Fruit and Nuts – Home Uses

Citrus Spray Schedule

The three spray applications suggested should control most pests and provide quality fruit.

Postbloom spray: when 75% of petals have fallen

Table 1. Scales, whiteflies, mealybugs, mites

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Malathion 57EC	1 pint	2 teaspoons	Do not apply Malathion or Vendex fewer than 7 days before harvest. Do not apply Malathion to plants in full bloom. Do not use Vendex on tangerines, tangelos, Reed or Red blush grapefruit. Do not apply Vendex when daily temperatures at application average below 70 F. Make no more than 2 applications of Vendex/year and allow 60-day intervals between applications.
Vendex 50WP	4-6 ounces	1-1½ teaspoons	

Table 2. Thrips, leafminers

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Spinosad	4-6 ounces	1 teaspoon	Allow a minimum of 7 days between last application and harvest; several formulations available for home gardens (i.e., Spinosad, Success, Conserve, Naturalyte, etc.); follow label recommendations.

Table 3. Asian citrus psyllid

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Bayer Advanced Fruit, Citrus & Vegetable Insect Control	Varies, depending on size of tree.		• See product label for instructions and restrictions. • 0.15 to 0.2 fluid ounce/inch of trunk diameter at breast height or/foot of tree height. Do not apply more than 5.9 fluid ounces of product/year.

Table 4. Aphids, Asian citrus psyllid, white flies, thrips, leafhoppers

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Monterey Fruit Tree & Vegetable Systemic Soil Drench	Varies, depending on size of tree.	See label.	See product label for instructions, application rate, and restrictions.

Summer spray: July 15-Aug. 15

Table 5. Scales, whiteflies, mealybugs, leaf-footed bugs, mites

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Vendex 50WP +	4-6 ounces	1-1½ teaspoons	Same as postbloom spray.
Sun spray ultra-fine oil or	½-1 gallon	2½-4 tablespoons	Use caution when applying oils; read the label; do not spray when temperatures exceed 85 F; read footnotes.
Summer oil emulsion or	½ gallon	5 tablespoons	Follow label.
Malathion 57EC	1 pint	2 teaspoons	Same as postbloom spray.

Table 6. Asian citrus psyllid

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Bayer Advanced Fruit, Citrus & Vegetable Insect Control	Varies, depending on size of tree.	See label.	See product label for instructions and restrictions.

Table 7. Thrips, leafminers

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Spinosad	See label.	See label.	See limitations above; read the label.

Table 8. Aphids, Asian citrus psyllid, white flies, thrips, leafhoppers

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Monterey Fruit Tree & Vegetable Systemic Soil Drench	Varies, depending on size of tree.	See label.	See product label for instructions, application rate, and restrictions.

Fall spray: Oct. 15-Nov. 15

Table 9. Scales, whiteflies, mealybugs, leaf-footed bugs

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Malathion 57EC	1 pint	2 teaspoons	Same as postbloom spray.

Table 10. Aphids, Asian citrus psyllid, white flies, thrips, leafhoppers

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Monterey Fruit Tree & Vegetable Systemic Soil Drench	Varies, depending on size of tree.	See label.	See product label for instructions, application rate, and restrictions.

Table 11. Asian citrus psyllid

Pesticide and Formulation	Amount to Use for 50 gallons	Amount to Use for 1 gallon	Limitations
Bayer Advanced Fruit, Citrus & Vegetable Insect Control	Varies, depending on size of tree.	See label.	See product label for instructions and restrictions.
Vendex 50WP	4-6 ounces	1-1½ teaspoons	Follow label.
Spinosad	See label.	See label.	Same as postbloom spray; read the label.

Cautions

- Read the pesticide label and follow the manufacturer's safety recommendations.
- Oil emulsion sprays should not be applied to drought-stricken trees when the temperature is above 85 F or below 45 F. Oil emulsion sprays applied after Aug. 15 may inhibit solid formation, retard coloring of fruit and reduce the tolerance of trees to cold. Follow specific instructions on the label of all pesticides.

Figs Spray Schedule

Table 1. Vinegar flies, Driedfruit beetles

Material	Rate	Restrictions
Malathion 57 EC	2 quarts plus 1-2 gallons unsulfurized molasses/acre	• PHI=3 days; use 300 gallons of water/acre. • Sanitation: Early harvest and complete fruit removal at harvesting will reduce fruit exposure to flies and driedfruit beetles. Disc under affected hosts to destroy fermented fruit residues.
Pyganic	1-1.4 fl. oz. per acre	See label for restrictions.

