReTain [®] Plant Growth Regulator for California	Nut set	Now available for almonds, ReTain extends the bloom viability and delays senescence of flowers, increasing the potential for pollination, and in turn, nut set. Almonds: apply 1 pouch (333g)/A between 10% bloom and full bloom. Walnuts: apply 1–2 pouches (333–666g)/A between 5–30% and 45–65% pistillate (female flower) bloom. REI: 12 hours.
Plant Growth Regulator	MycoApply [™] EndoMaxx	Delivers root mass expansion, nutrient efficiency and water acquisition	Bare root—preplant spray or root dip 5 grams/1,000 seedlings; suggested dilution rate: 3 gallons of water/1,000 seedlings. Containerized nursery stock—preplant drench 8 grams/1,000 seedlings; mix with enough water so that uniform distribution of drench is achieved (no more than 10% run through). Recently planted (1 year or less)—soil drench or targeted spray over root zone followed by irrigation or rainfall 10 grams/1,000 trees or vines. Established trees/vines (2–4 years)—banded or targeted spray over root zone followed by irrigation or rainfall 15 grams/1,000 trees or vines. Established trees/vines (5+ years)—banded or targeted spray over root zone followed by irrigation or rainfall 40 grams/1000 trees or vines.  
Soil / Plant Health			



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Actinovate, Azera, DiPel DF, DiTera DF, MycoApply EndoMaxx, PyGanic and XenTari are OMRI-listed and NOP-compliant  for organic production.

Asana and Danitol are restricted use pesticides.