Texas Agricultural Extension Service

The Texas A&M University System



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. 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.

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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 then 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.

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.

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.
	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) or Thiophanate- methyl (Topsin- M® 70% WP)	1/2 - 1 Tbs.	The state of the s

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

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EC = emulsifiable concentrate

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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.

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TEXAS STATE DOCUMENTS

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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	Same as for budbreak	B Owner	afterent monter se broken on next here a dis sign consense of the design of the second second
	Diseases Scab and other foliage and nut diseases	Same as for budbreak	nonica () augs) 23 salumen	
	Insects Fall webworm Walnut caterpillar	Bacillus thuringiensis (several formulations)	Refer to label.	Repeat sprays as pest problem recurs.
	areatibbA I slaviens	or Diazinon® 25% EC (several formulations) or	Refer to label.	enemental Reserves London Parinte
	a jedorala	Malathion® 50% EC (several formulations) or Carbaryl	2 tsps.	
	econocia econocia continue	(Sevin® liquid, several formulations)	label.	There is a summation of the control
Pollination (when case- bearer eggs appear on tips of nutlets)—May	Nutritional Rosette	Same as for budbreak	e argond is a	ebsessivi etilari nedwi igose ratavi to tale deca e i ib) epseenio i isu viti to kile ogalofo a essivit lege etingai ritu ga manif
	Pecan nut casebearer	Same as for prepollination	Saide Sa	Apply during egg hatch. (Consult your county Extension agent for precise local timing.)
	Diseases Scab and other foliage and nut diseases	Same as for budbreak	a shifted avode	Victorial of the Constant of t

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Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
Second generation casebearer (42 days after first casebearer spray)	Insects Pecan nut casebearer	Same as for prepollination	ec ecred leasting	stationaus suveri unital marca ocean gilesce — bas avana bribania et e-bata a plan a stef 4 haperan
	Aphids	Diazinon® 25% EC (several formulations) or	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 insecti-
	ge feegest eg	Malathion [®] 50% EC (several formulations)	2 tsps.	cides can result in strains of aphids that are resistant to insecticides. This can result in increased losses.
		or Cygon [®] 2 EC	Refer to label.	uligresso
	Diseases Scab and other foliage and nut diseases	Same as for budbreak	consects svee) 33 successor to codesisM	Additional sprays at 10- to 14- day intervals may be required during extended periods of rainfall or high humidity.
Cover sprays	Diseases Scab	Same as for budbreak	Systematics of the system of t	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		es small legalbud	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	Be profit	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	Diazinon® 25% EC	Refer to label.	-5(44 \$ m s) -3(0.5 (4.4))
Section and part of called	an militari era e	or Carbaryl (Sevin [®] liquid, several formulations)	Refer to label.	Cate to Verteen in the congentation of term solely equipment. We evaluate position. Consendation concentrate

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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	1.6-2.26 S0% brooms Subsects (C.2.26	Same as for budbreak	Service sy, reduce 3 days of

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.	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.	The peach twig borer usually is a problem only in the West Cross Timbers area.
	Lesser peach tree borer	Endosulfan (Thiodan 9.7% EC)	2 Tbs.	Make two applications approximately 3 weeks apart. Thoroughly wet tree limbs with spray.

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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.	Treat where there is a history of disease problems.
Shuck split (when the calux separates from base of newly formed fruit)—14 days after bloom	Insects Catfacing insects, plum curculio Diseases Scab	Same insecticides as for petal fall	mel), eta eta no eta no eta no eta eta no eta	Treat where there is a history of cat- facing insects and/or plum curculio.
First cover (30 days after bloom)	Insects Catfacing insects, plum curculio Diseases Scab	fungicides as for petal fall Same as for petal fall Captan 50% or	2.7 Tbs.	Treat where there is a history of disease problems.
Cover sprays (repeat at 14-day intervals)	Insects Catfacing insects Diseases Brown rot	Sulfur 97% WP Same insecticides as for petal fall Captan 50% WP or Sulfur 97% WP	8 Tbs. 2.7 Tbs. 8 Tbs.	out riseau nond an riseau nood sost a la natient, sone a un of miterae or and uses to the

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Timing	Pest	Pesticide	Rate/ 1 gal. water ¹	Remarks
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	Insects June beetles	Carbaryl (Sevin® liquid, several formulations)	Refer to label.	the face broader, shape special and first of the face broader, shape special core from and agains distribe problems—are most regions—when hull discusses are most faceton—Copper suitors is consider
mid- to late-maturing varieties—spray at 2 weeks and at 3 days prior to picking.)	Diseases Brown rot	Benomyl (Benlate®) 50%DF	1.5-2.3 Tbs.	Do not apply within 3 days of harvest.
	ig atomorphiss	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) or	1 Tbs.	
		Endosulfan (Thiodan® 9.7% EC)	2 Tbs.	
	Diseases Peach rust	Chlorothalonil	Refer to label.	Begin applications at first sign of rust in the summer and continue at 2- to 3-week intervals until early October. Rust is a problem in counties south of a line from Houston to Hallettsville and Rio Grande City.
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.	

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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.

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