Table 2. Fig scale

Material	Rate	Restrictions
Volk supreme oil	3 gallons/100 gallons water	Dormant or delayed dormant spray only.
Bonide insecticidal soap RTU	Spray directly on insects and leaves.	See label for details.
Nature's care insecticidal soap RTU	Spray directly on insects and leaves.	See label for details.

Table 3. Spider mites

Material	Rate	Restrictions
Volk supreme oil	3 gallons/100 gallons water	Dormant or delayed dormant spray only.
Sulfur	Follow the labeled rate.	Do not mix with oils, and/or do not apply within 3 weeks of oil applications to avoid fruit burn. Some sulfur formulations should not be combined with spreader stickers. Sulfur may cause eye and skin irritation. Avoid when hot temperatures (above 90 F) are expected within 3 days of spraying.
Hi-Yield Garden, Pet & Livestock Dust	Appy using a duster directly to leaves and insects when possible.	Not for use on plants for sale or in commercial settings. See label for more details.

RTU: Ready-to-use

Peach and Plum Spray Schedule

Dormant (mid-winter before bud swell)

Table 1. Mites, scales, lesser peachtree borer

Insecticides	Rates: 25 Gallons Water	Rates: 3 Gallons Water	Comments
Dormant oil	2 quarts	4 ounces or 8 tablespoons	Apply every 10 days during dormant season. Complete coverage is essential. Do not use when temperature is expected to exceed 85 F or be below 45 F.

Petal fall

Table 2. Plant bugs, plum curculio, Oriental fruit moths, aphids

Insecticides	Rates: 25 Gallons Water	Rates: 3 Gallons Water	Comments
Carbaryl 50WP	1 pound	2 ounces or 4 tablespoons	Allow minimum 3 days before harvest. Carbaryl is highly toxic to bees. It tends to increase scales and sometimes mite problems.
Carbaryl 80% Sprayable	0.5 pound	1 ounce or 2 tablespoons	Follow label
Malathion 25WP	0.5 pound	1 ounce or 2 tablespoons	Do not use within 7 days of harvest.

Cover sprays (7-14 days apart) from petal fall to two weeks before harvest

Table 3. Plum curculio, stink bugs, catfacing insects, Oriental fruit moths

Insecticides	Rates: 25 Gallons Water	Rates: 3 Gallons Water	Comments
Malathion 25WP	0.5 pound	1 ounce or 2 tablespoons	Do not use within 7 days of harvest.
Carbaryl 50 WP	1 pound	2 ounces or 4 tablespoons	Allow minimum 3 days before harvest.
Fine spray oil	Follow label.	Follow label.	Use fine spray oils for mite control as needed. Do not use on heat or drought stressed trees.

2 weeks before harvest, to harvest

Table 4. Plum curculio, stink bugs, catfacing insects, Oriental fruit moths

Insecticides	Rates: 25 Gallons Water	Rates: 3 Gallons Water	Comments
Carbaryl 50WP	1 pound	2 ounces or 4 tablespoons	Allow minimum 3 days before harvest.
Fine spray oil	Follow label.	Follow label.	Use fine spray oils for mite control as needed. Do not use on heat or drought stressed trees.

Table 5. Curative products, applied when a pest insect at times dictated by the label

Insect or Arthropod	Material	Rate	Restrictions
Plum curculio, stink bugs, Oriental fruit moths	Hi-Yield Garden, Pet & Livestock Dust	Appy using a duster directly to leaves and insects when possible.	Not for use on plants for sale or in commercial settings, See label for more details
Aphids, scales, sharpshooters, stink bugs	Pyganic	1-1.4 fl oz per acre	See label for restrictions.
Aphids, Plum curculio, stink bugs, mites, Oriental fruit moths, scales,	Feneva	Application rate depends on level of infestation. See label for details.	See label for restrictions.
Aphids, Kudzu bugs, Brown marmorated stink bugs,	Ortho-Home Defense	Spot treatment only.	See label for restrictions.
Aphids, mites	M-pede	0.25%-4%	See label for restrictions, wear appropriate PPE on the label

Pecan Spray Schedule for Yard Trees and Home Orchards

Insects and diseases can reduce the quantity and quality of pecans harvested from yard trees by homeowners. Insects and diseases also can have a negative effect on the overall health and vigor of the trees, thus affecting their value as shade trees.

