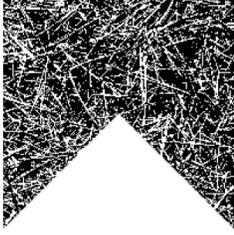


IPM



Commercial Peach

Insect, Disease, and Weed Control Recommendations
for 2008

INSECT AND DISEASE CONTROL

Current insect and disease control recommendations for commercial peaches in Alabama can be found in the **2008 Southeastern Peach, Nectarine, and Plum Pest Management and Culture Guide**. Copies of the guide are available through your county Extension office or can be downloaded by going to the following link: <http://www.caes.uga.edu/department/ent/peach/PeachGuide.pdf>.

The guide contains the latest recommendations for insecticides, fungicides, nematicides, and herbicides for commercial peach, nectarine, and plum production. The guide is a collaborative effort by Extension specialists and researchers from land grant institutions in the southeastern United States.

Insect and Disease Control section prepared by Robert Boozer, *Area Extension Research Horticulturist*, Alabama Cooperative Extension System, Alabama A&M University and Auburn University; and Edward J. Sikora, *Extension Plant Pathologist*, Professor, Entomology and Plant Pathology, Auburn University.

WEED CONTROL

A sod-chemical-strip form of orchard floor management is recommended for peaches. Use a 4- to 8-foot herbicide band down the tree row and mow the ground cover between the rows. Cultivation may cause mechanical damage to tree trunks

and root systems. Follow closely all instructions on the label regarding rates for variations in soil types, organic matter, age of trees, grazing of livestock, and other special precautions.

Table 1. Peach Weed Control

Herbicide Trade Name (Rate/Acre Broadcast)	Herbicide Common Name (Active Herbicide/Acre)	Comments
Preemergence (PRE)		
CHATEAU WDG (6-12 oz.)	flumioxazin (0.19-0.38 lb.)	Provides residual control of several broadleaf weeds and grasses. Use low rate on sandy soils. May be mixed with glyphosate, paraquat, or Rely to control emerged weeds. Add non-ionic surfactant at a rate of 2 pints per 100 gallons of spray mix for foliar control. DO NOT allow spray to contact crop. DO NOT apply within 60 days of harvest.
DEVRIKOL 50DF (8 lb.)	napropamide (4 lb.)	May be used in newly planted and established orchards. Controls annual grasses and some broadleaf weeds from seed. Apply in fall through early spring. Incorporation by tillage, rainfall, or sprinkler irrigation is needed within 24 hours of application. DO NOT apply within 35 days of harvest.
GALLERY 75DF (0.66-1.33 lb.)	isoxaben (0.5-1.0 lb.)	Apply only to trees that will not bear harvestable fruit within 12 months. May be applied after soil has settled around newly planted trees. Controls several annual broadleaf weed species.
GOAL 2XL (2-8 pt.)	oxyfluorfen (0.5-2 lb.)	Apply under dormant trees before budswell for control of broadleaf weeds. Higher rates provide residual control. May be mixed with Gramoxone, Roundup, Devrinol, diuron, Simazine, etc.
KARMEX DF (2-5 lb.) or DIREX 4L (3-8 pt.)	diuron (1.6-4 lb.)	Use only under trees which have completed their third growing season. Controls annual broadleaf weeds and grasses. Apply in the spring before weeds emerge or during early seedling stage. If weed seedlings are present, add surfactant at a rate of 2 quarts per 100 gallons of spray mixture. DO NOT apply within 3 months of harvest. Read label for special precautions regarding irrigation or flooding. DO NOT allow animals to graze in treated areas.
KARMEX DF (1-2 lb.) or DIREX 4L (2-3 pt.) +	diuron (1-1.5 lb.)	Use only under trees which have completed their second growing season. Controls annual broadleaf weeds and grasses. Apply in the spring or after harvest in the fall before weeds emerge or are in the early seedling stage. Read label for special precautions regarding irrigation and organic matter. DO NOT allow animals to graze in treated area.
SINBAR 80W (1-2 lb.)	terbacil (0.8-1.6 lb.)	Addition of a non-ionic surfactant at 2 pints per 50 gallons of spray mix will provide some postemergence activity.
PRINCEP 90DF or SIMAZINE 90DF (1.1-2.2 lb.) or PRINCEP 4L or SIMAZINE 4L (2-4 pt.)	simazine (1-2 lb.)	Use in orchards established for 1 year or more. Controls annual broadleaf weeds and grasses. Apply in early spring before weeds emerge or late fall. May be applied as a split application. Use half the rate in the spring (1 to 2 pounds) and half the rate in the fall. Avoid contact with fruit and foliage. Use the low rate on coarse-textured soils and the higher rate on finer textured soils. DO NOT apply to sands, loamy sands, or gravelly sands. DO NOT allow animals to graze treated areas. Princep may be tank mixed with Surflan or Gramoxone. See label for appropriate use rate.

