

CHERRY, PEACH AND PLUM INSECT CONTROL—COMMERCIAL

Insect	Material and Formulation	Dosage of Insecticide/Acre	Remarks/Precautions	Days to Harvest
DELAYED DORMANT				
Mites	Superior oil (70 sec viscosity)	2 gal	Apply after leaves drop in the fall or before buds swell in the spring.	
San Jose Scale	Apollo	2-8 fl oz	Limit one Apollo application per year. Two applications at 10- to 14-day intervals work best. Esteem applied with oil at delayed dormant is reported to provide very good scale control. Esteem does not kill adult scale, but suppresses hatch of eggs they lay. Therefore, in season use of Esteem may not protect fruit from blemishes by scale (small red dots develop around young scale).	21
	Esteem 35WP	4-6 oz		45
	Superior oil plus	1.5 gal		0
	Centaur 70W	3.0-4.5 oz		14
BLOOM				
SAVE THE BEES! DO NOT APPLY INSECTICIDES DURING BLOOM.				
BY MARCH 15 Initiate Oriental Fruit Moth Scouting Program	Place 2 or 3 Oriental fruit moth pheromone traps in orchard interior and check twice weekly to record first consistent moth emergence (late March) = OFM biofix . Be sure to keep trap bottoms clean and replace lures monthly or every two months for long-life lures. After OFM biofix date, begin calculating number of daily degree days (DD) using base 45°F = DD = (maximum daily temperature + minimum daily temperature)/2 – 45 .			
Plum Curculio dispersal	Plum curculio adults disperse from overwintering sites in adjacent woods into orchard and begin feeding on and laying eggs in fruit between 100 to 400 DD accumulated after temperatures exceed 70°F for two days in late March = PC biofix . After PC biofix date, begin accumulating DD to predict dispersal period by calculating number of daily DD using base 50°F = DD = (maximum daily temperature + minimum daily temperature)/2 – 50 .			
BY APRIL 1 Initiate Plum Curculio, Lesser Peachtree Borer, and San Jose Scale Scouting Programs	Tie gray plum curculio pyramid trap to each of 3 or 4 perimeter orchard tree trunks adjacent to woods (overwintering site) and check twice weekly for plum curculio adults. Place 2 lesser peachtree borer pheromone traps in interior trees and check weekly to record moth flight beginning and peaks. Be sure to keep peachtree borer trap bottoms clean and replace lures monthly or every two months for long-life lures. Place 2 San Jose scale pheromone traps in orchard interior in tops of trees known to have a live SJS infestation (conspicuous red spots on orchard trees last year) and record first date in early to mid-April when you consistently capture SJS males on traps = SJS biofix . Remove scale traps in May. After specific biofix dates, begin accumulating DD (base 50°F for CM and base 51°F for SJS) to predict spray periods (hatch). Calculate number of daily degree days (DD) using proper base = DD = (maximum daily temperature + minimum daily temperature)/2 – base .			
PETAL FALL				
Tarnished Plant Bug Stink Bugs	Endosulfan 3EC	2 2/3 qt	Stinkbug and plant bug catfacing are worse where flowering weed control is poorest. Keep spring flowering broadleaf weeds mowed regularly to reduce orchard attractiveness to stinkbugs and tarnished plant bugs. Endosulfan performs well under cool temperature conditions and has slightly better plant bug efficacy than Imidan. Use Imidan in blocks with scale infestations.	30
	Imidan 70W	2.0-4.25 lb		14
	Endigo ZC	5.5 fl oz		14
	Belay 2.1 EC	6 fl oz		21
	Actara	5.5 oz	14	
	Baythroid XL	2 fl oz	Warrior is an encapsulated product. In conditions of low humidity and high temperatures, use a coarser droplet size, see label for mixing instructions. When tank mixing with other products, always add Warrior to tank last.	7
	Mustang Max	3 fl oz	7	
Warrior	4 fl oz	14		
Lesser Peachtree Borer	REFER TO SECTION ON BORERS ON PAGE 126.			
SHUCK SPLIT TO 7-10 DAYS AFTER				
Oriental Fruit Moth Plum Curculio	Actara 25WP	4.5-5.5 oz	Oriental fruit moth egg hatch period for each generation occurs so many DD after OFM biofix: 400 to 700 DD (late April), 1300 to 1700 DD (late May) and after 2300 DD. Plum curculio: Apply insecticide after shuck split if greater than 1 plum curculio adult per 4 traps per week or begin sprays when you first detect fruit feeding damage in perimeter trees. Avaunt is only registered against plum curculio.	14
	Altacor	3.0-4.5 oz		14
	Asana XL	4.8-14.5 fl oz		14
	Assail 30 SG	2.5-8.0 oz		7
	Avaunt	5-6 oz		14
	Imidan 70W	2.0-4.25 lb		14
	Provado	4-6 oz		0
Voliam Xpress	6-12 fl oz	14		