Pest identification
It is important to learn how to identify the major insect pests and diseases of pecans. Knowing which insect pest is present will determine what insecticide to use. If an insect pest or disease is not present, control measures are unnecessary.

Cultural practices
Pecan trees that are healthy and vigorous are less susceptible to certain types of insects, such as wood borers. Proper fertilization, watering, and pruning are conducive to optimum tree growth and health. Keeping the area around the tree free of old and aborted nuts, leaves and twigs and limbs will also help in reducing insect and disease problems.

Spray equipment
Good spray coverage is essential for insect and disease control. It generally is not practical for homeowners to spray trees that are more than 30 feet tall since the spray equipment necessary to use on trees of that height or higher is quite expensive. Hose-on sprayers can be used on trees up to 30 feet tall. A commercial applicator can be used; however, it can be expensive if multiple pesticide applications are required.

Pesticide safety
When purchasing and using any pesticide, be sure to read the label. The label will tell you what the active ingredient is and its relative toxicity, safety precautions when using the pesticide, what it's labeled for and what rates to use, and how to properly dispose of the empty container. To avoid accidental injury or death, always keep the pesticide in its original container.

Suggested materials *(listed as active ingredients)*
- Malathion 55% EC.
- Carbaryl 23.7% (liquid formulation, not dust).
- Imidacloprid 1.47% (applied as soil drench).
- Potassium laurate 1% (Sprayed directly on pest insects).
- Spinosad 0.5%.
- Hexythiazox 50% (Insect growth regulator, Dry flowable powder in packets).
- *Bacillus thuringiensis* (B.t.).
- Horticultural Oil Spray (80%-97% oil emulsion).
- See label for correct rates to use.

Spray periods
- **Dormant (late winter) –** Apply dormant oil before bud break in late winter for control of scales.
- **Bud Break –** Pecan Phylloxera. This spray should be applied when the opening buds are 0.75-1.0 inches in length (leaves expanding and starting to unfurl). Spraying for this insect is unnecessary if galls formed by pecan phylloxera have not been observed. Use Malathion for control of this insect.
- **Pollination –** Pecan Nut Casebearer. This spray should be applied around May 10-15 (about five days earlier in south Louisiana). Pheromone traps can be used to detect casebearer activity and to determine if treatment is necessary. Use Malathion, Spinosad, or *Bacillus thuringiensis* for casebearer control.
- **Post-Pollination –** Pecan Nut Casebearer and Aphids. This spray, if necessary, should be made around June 20, or about six weeks after the pollination spray. Use pheromone traps to determine if casebearer is present; if not, treatments are unnecessary. Insecticides for casebearer control are the same as those listed for the pollination spray. For aphids use imidacloprid applied as a soil drench.
- **Half-Shell Hardening** – Pecan Weevil, Hickory Shuckworm, and Fall Webworm. This spray is usually applied in mid-August. If hickory shuckworm is a problem, two sprays, one applied in mid-August and a second spray applied approximately two weeks later, will usually control shuckworm. Raking up and destroying old pecans and shucks will also help control hickory shuckworm. For hickory shuckworm use carbaryl, Spinosad, or *Bacillus thuringiensis*. For pecan weevils, use carbaryl. The first application should be made when nuts enter the dough stage and weevils are present around Aug. 20. If infestation levels are high, an additional one to two applications, applied 10-14 days apart, may be needed. On tall trees, thoroughly spraying the trunk and lower limbs can suppress pecan weevil. Use spinosad or *Bacillus thuringiensis* for control of fall webworm. Spray web and surrounding foliage. Fall webworms can also be controlled by removing (where practical) the webbing and enclosed caterpillars from the tree.

Fire ant control
Many different types of insecticides are available for the control of fire ants. These products can be applied directly to the mound as contact insecticides or drenches, or they can be broadcast as bait to the area around the mounds. For a comprehensive listing of insecticides that can be used for fire ant control refer to the section, Louisiana Recommendations for Control of Insects on Lawns, in the Louisiana Insect Pest Management Guide.

