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Apricot Year-Round IPM Program Annual Checklist

Supplement to UC IPM Pest Management Guidelines: Apricot

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

Water quality becomes impaired when pesticides move off-site and into water. Air quality becomes impaired when volatile organic compounds move into the atmosphere. Each time a pesticide application is considered, review the Pesticide Application Checklist at the bottom of this form for information on how to minimize air and water quality problems. This program covers the major pests of apricot. 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: Apricot at <http://www.ipm.ucdavis.edu/PMG>.

✓ Done	Dormant/Delayed-dormant season activities
	Special issues of concern related to water quality: pesticide applications, drift, and runoff.
	Remove and destroy all mummy fruit to reduce the amount of brown rot inoculum in the orchard.
	If shot hole disease is a concern and the dormant season has been rainy, treat** according to the PMG.
	If mites, scales, or aphids have been a problem in the past: <ul data-bbox="363 957 1485 1087" style="list-style-type: none">• Examine several spurs randomly throughout the orchard and map out areas of concern for monitoring at bloom.• Apply** an oil spray for European fruit lecanium, brown mite, European red mite, or San Jose scale according to the PMG.
	Look for ground squirrels and voles in areas where they are active. <ul data-bbox="363 1152 773 1186" style="list-style-type: none">• Manage according to guidelines.
	Treat** peach twig borer with an environmentally sound material or delay treatment until bloom.
	Other pests you may see: <ul data-bbox="363 1270 1253 1375" style="list-style-type: none">• Peachtree borer• Fruittree leafroller egg masses• Western tussock moth egg masses and pupal cases (in coastal orchards)

✓ Done	<p>Bloom season activities (red bud to petal fall) Special issues of concern related to water quality: pesticide applications, drift, and runoff.</p>
	<p>If peach twig borer was not treated in the dormant season, apply a bloom-time treatment** according to the PMG.</p>
	<p>Install pheromone traps for peach twig borer in the orchard no later than Mar. 15 in the San Joaquin Valley and Apr. 1 in the Sacramento Valley.</p> <ul style="list-style-type: none"> • Check traps and keep records (sample form available online) to determine timing of an in-season treatment. • In orchards where mating disruptants are to be used, place dispensers in orchard as soon as moths are caught in traps.
	<p>Apply** fungicide treatments, as needed according to the PMGs for:</p> <ul style="list-style-type: none"> • Brown rot blossom and twig blight • Jacket rot • Powdery mildew • Shot hole disease
	<p>Watch for these invertebrate pests:</p> <ul style="list-style-type: none"> • Cankerworm • Citrus cutworm • Green fruitworm • Fruittree leafroller • Obliquebanded leafroller • Western tussock moth larvae • Katydid (from Madera south—on weed cover or feeding on lower leaves in the crotch of the tree) <p>Manage according to PMG.</p>
	<p>Manage orchard floor vegetation.</p> <ul style="list-style-type: none"> • Cut ground cover short
	<p>Other pests you may see:</p> <ul style="list-style-type: none"> • Peachtree borer • European red mite • Bacterial canker • Mealy plum aphid



✓ Done	Fruit development period activities (petal fall to harvest) Special issues of concern related to water quality: pesticide and fertilizer applications, drift, runoff due to irrigation or rain. Air quality: volatile organic compounds (VOCs)		
	<p>Monitor for peach twig borer.</p> <ul style="list-style-type: none"> • Examine fruit for peach twig borer feeding. • Continue checking pheromone traps and keep records (sample form available online). 		
	Look for mealy plum aphids. Manage as needed according to the PMG.		
	<p>During early fruit set, set out pheromone traps for obliquebanded leafroller.</p> <ul style="list-style-type: none"> • Check traps and keep records (sample form available online) on a degree-day monitoring form. 		
	<p>In problem areas, set out pheromone traps for obliquebanded leafroller during early fruit set.</p> <ul style="list-style-type: none"> • Check traps and keep records (sample form available online). 		
	Apply** fungicide treatment for powdery mildew as needed according to PMG.		
	<p>Assess weeds to identify perennials and any species that escaped earlier management efforts.</p> <ul style="list-style-type: none"> • Keep records of problem weed species (sample form available online). • Manage weeds in rows with pre- or postemergent herbicides or with cultivation. 		
	<p>Look for vertebrate pests, especially where there is ground cover.</p> <ul style="list-style-type: none"> • Voles • Pocket gophers • Ground squirrels 		
	<p>Watch for signs of disease:</p> <ul style="list-style-type: none"> • Bacterial canker • Eutypa dieback • Phytophthora root and crown rot • Ripe fruit rot • Shot hole disease <p>Manage according to PMG.</p>		
	Watch for invertebrate pests and manage according to PMG:		
	<p>Watch for invertebrate pests and manage according to PMG:</p> <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Cankerworms • Earwigs • European fruit lecanium • Fruittree leafroller • Green fruitworm • Katydid (from Madera south) </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> • Obliquebanded leafroller • Omnivorous leafroller • Orange tortrix • Redhumped caterpillar • Tussock moth larvae </td> </tr> </table>	<ul style="list-style-type: none"> • Cankerworms • Earwigs • European fruit lecanium • Fruittree leafroller • Green fruitworm • Katydid (from Madera south) 	<ul style="list-style-type: none"> • Obliquebanded leafroller • Omnivorous leafroller • Orange tortrix • Redhumped caterpillar • Tussock moth larvae
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✓ Done	Harvest activities Special issues of concern related to water quality: unknown.
	Examine harvested fruit to assess the effectiveness of the current year's IPM program and to determine the needs of next year's program. <ul style="list-style-type: none"> • Keep records (sample form available online).