Herbicide Trade Name (Rate/Acre Broadcast)	Herbicide Common Name (Active Herbicide/Acre)	Comments
Preemergence (PRE)) (cont.)		
PROWL 3.3EC (2.4-4.8 qt.) or PROWL H ₂ O (4-8 pt.)	pendimethalin (2-4 lb.)	Apply only under NON-BEARING trees. DO NOT apply to newly transplanted trees until the soil has settled and there are no cracks present. Use the lower rate for 3- to 4-month control and the higher rate for 6- to 8-month control. Prowl is similar to Surflan in weeds controlled. DO NOT graze treated areas.
SINBAR 80W (2 lb.)	terbacil (1.6 lb.)	Use only under trees which have completed their third growing season. Controls annual broadleaf weeds and grasses and some perennials. Apply in the spring before weeds emerge or are in the early seedling stage. Or, apply in the fall after harvest. DO NOT allow spray to contact fruit or foliage. Follow label recommendations regarding soil types and organic matter. Avoid eroded areas where roots are exposed.
SOLICAM DF (2.5-5 lb.)	norflurazon (2-4 lb.)	Apply under bearing and non-bearing trees. DO NOT apply until transplanted trees have completed their first growing season (fall treatment). Make ONLY one application per year. Application should be made either postharvest in the fall or in the early spring. DO NOT graze treated areas. Solicam may be tank mixed with Gramoxone Extra.
SURFLAN AS (2-6 qt.)	oryzalin (2-6 lb.)	Apply under bearing and non-bearing trees. DO NOT apply to newly transplanted trees until the soil has settled and no cracks are present. Use the low rate for 2- to 4-month weed control, the medium rate for 6- to 8-month control, or the high rate for 8- to 12-month control. Controls many annual grasses and small-seeded broadleaf weeds. DO NOT graze treated areas.
Postemergence (POST)		
2,4-D amine (2-3 pt.)	2,4-D amine (1-1.5 lb.)	FOR ONE-YEAR-OLD OR OLDER TREES ONLY. Apply to vegetation between dormant trees to control emerged winter annual weeds. DO NOT apply within 2 weeks of budbreak. DO NOT use on sands or loamy sand soils. Clean spray equipment thoroughly after using this product. DO NOT use on newly planted trees.
AIM 2EC (0.5-2 oz.) + Non-ionic Surfactant	carfentrazone (0.008-0.031 lb.) + non-ionic surfactant	Apply under trees for postemergence control of several annual broadleaf weeds. DO NOT allow spray to contact leaves, fruit, or green stem tissue. Add a non-ionic surfactant or crop oil concentrate at 2 pints or 2 gallons per 100 gallons of spray mix, respectively. May be mixed with other registered herbicides. DO NOT apply within 3 days of harvest.
MSMA 6 (2.67 pt.)	MSMA (2 lb.)	FOR NON-BEARING TREES ONLY. Apply as a directed spray to weeds less than 8 inches tall under trees which will not be harvested within 1 year after application. Controls annual grasses, nutsedge, and some broadleaf weeds. DO NOT graze treated areas.

