

Fruit Development Stages

All tree and small fruit have several distinct growth stages as fruit matures. Identifying growth stages is important because recommendations for pesticide applications and cultivation practices are frequently linked to specific growth stages. The next few pages show the common growth stages for the fruit crops described in this publication.



TREE FRUIT

Apple



Dormant



Silver tip



Green tip



Half-inch green



Tight cluster



Pink



Bloom



Petal fall



Fruit set

Apple Spray Guide



Table 7. Apple Spray Guide

***Spray all products in early evening after honey bees have stopped flying**

Time to Spray	Pest(s)	Pesticide	Remarks
Delayed dormant (when leaf tips start to protrude from buds)	scales, aphids, mites	superior oil	If these pests were not a problem last year, omit this spray. Bonide All Seasons Horticultural Spray Oil
	fire blight	copper	Cease application before half-inch green or fruit will russet. When using oil, captan within two weeks of the oil application. Bonide Copper Fungicide
Half-inch green (1/2 inch of green tissue has grown)	apple scab	captan	Hi-Yield Captan or Mancozeb
	both insects and disease	Bt.	Insects are not usually a problem before petal fall. MPFS is designed to control insect and disease problems. Use only when both are present. Pesticides should only be used when needed. Bonide Thuricide (Bt.K) if needed.
Tight to open cluster (when fruit buds are visible)	apple scab	captan and/or myclobutanil ²	Myclobutanil (Immunox [®]) is best for early season scab control and supplies cedar apple rust control. Captan alone is not effective against rust. Hi-Yield Captan
	both insects and disease	Bt.	Use only when when needed. Bonide Thuricide (Bt.K.) only if needed.
Pink (when blooms are showing pink but not yet open)	apple scab	captan and/or myclobutanil ²	Myclobutanil (Immunox [®]) is preferred material if cedar rust or powdery mildew have been a problem. Hi-Yield Captan can be mixed with Immunox.
	both insects and disease	MPFS ¹	MPFS is designed to control insect and disease problems. Use when both are present. Pesticides should only be used when needed. Do not use an MPFS during pink or bloom
Bloom (when 50% of blossoms are open)	apple scab	captan or myclobutanil ²	See Pink above.
	fire blight	streptomycin	If fire blight has been a problem, use streptomycin according to label directions (see Purdue Extension publication BP-30-W, <i>Fruit Diseases: Fire Blight on Fruit Trees in the Home Orchard</i>). Fertilome Fire Blight Spray
Petal fall (when 75% of petals have fallen)	plum curculio	spinosad or MPFS	Pesticide application at this time is very important for plum curculio control. To prevent fruit drop, do not use carbaryl (Sevin [®]) within 30 days after full bloom. Picking up and disposing of fallen fruit will reduce problems with plum curculio, other insects, and many plant diseases. Capt. Jack's Dead Bug Brew or Bonide Fruit Tree & Plant Guard
	apple scab, sooty blotch, fly speck, rust	captan or thiophanate-methyl or myclobutanil ²	Myclobutanil (Immunox [®]) does not protect against fly speck or sooty blotch, but is very good against rust. Thiophanate-methyl is sold under several trade names, including Thiomyl Systemic Fungicide 3336. Hi-Yield Captan can be mixed with Immunox.
	fire blight	streptomycin	If fire blight has been a problem, use streptomycin according to label directions. Fertilome Fire Blight Spray
	both insects and disease	MPFS ¹	MPFS is designed to control insect and disease problems. Use when both are present. Pesticides should only be used when needed. Bonide Fruit Tree & Plant Guard
First cover (7-10 days after petal fall)	plum curculio, codling moth	captan plus spinosad ³ and/or kaolin clay	Important spray for codling moth control during first cover. To prevent fruit drop, do not use carbaryl (Sevin [®]) within 30 days after full bloom. Hi-Yield Captan/Capt. Jack's Dead Bug Brew/Surround
	apple scab, sooty blotch, fly speck	captan plus myclobutanil ²	Will provide the best management for sooty blotch/fly speck. Myclobutanil (Immunox [®]) does not protect against fly speck or sooty blotch. Hi-Yield Captan/Immunox
	both insects and disease	MPFS ¹	MPFS is designed to control insect and disease problems. Use when both are present. Pesticides should only be used when needed. Bonide Fruit Tree & Plant Guard
Second cover (7-10 days after first cover)	plum curculio, codling moth, apple maggot	same as first cover spray	Apple maggot flies begin to emerge about mid-June. Use red sticky balls to tell when maggot flies are present. Capt. Jacks Dead Bug Brew/Hi-Yield Captan
	apple scab, sooty blotch, fly speck	same as first cover spray	
	both insects and disease	same as first cover spray	
Additional cover sprays (apply at two week intervals until harvest restriction date)	codling moth, apple maggot, Japanese beetle	spinosad ³	Read container labels for number of days between final spray and harvest. carbaryl (Sevin [®]) provides Japanese beetle control. Capt. Jacks Dead Bug Brew if needed.
	apple scab, fruit rots, sooty blotch, fly speck	captan	Read container labels for number of days between final spray and harvest.
	both insects and disease	MPFS ¹	MPFS is designed to control insect and disease problems. Use when both are present. Pesticides should only be used when needed. Bonide Fruit Tree & Plant Guard if needed.
End of season	apple scab, sooty blotch, fly speck, rots	none	Rake and dispose of infected leaves or mulch fallen leaves with a lawnmower. Apply a solution of 5% urea to fallen leaves to hasten decomposition, which reduces overwintering fungi. Pick up and dispose of fallen fruit.

¹MPFS = multipurpose fruit spray. It is best not to use an MPFS unless it is a last resort.

²Do not apply myclobutanil (**Immunox**[®]) more than 10 times per season.

³Observe limits on the amount of spinosad and acetamiprid that can be applied per season.