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Oriental Fruit Moth	Belay 2 EC	6 fl oz	Belay can be applied two times per season.	21
Plum Curculio	SpinTor 2SC	6-10 fl oz		7
(cont.)	Entrust	1.5-3.0 oz	Entrust, Deliver and Javelin are all approved for organic production.	7
	Deliver	0.5-2.0 lb		0
	Javelin	0.5-4.0 lb		0
San Jose Scale	Assail 30 SG	5.3-8.0 oz	San Jose Scale: Crawlers can be detected by wrapping double-stick tape around scale-infested limbs in early May. Weekly inspect the tape for yellow crawlers. The crawler period persists 2 to 3 weeks in May. Apply crawler spray at 10-day intervals as long as crawlers are detected.	7
	Esteem 0.86 EC	13-16 fl oz		0
	Esteem 35 WP	3-5 oz		14
	Movento	6-9 oz		14
	Centaur 70W	34.5 oz		7
	Aza-Direct	1-2 pt	Aza-Direct is approved for organic production.	14
BY MAY 1	REFER TO SECTION ON BORERS ON PAGE 126.		Place 2 peachtree borer pheromone traps on an interior tree. This trap will indicate when moth flight begins and peaks. Delay peachtree borer trunk drench spray until you consistently catch peachtree borers in traps for at least two weeks.	
Initiate Peachtree Borer Scouting Program				
European Red Mite	Acramite 50 WS	0.75-1.0 lb	Acramite can only be applied once per season.	3
Two-Spotted Spider Mite	Apollo	2-8 oz	Apollo is most effective on eggs and newly hatched nymphs. Limit use to one Apollo application per year.	21
	Vendex 50W	1-2 lb	Mites: Miticide spray recommended if mites exceed 2.5 mites per leaf in May, 5 mites per leaf in June and 7.5 mites per leaf in July. Repeat spray once 10 days later if live mites still exceed threshold.	14
Oriental Fruit Moth	SEE SHUCK SPLIT			
Plum Curculio	SEE SHUCK SPLIT			
	Ambush	6.4-19.2 oz	Plum Curculio: Egg hatch of second and third generation Oriental fruit moth occurs from 1400 to 1700 DD (late May) and after 2300 DD have accumulated since the OFM biofix in mid-March. Plum curculio sprays are justified when you detect new fruit feeding damage in perimeter trees after 1200 DD (usually in early June) have accumulated since the PC biofix in late March.	14
Mating Disruption (see Special Problem/Pests on page 126):	Isomate-OFM TT	100 dispensers	Isomate and Checkmate products are approved for organic production.	0
Oriental Fruit Moth	CheckMate OFM-SL	100-200 dispensers	We have used the mating disruption strategy to keep peach fruit free of damage by Oriental fruit moth in orchards larger than 5 acres. By mid-May or before 800 DD have accumulated since first Oriental fruit moth catch in traps in March, attach 100 or more mating disruption dispensers per acre on lateral branches in upper third of tree canopy. Continue to monitor fruit weekly for Oriental fruit moth damage. Some damage may occur in perimeter trees and require a perimeter insecticide spray. Longevity of dispensers vary: Isomate OFM TT lasts 100 days and CheckMate OFM-SL lasts 150 days. Then each dispenser stops releasing pheromone and provides no more control. Always check weekly for signs of worms entering stem end of peach and protect with insecticide when worms appear.	0
PREHAREST				
Oriental Fruit Moth	Assail 30 SG	5.3-8.0 oz	Sevin is suggested here since it can be used one day before harvest. Sevin and pyrethroid formulations may encourage mite outbreaks. Recommend spray against Oriental fruit moths if you averaged more than 5 moths per trap since the last spray.	7
Green June Beetle (July)	Imidan 70W	2 1/8-4 1/2 lb		14
Japanese Beetle	Pasada 1.6 F	4-8 fl oz		7
(late June and July)	Provado	4-8 oz		0
	Sevin 80S	2.5-3.75 lb		1
	Leverage	5.1 fl oz		7
	Couraze 1.6F	4.8 oz		7
	Aza-Direct	1-2 pt	Aza-Direct is approved for organic production.	0

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SPECIAL PROBLEMS/PESTS

BORERS OF PEACH, CHERRY AND PLUM TREES – The peachtree borer and lesser peachtree borer often infest peach, apricot, cherry and plum trees. The lesser peachtree borer lays eggs on bark near scaffold wounds where larvae hatch and bore into wounds. This species appears to have two generations per year. This attack further weakens limbs. The peachtree borer lays eggs near trunk base and larva bores in trunk below the soil line. Some of the regularly applied insecticide cover sprays aid in suppressing lesser peachtree borers. However, adequate control of both pests requires a drench spray of the trunk and/or scaffold limbs. Pheromone traps are available to monitor moth emergence of both pests. Where lesser peachtree borers have been a problem, spray 7-14 days after moth emergence begins in April and repeat in June for second-generation hatch.