Small Fruit Spray Schedule

(Grape, Blueberry, and Bramble)

Table 1. Blueberry

Insect	When to Spray	Spray Materials in 1 Gallon and Remarks
Scales	Delayed dormant – buds 0.25-0.25 inch green	**Summer or Superior Oil** (2%-3% actual oil). Follow the manufacturer's directions. Thorough coverage is necessary when using spray products to control scale insects.
Fruit worms, maggots, weevils	Petal fall	**Malathion 57EC** – 2 teaspoons. Allow 1 day before harvest: toxic to fish and highly toxic to bees. Follow label.
		Carbaryl 50W – 1 tablespoon. Allow 7 days before harvest; highly toxic to bees.
		Monterey Fruit Tree & Vegetable Systemic Soil Drench. Varies, depending on size of tree. See product label for instructions, application rate, and restrictions. **Do not apply during bloom**
Fruit worms (suppression)	Petal Fall	**SpinTor 2SC** – 4-6 fl. ounces/acre. SpinTor is toxic to bees exposed to treatment within 3 hours of spray; toxic to aquatic invertebrates. Rotate the product after 2 continuous applications. Limit to 29 fl. ounces/acre/season. Allow 3 days before harvest.
Maggots	Covers sprays – 10 days after petal fall to harvest	Same as above. Follow labels.
Spotted Wing Drosophila	Weekly application as fruit approaches ripeness	**Carbaryl 50W** (Sevin Dust), **spinosad, pyrethrins, bifenthrin, beta-cyfluthrin, esfenvalerate, fenpropathrin, zetacypermethrin.** Follow label directions. Rotate products weekly to reduce resistance development.

Table 2. Bramble (blackberry, etc.)

Insect	When to Spray	Spray Materials in 1 Gallon and Remarks
Scales, mites	Dormant	**Summer or Superior oil.** Follow the manufacturer's directions. Complete spray coverage is necessary.
Scales	Delayed dormant – as buds begin to break	**Summer or Superior oil.** Follow the manufacturer's directions. Complete spray coverage is necessary.
Aphids	Prebloom – just before blossoms open	**Malathion 57EC – 3 pints/acre. PHI=1 day; highly toxic to bees.**
Leafhoppers, leafrollers, sawflies, thrips	See label.	**Carbaryl 50W** – 1 tablespoon. PHI=7 days; highly toxic to bees; do not apply at bloom or when bees may be exposed.
Spotted Wing Drosophila	Weekly application as fruit approaches ripeness	**Carbaryl 50W** (Sevin Dust), **spinosad, pyrethrins, bifenthrin, beta-cyfluthrin, esfenvalerate, fenpropathrin, zetacypermethrin.** Follow label directions. Rotate products weekly to reduce resistance development.
Aphids, Leafhoppers, whiteflies	Do not apply during bloom.	Monterey Fruit Tree & Vegetable Systemic Soil Drench. **Varies, depending on size of tree.** See product label for instructions, application rate, and restrictions.

Table 3. Grape

Insect	When to Spray	Spray Materials in 1 Gallon and Remarks
Scales	Dormant spray	**Superior oil 1%.** Follow the manufacturer's recommendations. **Copper sulfate (bluestone)** – 6 teaspoons. Apply after pruning; burn all pruned vines. Complete coverage is important for scale control. Do not use dormant oils after the buds start to open.
Grape berry moths, leaf chewing insects	Just before bloom	**Carbaryl 50WP** – 2 tablespoons/gal. water. PHI=7 days; Carbaryl is highly toxic to bees. Read label.
Grape berry moths, leaf chewing insects	Postbloom sprays – just after bloom and then at 10- to 14-day intervals to harvest	**Carbaryl 50WP** – 2 tablespoons/gal. water. PHI=7 days; Carbaryl is highly toxic to bees. Read label.
Spotted Wing Drosophila	Weekly application as fruit approaches ripeness	**Carbaryl 50W** (Sevin Dust), **spinosad, pyrethrins, bifenthrin, beta-cyfluthrin, esfenvalerate, fenpropathrin, zetacypermethrin.** Follow label directions. Rotate products weekly to reduce resistance development.
Aphids, whiteflies	Do not apply during bloom; apply only once per year.	Monterey Fruit Tree & Vegetable Systemic Soil Drench. **Varies, depending on size of tree.** See product label for instructions, application rate, and restrictions.
Aphids, mites, scales, whiteflies	Best used against eggs and immature stages	**M-pede** See label for restrictions, wear appropriate PPE on the label. Can be applied up to harvest.