

Homeowner's Fruit and Nut Spray Schedule

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This guide provides information on insect and disease problems of peaches, plums, nectarines and pecans. Homeowners should be familiar with insect pests and diseases, their life cycles and damage. Problems must be identified and proper control methods selected. Situation is often complex because problems vary from one area of Texas to another and from one year to next. It is important to keep records of pest and disease occurrence to assist in making control decisions such as timing of pesticide applications. Plant diseases are most severe during periods of frequent rain or dew and mild temperatures (75 to 85 degrees F). Early-maturing peach varieties are more likely to have brown rot than late-maturing varieties, but late varieties are often damaged more by peach scab.

Cultural Practices

Healthy plants are more able to survive some insect and disease damage than plants already stressed by cultural problems. Optimum tree growth is maintained by following a well-balanced fertility program, selecting adapted disease-resistant varieties, and irrigating and pruning as needed.

Clean up and residue disposal are important in reducing plum curculio, hickory shuckworm, brown rot of peach and pecan scab. Diseased material that is properly composted can be recycled as mulch or organic material.

Pesticide Safety

Before using any pesticide, carefully read all instructions on container. Follow instructions such as need to wear protective clothing during mixing or spraying. Take necessary precautions when applying pesticides to avoid chemical exposure.

Mix pesticides in well-ventilated area or outdoors. Avoid chemical contact with skin and do not breathe chemical vapors.

Apply pesticides at proper rate. Using less chemical than prescribed may result in poor control, while using more than recommended may result in excessive residue on fruit or in plant damage.

Store chemicals in secure area away from pets and children. Prepare only amount required for one application. Properly dispose of any unused, diluted sprays and empty pesticide containers. Store pesticides in original containers.

Spray Equipment

A number of different sprayers can be used to apply insecticides and fungicides.

Compressed air sprayers range in size from 1 to 10 gallons; because of cost and handling ease, most homeowners prefer 2 1/2- to 3-gallon sizes. Hose-on sprayers are less expensive but require high volume of water, moderate pressure and convenient water outlet. Applying wettable powders with hose-on sprayer is difficult.

Once sprayer has been used, it is considered used pesticide container and requires proper handling and storage. Proper cleaning prolongs its life. Do not apply insecticides and fungicides with a sprayer previously used to apply herbicides; this may cause plant damage.

Suggested pesticides are registered and labeled for use by the Environmental Protection Agency and the Texas Department of Agriculture. The status of pesticide label clearances is subject to change, and may have changed since this publication was printed. County Extension agents and appropriate specialists are advised of changes as they occur.

The USER always is responsible for effects of pesticide residues on livestock and crops, as well as for problems that arise from drift or movement of the pesticide from one's property to that of others. ALWAYS READ AND CAREFULLY FOLLOW THE INSTRUCTIONS ON THE CONTAINER LABEL.

For further information, contact your county Extension agent.

¹Due to variation in the concentration of pesticides in different products, refer to the label for the specific rate per 1-gallon spray solution.

WP = wettable powder

EC = emulsifiable concentrate

DF = dry flowable

Table. 1 Homeowner's spray schedule for pecans.

Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Dormant season (winter)	Insects <i>Scale insects,</i> <i>phylloxera</i>	97% oil emulsion	1/4 - 1/3 pt.	Spray tree trunks and branches thoroughly.
Budbreak (just as the buds begin to split and show green color)--terminal bud growth should be 2 inches in length.	Nutritional Rosette	Zinc sulfate WP or Zinc nitrate (NZN) liquid	2 tsp.	Zinc sprays are essential for early applications will give best response. Elemental zinc is toxic to most plants other than pecans and possibility, do not use zinc sulfate near peaches, plums, nectarines, apricots or other zinc-sensitive plants. Do not use any zinc product at higher than labeled rates since foliage burn can result. When applying more than one zinc spray in 2 weeks, reduce rate by one-half. Never spray young trees that are not actively growing. trees that are not actively growing.
	Insects <i>Phylloxera</i>	Malathion 50% EC (several formulations)	2 tsp.	If dormant oil was not used, then treat trees where a history of phylloxera damage indicates a need for control.
Budbreak	Diseases <i>Scab and</i> <i>other foliage</i> <i>and nut</i> <i>diseases</i>	Benomyl (Benlate 50% WP) or Thiophanate- methyl (Topsin-	1/2 - 1 Tbs. 1/2 - 1 Tbs.	