Lesser Peachtree Borer	Endosulfan 3 EC	1 qt/100 gal water	Do not exceed 3.33 qt per acre of Endosulfan 3 EC.	21
	Mustang Max	1.28-4.0 oz	Do not exceed two applications of Endosulfan 3 EC per season.	14
	Proaxis	2.56-5.12 fl oz		14
	Silencer	2.56-5.12 fl oz		14
	Voliam Xpress	6-12 fl oz		14
	Warrior	1.28-2.56 fl oz	See Petal Fall for comments about Warrior.	14
Peachtree Borer	Endosulfan 3 EC	1.5 lb/100 gal water	Do not exceed 3.33 qt per acre of Endosulfan 3 EC.	21
	Lorsban 4E	3 qt/100 gal water	Do not exceed one application of Lorsban per year.	14
	Proaxis	2.56-5.12 fl oz		14
	Silencer	2.56-5.12 fl oz		14
	Warrior	1.28-2.56 fl oz		14
	Voliam Xpress	6-12 fl oz		14

ORIENTAL FRUIT MOTH – In mid-May, set out pheromone dispensers (Isomate-OFM TT or CheckMate OFM) at the recommended rate to control this pest through harvest. The pheromone is slowly emitted from plastic dispensers for 100+ days in the warmer southern states (see label). The atmosphere of the orchard becomes saturated with the pheromone odor. Male moths become confused so they are delayed in locating and mating with females. Read the label for proper application procedure and longevity of dispensers.

GRANULATE AMBROSIA BEETLE – The granulate ambrosia beetle *Xylosandrus crassiusculus* (Mot.) is a relatively new pest in Arkansas and can cause significant damage in nursery, landscape, and orchard settings. Female beetles bore into the sapwood of stems and young trees. Though attracted to damaged, stressed, or transplanted trees, the granulate ambrosia beetle also attacks seemingly healthy, thin-barked hardwoods or branches from 1.0-2.5 inches in diameter (sometimes larger). Visible symptoms include wilted foliage and strands of boring dust protruding from small holes. These insects make galleries directly into the heartwood of the tree, which they inoculate with an ambrosia fungus (*Ambrosiella* spp.) which is used as their food source. In addition, they can introduce or create entry points for pathogenic fungi such as *Fusarium* spp. Death is more likely related to these pathogenic fungi that block xylem vessels. Young infested trees often die, while more established trees may survive. Infestations can be identified by toothpick-like strands of boring dust protruding up to 1.5 inches from the host plant. The strands are produced by the female beetle as she excavates her gallery. The strands are fragile and are easily broken off by wind or rain, leaving only pencil lead-sized holes. Heavily infested plants or plant parts should be removed and destroyed. Once trees are infested, the beetle cannot be killed within the plant, and fungicides are ineffective against the fungus. Protective sprays on trunks may be attempted on susceptible nearby plants. Trunk/limb sprays of a labeled insecticide containing chlorpyrifos or a pyrethroid insecticide may be effective as a preventative, but multiple applications of the pyrethroids may have to be made during the time the beetles are active. Always read and follow label directions for the insecticide used. Keep trees healthy and avoid any unnecessary tree stress (drought, injury, nutrition, etc.). Check trees frequently beginning in early March and treat accordingly. Use ethyl alcohol based traps to monitor for adult beetles in the spring (see UA Extension Fact Sheet FSA 7064). Use a protective insecticide as soon as beetle activity starts.

RED IMPORTED FIRE ANTS

ALL FIRE ANT BAITS – Apply when ants are active and soil temperature is above 60 degrees F. Do not treat if rain is anticipated within 6 hours.

Non-Bearing Trees	Fenoxycarb (Award)	1-3 Tbsp/mound 1.0-1.5 lb/acre	Mound-to-mound treatment rate. Broadcast rate. This is an IGR.	
	Hydramethylnon (Amdro Pro)	2-5 Tbsp/Mound 1.0-1.5 lb/acre	Mound-to-mound treatment rate. Broadcast rate.	
	Pyridine (Distance)	1-4 Tbsp/Mound 1.0-1.5 lb/acre	Mound-to-mound treatment rate. Broadcast rate. This is an IGR.	
	Pyriproxyfen (Esteem)	2-4 Tbsp/Mound 1.5-2.0 lb/acre	Mound-to-mound treatment rate. Broadcast rate.	
	Bearing Trees	S-Methoprene (Extinguish)	3-5 Tbsp/mound	Mound-to-mound treatment rate.
			1.0-1.5 lb/acre	Broadcast rate. This is an IGR.