

Texas Agricultural Extension Service

The Texas A&M University System

Homeowner's Fruit and Nut Spray Schedule

Jerral D. Johnson, George Philley, James V. Robinson and George Ray McEachern*

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. The situation is often complex because problems vary from one area of Texas to another and from one year to the next. It is important to keep records of pest and disease occurrence to assist in making control decisions such as the 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 the container. Follow instructions such as the need to wear protective clothing during mixing or spraying. Take necessary precautions when applying pesticides to avoid chemical exposure.

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

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

Store chemicals in a secure area away from pets and children. Prepare only the 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 the 2 1/2- to 3-gallon sizes. Hose-on sprayers are less expensive but require a high volume of water, moderate pressure and a convenient water outlet. Applying wettable powders with a hose-on sprayer is difficult.

Once a sprayer has been used, it is considered a 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.

*Associate Department Head, Professor and Extension Program Leader for Plant Pathology; Professor and Extension Plant Pathologist; Professor and Extension Entomologist; and Professor and Extension Horticulturist; The Texas A&M University System.

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 the 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.

Table. 1 Homeowner's spray schedule for pecans.

Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Dormant season (winter)	Insects Scale insects, phylloxera	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 tsps.	Zinc sprays are essential for early season pecan growth. Early, frequent applications will give the best response. Elemental zinc is toxic to most plants other than pecans and grapes; therefore, avoid drift. If drift is a 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.
	Insects Phylloxera	Malathion 50% EC (several formulations)	2 tsps.	If dormant oil was not used, then treat trees where a history of phylloxera damage indicates a need for control.
Budbreak	Diseases Scab and other foliage and nut diseases	Benomyl (Benlate 50%WP)	1/2 - 1 Tbs.	
		or Thiophanate- methyl (Topsin- M® 70% WP)	1/2 - 1 Tbs.	

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

D.
A245.7
73
.5041

1 Homeowner's spray schedule for pecans (continued).

CORRECTION

The following is a correction to Extension Publication B-5041 "Homeowner's Fruit & Nut Spray Schedule."

Diazinon 25% EC is no longer approved for use on pecans. Ciba Crop Protection, the manufacturer of the product, voluntarily withdrew the use of diazinon on pecans as of August 31, 1995. Their decision, according to company spokesmen, was based on the limited market opportunity for the product on pecans and not its safety.

It should be noted that there may be containers of the product on store shelves or in homeowner inventory that have the older label attached. Product with the older label may be used safely and legally on pecans as long as the label directions are followed.

TEXAS STATE DEPOSITION

LIBRARY
TEXAS A&M UNIVERSITY

JUL 17 1996

TEXAS STATE
DOCUMENTS

Due to variations 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

TEXAS STATE DEPOSITION

LIBRARY
TEXAS A&M UNIVERSITY

OCT 17 1996

TEXAS STATE
DOCUMENTS

[Blank Page in Original Bulletin]

Table. 1 Homeowner's spray schedule for pecans (continued).

Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Prepollination (when leaves are one-third grown and before pollen is shed)—mid-April	Nutritional Rosette Diseases Scab and other foliage and nut diseases Insects Fall webworm Walnut caterpillar	Same as for budbreak Same as for budbreak <i>Bacillus thuringiensis</i> (several formulations) or Diazinon® 25% EC (several formulations) or Malathion® 50% EC (several formulations) or Carbaryl (Sevin® liquid, several formulations)	Refer to label. Refer to label. 2 tsps. Refer to label.	Repeat sprays as pest problem recurs.
Pollination (when casebearer eggs appear on tips of nutlets)—May	Nutritional Rosette Insects Pecan nut casebearer Diseases Scab and other foliage and nut diseases	Same as for budbreak Same as for prepollination Same as for budbreak		Apply during egg hatch. (Consult your county Extension agent for precise local timing.)

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

TEXAS STATE DEPOSITORY

LIBRARY
TEXAS A&M UNIVERSITY

OCT 07 1996

TEXAS STATE
DOCUMENTS

Table 1 Homeowner's spray schedule for pecan. (continued).

Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Half-shell hardening (continued)	Insects Pecan weevil	Carbaryl (Sevin® liquid, several formulations)	Refer to label.	Treat areas with a history of pecan weevil infestation. One to three treatments at 10- to 14- day intervals are needed for heavy weevil infestations.
	Diseases Scab and other foliage and nut diseases		Same as for buddbreak	

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

Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Dormant season	Insects Scale insects	97% dormant oil	1/4 pt.	Apply when temperature is between 40 and 70 degrees F. Use only once. Apply only if scale are observed.
Late dormant	Diseases Peach leaf curl	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 Plum curculio	Malathion 50% EC (several formulations) or Cabaryl (Sevin® liquid, several formulations) or	2 1/2 tsps. Refer to label.	Apply when 75 percent of petals have fallen, and there is a history of insect damage.
	Peach twig borer	Diazinon® 25% EC (several formulations)	Refer to label.	
	Lesser peach tree borer	Endosulfan (Thiodan 9.7% EC)	2 Tbs.	

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 2. Homeowner's spray schedule for peaches and plums (continued).

Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Petal-fall (continued)	Diseases Scab	Captan® 50% WP or Sulfur 97% WP or Benomyl (Benlate® 50% WP) or Thiophanate-methyl (Topsin-M® 70% WP) or Chlorothalonil (same as dormant)	2.66 Tbs. 8 Tbs. 1.5-2.25 Tbs. 1.5-2.25 Tbs.	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	Same as for petal fall Captan 50% or Sulfur 97% WP	2.7 Tbs. 8 Tbs.	Treat where there is a history of disease problems.
Cover sprays (repeat at 14-day intervals)	Insects Catfacing insects Diseases Brown rot	Same insecticides as for petal fall Captan 50% WP or Sulfur 97% WP	2.7 Tbs. 8 Tbs.	

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

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.

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

Educational programs of the Texas Agricultural Extension Service are open to all people without regard to race, color, sex, disability, religion, age or national origin.

Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Zerle L. Carpenter, Director, Texas Agricultural Extension Service, The Texas A&M University System.

10M-5-96, Revision

PP, ENTO, HORT