✓ Done	Postharvest activities Special issues of concern related to water quality: pesticide and fertilizer applications, drift, and runoff.
	Prune trees by Sept. 1 in coastal areas and by Sept. 15 in the Sacramento and San Joaquin valleys. Remove and destroy dead wood to reduce inoculum levels for: <ul style="list-style-type: none"> • Eutypa dieback • Brown rot
	If shot hole disease has been a problem in the previous season, treat** the orchard before rains begin, right after leaf fall if possible.
	Assess weeds to identify any existing summer species, emerging winter species, and perennial weeds that escaped the previous year's weed control program. <ul style="list-style-type: none"> • Keep records of problem weeds (sample form available online). • Manage according to PMG.
	Take leaf samples in July for nutrient analysis and fertilize orchard as necessary.
	Manage vegetation in tree middles: <ul style="list-style-type: none"> • Let resident vegetation grow, consider planting a cover crop, or clean cultivate.
	Other pests you may see: <ul style="list-style-type: none"> • Armillaria root rot (oak root fungus) • Crown gall • Phytophthora root and crown rot • Redhumped caterpillar • Borers



✓ Done	**Pesticide application checklist
	<p>When planning for possible pesticide applications in an IPM program, review and complete this checklist to consider practices that minimize environmental and efficacy problems.</p> <ul style="list-style-type: none"> ✓ Choose a pesticide from the UC IPM Pest Management Guidelines for the target pest considering: <ul style="list-style-type: none"> ▪ Impact on natural enemies. ▪ Potential for water quality problems using the UC IPM WaterTox database. (For more information, see http://www.ipm.ucdavis.edu/TOX/simplewatertox.html.) ▪ Impact on aquatic invertebrates. (For more information, see <i>Pesticide Choice</i>, UC ANR Publication 8161, http://anrcatalog.ucdavis.edu/pdf/8161.pdf.) ▪ Chemical mode of action if pesticide resistance is an issue. ✓ Select an alternative chemical or nonchemical treatment when risk is high. <ul style="list-style-type: none"> ▪ Choose sprayers and application procedures that keep pesticides on target. ▪ Identify and take special care to protect sensitive areas (for example, waterways or riparian areas) surrounding your application site. ▪ Review and follow label for pesticide handling, storage, and disposal guidelines. ▪ Check and follow restricted entry intervals (REI) and preharvest intervals (PHI). ▪ After an application is made, record application date, product used, rate, and location of application. Follow up to confirm that treatment was effective. ✓ Consider water management practices that reduce pesticide movement off-site. (For more information, see UC ANR Publication 8214, <i>Reducing Runoff from Irrigated Lands: Causes and Management of Runoff from Surface Irrigation in Orchards</i>, http://anrcatalog.ucdavis.edu/pdf/8214.pdf.) <ul style="list-style-type: none"> ▪ Install an irrigation recirculation or storage and reuse system. ▪ Use drip rather than sprinkler or flood irrigation. ▪ Limit irrigation to amount required using soil moisture monitoring and evapotranspiration (ET). ▪ Consider vegetative filter strips or ditches. (For more information, see <i>Vegetative Filter Strips</i>, UC ANR Publication 8195, http://anrcatalog.ucdavis.edu/pdf/8195.pdf.) ▪ Redesign inlets into tailwater ditches to reduce erosion. (For more information, see <i>Reducing Runoff from Irrigated Lands: Tailwater Return Systems</i>, UC ANR Publication 8225, http://anrcatalog.ucdavis.edu/pdf/8225.pdf.) ✓ Consider management practices that reduce air quality problems. <ul style="list-style-type: none"> ▪ When possible, choose pesticides that are not in emulsifiable concentrate (EC) form, which release volatile organic compounds (VOCs). VOCs react with sunlight to form ozone, a major air pollutant.