Herbicide Trade Name (Rate/Acre Broadcast)	Herbicide Common Name (Active Herbicide/Acre)	Comments
Postemergence (POST)) (cont.)		
FUSILADE DX (0.75 pt.) + Crop Oil Concentrate (2 pt./25 gal. spray mix) or Non-ionic Surfactant (0.5 pt./25 gal. spray mix)	fluazifop-butyl (0.2 lb.) + crop oil concentrate or non-ionic surfactant	Use for control of annual and perennial grasses. Apply as a directed spray using 10 to 40 gallons of spray solution per acre with a spray pressure of at least 30 psi. Use hollow cone or flat fan nozzles. A non-phytotoxic crop oil concentrate or non-ionic surfactant must be used with this herbicide. Use a crop oil concentrate with Fusilade to control perennial grasses such as bermudagrass and johnsongrass. Repeat application may be needed if regrowth occurs. Broadleaf weeds and nutsedges (nutgrass) will not be controlled by this herbicide. DO NOT apply within 14 days of harvest.
GRAMOXONE INTEON (2- 4 pt.) or FIRESTORM (1.25-2.5 pt.) + Non-ionic Surfactant (1-2 pt./100 gal. spray mix)	paraquat (0.5-1 lb.) + non-ionic surfactant	One-year-old trees may have green bark and may be injured by herbicide contact. DO NOT allow spray to contact green stems, fruit, or foliage. Controls annual broadleaf weeds and grasses and provides top-kill of perennials. Apply when weeds are succulent and new growth is 1 to 6 inches tall. Read label instructions for precautions. DO NOT allow animals to graze in treated area. Gramoxone is a RESTRICTED USE pesticide.
POAST 1.5E (1.5-2.5 pt.) + Crop Oil Concentrate (2 pt./25 gal. spray mix)	sethoxydim (0.25-0.5 lb.) + crop oil concentrate	Apply for control of annual and perennial grasses. Apply as a directed spray in a maximum of 20 gallons of spray solution per acre. Add crop oil concentrate. A repeat application may be needed. Broadleaf weeds and nutsedge will not be controlled. DO NOT apply within 25 days of harvest.
STINGER (0.33-0.66 pt.)	clopyralid (0.13-0.25 lb.)	Provides postemergence control of several annual broadleaf weeds. Especially effective on legume weeds (vetch, clover, etc.). May be mixed with other herbicides registered for peach. DO NOT apply within 30 days of harvest. DO NOT exceed a total of 0.66 pint per acre per year.
ROUNDUP or TOUCHDOWN or GLYPHOSATE (generic forms) + Non-ionic Surfactant (1 pt./25 gal. spray mix)	glyphosate (1-4 lb.) + non-ionic surfactant	Apply to non-bearing and bearing trees. Apply to non-bearing trees that are at least 3 years old. Apply no later than 90 days after first bloom. Application must be made with a shielded sprayer or wiper applicator which prevents any contact of herbicide with the peach foliage or bark. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE TREE IS CONTACTED. Remove suckers and hangers at least 10 days before application. Controls a broad spectrum of annual and perennial weeds and grasses. DO NOT allow animals to graze in treated area. See label for specific rates.

Table 2. Herbicide Classification by Mode of Action

Mode of Action	Herbicide
AMINO ACID SYNTHESIS INHIBITORS	Roundup, Touchdown
CELL MEMBRANE DISRUPTORS	Gramoxone
LIPID SYNTHESIS INHIBITORS	Fusilade, Poast
PHOTOSYNTHETIC INHIBITORS	Princep, Solicam
ROOT GROWTH INHIBITORS	Devrinol, Prowl, Surflan

Table 3. Estimated Effectiveness of Recommended Herbicide Treatments on Important Weeds Infesting Peaches in Alabama and Properties That May Affect Water Quality¹

