

Tree_Fruits_And_Nuts_1993.txt

TREE FRUITS AND NUTS

Problems Common to Many Trees Bearing Fruits and Nuts

SYMPTOMS	POSSIBLE CAUSES	CONTROL AND COMMENTS
Premature fruit drop	<ul style="list-style-type: none">-Natural thinning-Spring frost-Poor pollination-Environmental stress-Disease stress-Use of Sevin insecticide-Various insects	<ul style="list-style-type: none">-Many trees produce more fruit than they need and thin themselves naturally-Frost often kills developing fruits or buds-Tree may require other trees nearby to pollinate it; be careful not to kill bees with insecticides-Drought, cold, or heat can cause fruit drop-See controls under specific diseases-Sevin causes some fruit thinning; do not misuse-Submit insect for laboratory identification
Poor fruit development (small number of fruit on tree)	<ul style="list-style-type: none">-Poor pollination-Biennial bearing	<ul style="list-style-type: none">-Tree may require other trees nearby to pollinate it; be careful not to kill bees with insecticides-Apples, pears, and pecans can overbear one year followed by few fruit the next year if not properly thinned.

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	-Improper pruning	-Do not prune off fruit-bearing wood during the dormant season; consult pruning manual for proper instructions on pruning
	-Frost injury	
Fruits too small	-Failure to prune	-Peaches, nectarines, plums, and apples tend to produce many small fruits if not pruned; consult pruning manual for proper pruning
	-Poor soil fertility	-Soil test
Many small twigs broken off	-Squirrel damage	-Squirrels girdle branches which then die back and blow out
	-Wind breakage	
Oozing sap on branches or trunk	-Natural gummosis	-Cherries, plums, apricots, and peaches naturally ooze sap
	-Environmental stress	-Drought or waterlogging can cause fruit trees to ooze excessively
	-Mechanical injury	
	-Disease or insect damage	-See section on specific diseases
	-Holes in limbs and trunks with tunneling beneath	-Borer damage; use registered insecticides
Large areas of split bark; no decay evident	-Freeze cracks	-Freeze can split tree trunks if sap in trunk expands; use tree-wrap to protect bark

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		from sun to prevent extremes in temperature
-Sunscald	-Thin-barked trees, e.g. young ones, split when exposed to intense sunlight; use tree-wrap or block sun with board on bright days	
-Mechanical injury, e.g. lawnmower	-Dig up grass around trunk and replace with mulch to avoid mowing too closely to base of tree	
-Lightning injury		
Large areas of split bark; decay evident in wood	-Secondary decay of any of the wounds described above	-No adequate controls; remove loose bark; water and fertilize tree when necessary
Gray-white powdery growth on leaves; leaves and fruit may be distorted	-Powdery mildew (fungal disease)	-Use registered fungicide
Black, sooty growth on leaves, stems, and/or fruit	-Sooty mold (fungus that grows on honeydew substance secreted by aphids and other insects)	-Identify insect then control with registered insecticide
Brown dead areas on leaf margins	-Leaf scorch, caused insufficient transport of water to leaves	-Water tree deeply during dry periods; scorch is usually caused by hot, dry weather, but root rots or other root damage can also be involved

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	-Cold injury	-Do not fertilize late in season
Tree wilted and may have poor color	-Dry soil -Root rot (fungal disease) -Root knot or root feeding nematodes -Various fungal, bacterial, or viral diseases -Water-logged soil	-Water deeply during drought -Improve drainage -Submit soil sample for nematode analysis -Submit sample for laboratory diagnosis -Improve drainage
Interveinal yellowing of leaves; no wilting	-Nutrient or mineral deficiency -Water-logged soil, resulting in poor transport of nutrients to leaves	-Soil test -Improve drainage
Large, corky galls at base of tree and on roots	-Crown gall (bacterial disease)	-Some galls can be pruned out, but it is best to consult an arborist; trees may live for many years inspite of galls
Young leaves curled and distorted; cluster of insects on underside of leaves	-Aphids	-Use registered insecticide; thorough coverage of undersides of leaves is necessary
Silk tents in branch crotches	-Tent caterpillar	-Physically remove tents or use registered insecticide when caterpillars are small

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Silk tents on ends of branches	-Fall webworm	-Same as for tent caterpillar
Crescent-shaped scars on fruit; whitish, legless grubs with brown heads present	-Plum curculio	-Use registered insecticide on a regular schedule
Leaves with tiny white spots, often dirty with webbing	-Spider mites	-Use registered miticide
Bark encrusted with tiny, slightly raised bumps; apples may have red spots with white centers	-San Jose scale	-Use a dormant oil spray or treat with registered insecticide when eggs are hatching

Access to the newsgroup may be a problem. I'm helping friends in Minnesota who run a small research farm to acquire net access -- they're doing fascinating work by selecting hazelnuts and chestnuts for woody agriculture (using local native stock from target areas is the goal, and crossing in strains with good commercial behavior such as

- being fire-adapted so growing as bushes, harvestable like blueberries, and able to grow back from stumps every four or five years
- nuts in first year
- ease of mechanical (US) or hand-harvesting (Pakistani and Chinese researchers are working with them)

Plus the gamut of other commercially-interesting traits.

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Their numbers indicate that their strains of hazelnuts can be as profitable as corn or soybeans in food value, plus harvesting wood, plus having the plants in the ground year-round to get spring and fall sunlight and control erosion (in snowy areas, to act as snow fences to capture water too).

Til they find a net connection, you can find a summary of their work in an article titled "Reducing Earth's Greenhouse CO2 Through Shifting Staples Production to Woody Plants" - December 1988, Proceedings of the Second North American Conference on Preparing for Climate Change; from the Climate Institute, 316 Pennsylvania Avenue SE Ste 402, Washington DC 20003.