M[®] 70% WP)

Pre-pollination (when leaves are one-third grown and before pollen is shed)--mid-April

Nutritional

Rosette Same as for budbreak

Diseases

Scab and other foliage Same as for budbreak

and nut

diseases

Insects

Fall webworm *Bacillus thuringiensis* Refer to label.

Walnut caterpillar (several formulations)

Repeat sprays as pest problem recurs.

or
Malathion[®] 50% EC (several formulations) 2 tsp.

or
Carbaryl (Sevin[®] liquid, several formulations) Refer to label.

Pollination (when case-bearer eggs appear on tips of nutlets)--May

Nutritional

Rosette Same as for budbreak

Insects

Pecan nut casebearer Same as for pre-pollination

Apply during egg hatch. (Consult your county Extension agent for precise local timing.)

Diseases

Scab and other foliage Same as for budbreak

and nut

diseases

Second generation casebearer (42 days after first casebearer spray)

Insects

Pecan nut casebearer
Aphids

Same as for pre-pollination

or
Malathion[®]
50% EC
(several formulations)

2 tsp.

or
Cygon[®] 2 EC

Refer to label.

Treat yellow aphids when an average of 25 per compound leaf are found or when excessive honey dew is produced. Repeated use of insecticides can result in strains of aphids that are resistant to insecticides. This can result in increased losses.

Diseases

Scab and other foliage and nut diseases

Same as for budbreak

Additional sprays at 10- to 14- day intervals may be required during extended periods of rainfall or high humidity.

Diseases

Scab

Same as for budbreak

Number of cover sprays is based on weather conditions, variety and presence of scab fungus. Maintain spray applications as long as weather conditions favor disease development.

Water stage (when inside of the nut begins to fill with liquid)-- mid- to late July

Diseases

Scab and other foliage and nut diseases

Same as for budbreak

Treat where there is a history of disease or during periods of rainfall or dew.

Half-shell hardening --mid- to late August

Insects

Aphids

Same as for aphids listed above

Treat yellow aphids when an average of 25 per compound leaf are found or when excessive honeydew is produced and aphid populations persist

Hickory shuckworm

Carbaryl
(Sevin[®] liquid, several

Refer to label.

formulations)

Half-shell hardening (continued)	Insects				
	<i>Pecan weevil</i>	Carbaryl (Sevin® liquid, several formulations)	Refer to label.	Treat areas with weevil infestation. One to three treatments at 10- to 14- day intervals are needed for heavy weevil infestations.	a history of pecan
	Diseases				
	<i>Scab and other foliage and nut diseases</i>		Same as for budbreak		

Table 2. Homeowner's spray schedule for peaches and plums.

Timing	Pest	Pesticide	Rate/ 1 gal. water	Remarks
Dormant season	Insects <i>Scale insects</i>	97% dormant oil	1/4 pt.	Apply when temperature is between 40 and 70 degrees F. Use only once. Apply only if scale is observed.
Late dormant	Diseases <i>Peach leaf curl</i>	Chlorothalonil (several formulations)	Refer to label for specific rate.	Apply if fall applications of copper fungicide were not made.
Petal-fall (when flower petals begin to fall)-- 5 days after bloom	Insects <i>Plum curculio</i>	Malathion 50% EC (several formulations) or Carbaryl (Sevin® liquid, several formulations) or	2 1/2 tsp. Refer to label.	Apply when 75 percent of petals have fallen, and there is a history of insect damage.
	<i>Peach twig borer</i>			The peach twig borer usually is a problem only in the West Cross Timbers area.
	<i>Lesser peach tree borer</i>	Endosulfan (Thiodan 9.7%	2 Tbs.	Make two applications approximately 3 weeks apart. Thoroughly wet tree

EC)

limbs with spray.

