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Avocado Year-Round IPM Program Annual Checklist

Supplement to UC IPM Pest Management Guidelines: Avocado

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.

Water quality becomes impaired when pesticides move off-site and into water. 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 Avocado. 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: Avocado at <http://www.ipm.ucdavis.edu/PMG>.

✓ Done	Bloom period activities (pre-bloom, open flower, pollination, and fruit set) Special issues of concern related to water quality: drift, runoff.
	Monitor for diseases and conditions that promote disease development. <ul style="list-style-type: none"> • Armillaria root rot • Avocado root rot • Dothiorella and Phytophthora cankers • Sunblotch Manage if needed according to PMGs.
	Monitor invertebrate pests, including: <ul style="list-style-type: none"> • Avocado thrips, (February or March, then regularly from April until fruit exceed 3/4 inch). • Caterpillars (March through August). • Greenhouse thrips (late-March through July). • Persea mite and sixspotted mite (April through October). Manage if needed according to PMGs.
	Survey weeds, especially weeds near trunks, during spring through fall. <ul style="list-style-type: none"> • Record results on a weed survey form. Manage vegetation if needed, especially weeds near trunks.
	Look for vertebrates, especially during spring and summer. Manage if needed.
	Promote pollination of flowers: <ul style="list-style-type: none"> • Place honeybee hives in groves during bloom. • Manage pesticides to avoid killing bees.
	Provide proper cultural care and good growing conditions to improve fruit yield and control pests.
	Apply gypsum and mulch to reduce avocado root rot and improve soil.
	Manage irrigation: <ul style="list-style-type: none"> • Inspect irrigation systems by late winter. • Monitor and adjust scheduling to meet trees' varying water needs. • Test irrigation water quality.

✓ Done	Early fruit development—fruit are less than 2 inches long
	Special issues of concern related to water quality: drift, runoff.
	Identify and manage the causes of damage to fruit.
	<p>Monitor for diseases and conditions that promote disease development.</p> <ul style="list-style-type: none"> • Armillaria root rot • Avocado root rot • Dothiorella and Phytophthora cankers • Sunblotch <p>Record the date and location of problem trees or sites. Manage if needed according to PMGs.</p>
	<p>Monitor invertebrate pests, including:</p> <ul style="list-style-type: none"> • Avocado thrips (in February or March, then regularly from April until fruit exceed 3/4 inch.) • Caterpillars (March through August) • Greenhouse thrips (late-March through July) • Persea mite and sixspotted mite (April through October) • Avocado brown mite (about August through October) <p>Record results on a monitoring form. Manage if needed according to PMGs.</p>
	Look for other invertebrate pests. Manage if needed according to PMGs.
	Provide proper cultural care and good growing conditions to improve fruit yield, reduce insect damage, and control pests.
	Look for vertebrates, especially during spring and summer. Manage if needed.
	<p>Survey weeds, especially during spring through fall.</p> <ul style="list-style-type: none"> • Record results on a weed monitoring form. <p>Manage vegetation, especially weeds near trunks, as needed.</p>
	<p>Manage irrigation:</p> <ul style="list-style-type: none"> • Monitor and adjust scheduling to meet trees' varying water needs.



✓ Done	Late fruit development—fruit are greater than 2 inches long Special issues of concern related to water quality: drift, runoff.
	<p>Monitor for diseases and conditions that promote disease development, including:</p> <ul style="list-style-type: none"> • Armillaria root rot • Avocado root rot • Dothiorella and Phytophthora cankers • Sunblotch <p>Manage if needed according to PMGs.</p>
	<p>Monitor invertebrates:</p> <ul style="list-style-type: none"> • Caterpillars (March through August) • Persea mite and sixspotted mite (April through October) • Avocado brown mite (about August through October) • Other species (about August through October)
	Look for vertebrates, especially during spring and summer. Manage if needed.
	Reduce pest problems and manage tree growth by proper pruning.
	<p>Manage nutrition:</p> <ul style="list-style-type: none"> • Test foliar nutrients and fertilize if needed.
	Provide proper cultural care and good growing conditions to improve fruit yield and control pests.
	<p>Apply frost protection when warranted through March, especially if growing on flat land.</p> <ul style="list-style-type: none"> • Test frost control system by November.
	Inspect trees or sample foliage or soil during late summer or fall before winter rains to assess salinity from alkaline soils, poor quality water, and fertilizers.
✓ Done	Harvest until fruit arrives at the packing house Special issues of concern related to water quality: none
	Check preharvest intervals for all products used**.
	Use pruning and other cultural practices to minimize anthracnose in groves and fruit rots postharvest.
	<p>Size pick fruit. Thin clustered fruit and prune to reduce protected sites, thereby culturally controlling greenhouse thrips, leafrollers, loopers, and mealybugs:</p> <ul style="list-style-type: none"> • Thin by selectively harvesting only larger fruit, which increases market price to the grower.
	Minimize fruit injury and postharvest disease.
	Educate and supervise workers regarding fruit handling Best Management Practices (BMP), Good Agricultural Practices (GAP), and food safety.
	Inspect fruit quality before bins are moved from the picking site to identify grove areas where management practices need improvement.
	Take steps to prevent fruit contamination and theft.



✓ 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. ▪ Impact on aquatic invertebrates. (See Pesticide Choice Publication.) ▪ Chemical mode of action if pesticide resistance is an issue. <p>Select an alternative chemical or nonchemical treatment when risk is high.</p> <ul style="list-style-type: none"> ✓ Choose sprayers and application procedures that keep pesticides and fertilizers 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. <p>Consider water management practices that reduce pesticide movement off-site.</p> <ul style="list-style-type: none"> ✓ Schedule irrigation using soil moisture monitoring and ET. ✓ Consider vegetative filter strips or ditches.