WEEDS	HERBICIDES							
	Chateau (PRE)	Gallery (PRE)	Goal (PRE)	Karmex (PRE)	Karmex + Sinbar (PRE)	Princep (PRE)	Prowl (PRE)	Solicam (PRE)
Bahiagrass	0	0	0	1	1	1	0	4
Bermudagrass	0	0	0	0	0	0	0	4
Blackberry	2	0	3	1	0	1	0	3
Crabgrass	5	0	0	8	8	8	8	8
Florida Pusley	8	6	3	8	9	9	8	8
Goosegrass	4	0	0	8	8	8	8	8
Lambsquarter	9	9	8	9	9	8	4	5
Morningglory	8	5	9	5	7	7	0	5
Nutsedge	0	0	0	0	3	0	0	7
Pigweed	9	9	9	9	9	9	9	9
Prickly Sida	8	6	8	4	9	9	0	9
Ragweed	9	9	4	8	9	8	4	8
Texas Panicum	1	0	0	4	5	4	7	4
Surface-Loss Potential²	M	S	M	M	M	M	M	M
Leaching Potential³	S	S	M	M	L	M	S	M

continued

¹ Ratings are based on observations of research plots and field use under average weather conditions for several years by weed control workers in Alabama and the South. Surface-loss and leaching potentials are based in part on herbicide chemical characteristics and pesticide behavior models developed by USDA scientists as well as on field experience.

² The surface-loss potential indicates the tendency of the pesticide to move with sediment in runoff.

³ The leaching potential indicates the tendency of the pesticide to move in solution with water and to leach below the root zone.

KEY TO CONTROL RATINGS AND ABBREVIATIONS

Ratings on a scale of 0 to 10: 0 = No control; 10 = 100% control. PRE = Preemergence.

S = Small; M = Medium; L = Large.

Table 3. Estimated Effectiveness of Recommended Herbicide Treatments on Important Weeds Infesting Peaches in Alabama and Properties That May Affect Water Quality¹ (cont.)

WEEDS	HERBICIDES						
	Surflan (PRE)	AIM (POST)	Fusilade, Poast (POST)	Gramoxone (POST)	MSMA (POST)	Stinger (POST)	Roundup, Touchdown (POST)
Bahiagrass	0	0	8	3	7	0	8
Bermudagrass	0	0	8	3	0	0	8
Blackberry	0	4	0	3	4	1	7
Crabgrass	8	0	9	7	8	0	9
Florida Pusley	8	1	0	6	3	---	9
Goosegrass	8	0	9	8	8	0	9
Lambsquarter	5	8	0	8	4	---	9
Morningglory	0	9	0	8	5	---	9
Nutsedge	0	0	0	4	7	0	7
Pigweed	9	7	0	9	3	---	9
Prickly Sida	0	1	0	6	2	---	9
Ragweed	5	1	0	7	6	9	9
Texas Panicum	7	0	9	9	7	0	9
Surface-Loss Potential²	M	S	M	S	S	M	S
Leaching Potential³	S	S	S	S	S	S	S

¹ Ratings are based on observations of research plots and field use under average weather conditions for several years by weed control workers in Alabama and the South. Surface-loss and leaching potentials are based in part on herbicide chemical characteristics and pesticide behavior models developed by USDA scientists as well as on field experience.

² The surface-loss potential indicates the tendency of the pesticide to move with sediment in runoff.

³ The leaching potential indicates the tendency of the pesticide to move in solution with water and to leach below the root zone.

KEY TO CONTROL RATINGS AND ABBREVIATIONS

Ratings on a scale of 0 to 10: 0 = No control; 10 = 100% control. PRE = Preemergence; POST = Postemergence.
S = Small; M = Medium.

PESTICIDE PRECAUTIONS

Many pesticides now used in commercial orchard spray programs are hazardous unless you follow proper precautions. This is especially true of parathion, azinphosmethyl (Guthion), and endosulfan (Thiodan). Always read the label when using pesticides and observe the recommended precautions. Pesticides are relatively safe when used as recommended, but they can become a potential liability in the hands of a careless operator. The orchard owner or manager is directly and legally responsible for the effective and safe use of pesticides.

