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Nectarine Year-Round IPM Program
Annual Checklist

Supplement to UC IPM Pest Management Guidelines: Nectarine

These practices are recommended for a monitoring-based IPM program that reduces water quality problems related to pesticide use. Track your progress through the year using this form.

Each time a pesticide application is considered, review the Pesticide Application Checklist at the bottom of this form. This program covers the major pests of nectarine. Details on carrying out each practice, information on additional pests, and additional copies of this form are available from the UC IPM Pest Management Guidelines: Nectarine at http://www.ipm.ucdavis.edu/PMG.

✓ Done	**Dormant/delayed-dormant season activities** Special issues of concern related to water quality: dormant sprays, drift, and rain runoff.
	Prune trees, removing and destroying: • Mummy fruit to reduce brown rot problems • Shot hole-infested twigs
	Apply fungicide treatments** as needed according to PMGs: • Peach leaf curl • Shot hole
	Manage orchard floor vegetation: • Survey weeds and complete late-fall weed survey form. • Manage weeds in rows with pre- or postemergent herbicides or nonchemically in organic orchards. • In tree middles, let resident vegetation or cover crop grow, but cut it short before bloom.
	Make an oil treatment** for scales and mite eggs. • If you saw increasing damage from scales last year, take a dormant shoot sample to see if an insect growth regulator should be added to the oil treatment.
	Treat** peach twig borer with environmentally sound material or delay treatment until bloom.
	Keep records of other pests you may see: • Peach twig borer hibernacula • Peach silver mite • Fruittree leafroller egg masses • Armillaria root rot • Voles • Pocket gophers • Stink bugs • Tree borers

✓ Done	**Bloom season period activities (green tip to petal fall)** Special issues of concern related to water quality: runoff and drift.
	Put out pheromone traps for: • Oriental fruit moth (February 15 in San Joaquin Valley, February 20 in Sacramento Valley) • Omnivorous leafroller (San Joaquin Valley—February 20) • San Jose scale (February 25—San Joaquin and Sacramento valleys) Check traps and keep records on a monitoring/degree-days form.
	If using mating disruption for oriental fruit moth, place dispensers in orchard after first moth is caught but no later than March 5.
	Examine flower clusters and leaves for: • Peach twig borer • Fruittree leafroller • Obliquebanded leafroller • Katydids
	Watch ground cover for pests: • Stink bugs • Plant bugs • Katydids (primarily San Joaquin Valley)
	When rainy conditions promote disease, time fungicide treatment** according to PMGs: • Brown rot at 20 to 40% bloom and full bloom. • Jacket rot treatment at full bloom. • Powdery mildew treatment at petal fall. • Scab, if orchard has a history of this disease.
	Monitor for diseases: • Bacterial canker • Phytophthora crown and root rot • Rust o Monitor twig cankers beginning late March. o Treat** with fungicide if needed according to PMG. • Shot hole o Fruiting structures in leaf lesions as long as weather is wet. o Manage if needed according to PMG.
	Observe the orchard for vertebrates and manage as necessary: • Gophers • Ground squirrels
	Manage orchard floor vegetation: • Cut ground cover short.
	Keep records of other pests you may see: • Armillaria root rot (oak root fungus)

✓ Done	**Fruit development period activities (petal fall to harvest)** Special issues of concern related to water quality: runoff from irrigation; drift.
	Put up pheromone traps for: • Peach twig borer (March 20 in San Joaquin Valley, April 1 in Sacramento Valley) • Obliquebanded leafroller (April 15 in San Joaquin Valley and Sacramento Valley)
	Monitor shoot strikes for damage from oriental fruit moth and peach twig borer. • Keep records on a monitoring form. • Manage if needed according to PMGs.
	If wet weather persists, continue to monitor for rust: • Manage if needed according to PMG.
	If orchard has a history of scab: • Treat** 3 weeks after full bloom. • Treat** again 2 weeks later if scab was severe the previous year.
	Where ground covers are present, take sweep samples for pests, beginning from early April to early June for: • Plant bugs (*Lygus* and *Calocoris*). • Katydids. • Stink bugs. Treat** if needed according to PMG.
	Sample fruit damage every other week beginning after pit hardening or color break in May: • Keep records on a monitoring form.
	Monitor powdery mildew through pit hardening and treat** if needed according to PMG.
	Manage orchard floor vegetation: • Survey weeds, mow or cultivate ground cover. • Complete a late-spring weed survey form. • Spot treat** difficult to control weeds if needed according to PMG.
	Monitor spider mites from May through August: • For best evaluation, conduct two 5-minute searches and keep records on a monitoring form. • Manage if needed according to PMG.
	Select leaf samples in July to analyze for nitrogen, phosphorus, potassium, and micronutrients. • Take 60 to 80 mid-shoot leaves from moderately vigorous fruiting shoots.
	If rain is predicted during the last 4 weeks before harvest, treat for ripe fruit rot.
	Keep a record of other pests you may see: • Armillaria root rot • Bacterial canker • Phytophthora root and crown rot • Peach silver mite • Black peach aphid • Scab • Verticillium wilt • Tree borers

✓ Done	**Harvest activities** Special issues of concern related to water quality: none.
	Monitor for ripe fruit rot and treat** if rain is predicted.
	Take a harvest sample to determine pest damage.

✓ Done	**Postharvest activities** Special issues of concern related to water quality: none.
	In early harvest orchards continue to watch for: • Shoot strikes to determine if oriental fruit moth populations are building. • Webspinning spider mites
	Treat** for leaf curl and shot hole just after leaf fall.
	Consider seeding a cover crop if resident vegetation is sparse.

✓ Done	****Pesticide application checklist**
	Before a pesticide application is made and when planning for possible applications in an IPM program, review and complete this checklist to minimize water quality and other problems. • Follow each practice in the year-round IPM program. • Identify target pest, treatment threshold, trigger, or justification for treatment. • Consider nonchemical alternatives. • Identify important natural enemies that might be impacted by pesticide application. • Choose a pesticide from the UC IPM Pest Management Guidelines for the target pest, considering impact on natural enemies and consulting UC IPM Watertox Database for water quality concerns. Select an alternative chemical or nonchemical treatment when risk is high. • Consider chemical class if pesticide resistance is an issue. • Identify sensitive areas (for example, waterways or riparian areas) surrounding your application site. • Identify practices or mitigation measures to be used to reduce pesticide movement off site. • Choose sprayers and application methods that minimize off-site movement. • Review and follow pesticide handling, storage, and disposal guidelines. • After an application is made, record application date, product used, rate, and location of application. • Follow up to confirm that treatment was effective.