Petal-fall (continued)

Diseases

Scab

Captan[®] 50% WP 2.66 Tbs.
or
Sulfur 97% WP 8 Tbs.
or
Benomyl 1.5-2.25 Tbs.
(Benlate[®] 50% WP)
or
Thiophanate-methyl 1.5-2.25 Tbs.
(Topsin-M[®] 70% WP)
or
Chlorothalonil (same as dormant)

Treat where there is a history of disease problems.

Shuck split (when the calyx separates from base of newly formed fruit)--14 days after bloom

Insects

Catfacing insects, plum curculio

Diseases

Scab

Same insecticides as for petal fall

Same fungicides as for petal fall

Treat where there is a history of catfacing insects and/or plum curculio.

First cover (30 days after bloom)

Insects

Catfacing insects, plum curculio

Diseases

Scab

Captan 50% 2.7 Tbs.
or
Sulfur 97% WP 8 Tbs.

Treat where there is a history of disease problems.

Cover sprays (repeat at 14-day intervals)

Insects

Catfacing insects

Same insecticides as

for petal fall

Diseases

Brown rot Captan 50% WP 2.7 Tbs.
or
Sulfur 97% WP 8 Tbs.

Pre-harvest

(For early-maturing varieties and during periods of frequent rain or dew--spray 3 weeks, 2 weeks and 3 days prior to picking. For mid- to late-maturing varieties--spray at 2 weeks and at 3 days prior to picking.)

Insects

June beetles Carbaryl (Sevin[®] liquid, several formulations) Refer to label.

Diseases

Brown rot Benomyl (Benlate[®]) 50% DF 1.5-2.3 Tbs. Do not apply within 3 days of harvest.
or
Thiophanate-methyl (Topsin M[®] 80% WP) 1.5 -2.3 Tbs. Can be applied on day of harvest. Wash all of fruit before eating.
or
Funginex[®] (several formulations) Refer to label. Not approved on plums in preharvest period.

Post harvest--mid-to late August

Insects

Peach tree borer Chlorpyrifos (Lorsban[®] 12.9%) 2 Tbs. Thoroughly wet from base of tree up to first scaffold limbs.
or
Lindane (Lindane[®] 20% EC) 1 Tbs.
or
Endosulfan (Thiodan[®] 9.7% EC) 2 Tbs.

October 15 to December 1

Diseases

*Peach leaf
curl*

Copper
hydroxide
(several
formulations)

Refer to
label.

Spray to run-off. Apply during
dormant season.

or
Chlorothalonil
(several
formulations)

Refer to
label.

Organic Disease Management

Peaches, Plums, Nectarines, and Apricots - Use sulfur fungicides throughout the spray program. Decrease application interval to shortest interval allowed. Shortened intervals are important during the late bloom, shuck split and first cover period and again during the preharvest period. These are periods when fruit diseases are most damaging.

Pecans - Copper sulfate is considered an organic fungicide and some formulations are approved for use on pecans to control pecan scab and other foliage diseases. Copper sulfate is highly toxic to fruit trees such as peaches, plums, apricots and nectarines, and to some ornamental plants. Be careful when using this product around sensitive plants if there is a possibility of drift.

General Considerations - Most plant diseases require that the leaf, fruit or nut remain wet for a certain length of time for infection to occur. The following precautions should be taken to reduce the length of time the plant is wet following dew or rainfall: (1) prune trees to allow sunlight to penetrate the leaf canopy; (2) space trees to allow for air circulation; (3) plant trees in an area that will receive early morning sun and where air circulation will not be blocked by buildings or other plants; and (4) avoid wetting the tree during irrigation.

Select varieties that have natural resistance to the major diseases of your area. Resistance does not mean immunity to infections, but fungicide applications are usually more effective on plants with some resistance.

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