The most important precautions to observe when handling pesticides include:

1. Avoid breathing wettable powder while opening the bags and putting it into the spray tank. Avoid inhaling spray mist during a spraying operation. Work to windward. While handling wettable powder and when spraying or entering sprayed areas, wear a respirator recommended for protection against parathion or Guthion.

2. Wash your hands, arms, and face after handling pesticides and before eating, smoking, etc.

3. If you are working under conditions that involve considerable spray drift or dust, wear protective covering. A

light plastic raincoat also gives protection; or, cut a hole large enough for your head in the center of a plastic sheet and simply drape it over your shoulders. Wear a washable rubber or plastic rain hat.

4. Never handle pesticide wettable powders with bare hands. If you must handle a powder, wear natural rubber gloves for protection—not synthetic rubber, leather, or cloth gloves.

5. Keep on hand for emergency use under medical direction a supply of atropine tablets, $\frac{1}{120}$ (0.5 mg). The symptoms of parathion or Guthion poisoning include blurred vision, weakness, nausea, cramps, diarrhea, and discomfort in the chest. If you feel any of these symptoms while spraying with parathion or Guthion, quit spraying, take two atropine tablets at once, then consult your doctor immediately and tell him or her what you suspect.

6. Follow directions and recommendations to keep the residue on the fruit within the legal limits.

Follow all precautions on the pesticide label with reference to time, application rate, and total amount to apply.

Table 4. Fungicide Restrictions

Fungicide	Restrictions
Abound	DO NOT apply within 14 days of harvest. DO NOT exceed six applications per season. DO NOT apply more than 1.7 quarts of product per acre per year.
Botran 75W	Allow 1 days between application and harvest. See label for re-entry information
Bravo 720	DO NOT apply after shuck fall. DO NOT allow livestock to graze in treated areas. See label for re-entry information.
Captan	May be applied up to the day of harvest. See label for re-entry information.
Elite	May be applied up to the day of harvest. DO NOT apply more than 3 pounds of product per acre per season. See label for reentry information.
Equus	DO NOT apply after shuck fall. DO NOT allow livestock to graze in treated areas. See label for re-entry information.
Ferbam	DO NOT apply within 21 days of harvest.
Funginex	No time limit. DO NOT exceed three applications during blossom period, and DO NOT exceed three applications during the preharvest period. See label for re-entry information.
Indar	DO NOT graze livestock in treated areas or feed cover crops grown in treated areas to livestock. See label for re-entry information.
Mycos-Shield	DO NOT apply within 20 days of harvest.
Nova	May be applied up to the day of harvest. DO NOT apply more than 3.25 pounds per season. See label for re-entry information.

Fungicide	Restrictions
Ronilan DF	DO NOT apply more than 8 pounds per acre per season. DO NOT exceed 2 pounds per acre per application. DO NOT apply within 14 days of harvest. DO NOT graze or feed cover crops from treated orchards to livestock. See label for re-entry information.
Rovral WP, 4F	DO NOT apply within 7 days of harvest. DO NOT apply more than 2 pounds or 2 pints per acre per application. DO NOT exceed four applications per season. See label for re-entry information.
Sulfur	No time limit.
Syllit	DO NOT apply after petal fall. DO NOT apply within 15 days of harvest. See label for re-entry information.

NOTES: Observe Re-entry Precautions listed on the label of each material.

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For more information, call your county Extension office. It is listed in your telephone directory under your county's name.

Use pesticides **only** according to the directions on the label. Follow all directions, precautions, and restrictions that are listed. Do not use pesticides on plants that are not listed on the label.

The pesticide rates in this publication are recommended **only** if they are registered with the Environmental Protection Agency or the Alabama Department of Agriculture and Industries. If a registration is changed or cancelled, the rate listed here is no longer recommended. Before you apply **any** pesticide, check with your county Extension agent for the latest information.

Trade names are used **only** to give specific information. The Alabama Cooperative Extension System does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

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