

**Table 11. Spray Schedules for Pest Control on Apple and Pear.**

Time to spray	Type of pesticide required		Insects and diseases most likely to be a problem at the specific time (first column) during growing season, and comments.
	Apple	Pear	
<b>Dormant</b> Early spring before buds swell	Horticultural oil	Horticultural oil	Oil for scale insects, mites, pear psylla and pear leaf blister mite.
	NOTE: Do not spray when temperature is below 40 F (5C), or likely to drop below 40 F within 24 hours.		
<b>Half-inch green</b> When buds show half-inch green	<i>Fungicide</i> lime sulfur or captan or ferbam or mancozeb or thiophanate-methyl or myclobutanil or MPFS*  <i>Insecticide</i> <i>none needed</i>	No spray needed	Fungicide for control of scab. Last chance to apply oil on apples, if not applied in dormant spray.
<b>Tight to open cluster</b> When fruit buds are visible	<i>Fungicides</i> are same as half-inch green  <i>Insecticide</i> <i>none needed</i>	No spray needed	Fungicide for control of scab and powdery mildew.
<b>Pink bud (apple)</b> <b>White bud (pear)</b> Just before blooms open	<i>Fungicides</i> are same as half-inch green  <i>Insecticide</i> malathion or diazinon** or Thiodan or rotenone	<i>Fungicide</i> lime sulfur or mancozeb or ferbam or MPFS*  <i>Insecticide</i> permethrin or pyrethrins	Same diseases as tight cluster, plus rust on apples. Insecticide needed only if rosy apple aphid is detected (severely distorted leaves) or if pear psylla has been a persistent problem.
<b>Bloom</b> When 20% -60% blossoms are open	<i>Fungicides</i> are same as half-inch green  NOTE: to protect bees - do not use insecticide or MPFS* during bloom.	No spray needed	Fungicide for scab, rust and powdery mildew.
<b>Petal fall</b> When last petals are falling	<i>Fungicides</i> are same as half-inch green  <i>Insecticide</i> <i>Imidan</i> or methoxychlor or permethrin or pyrethrins or rotenone or MPFS*	<i>Fungicides</i> are same as white bud on pear  <i>Insecticide</i> Imidan or methoxychlor or pyrethrins or permethrin or MPFS*	Fungicide for control of scab, powdery mildew, rust, black rot, calyx rots and blotches. Insecticide for leafrollers, plum curculio and pear psylla. This is a key time for control of insect pests. On apple, permethrin cannot be applied after petal fall.

\*MPFS=multi purpose fruit spray.

\*\* diazinon might be unavailable in some retail shops because its manufacturer is phasing it out for home garden use over the years 2001–2005.

**Table 11. (continued) Spray Schedules for Pest Control on Apple and Pear.**

Time to spray	Type of pesticide required		Insects and diseases most likely to be a problem at the specific time (first column) during growing season, and comments.
	Apple	Pear	
<b>First Cover</b>	<p><i>Fungicides</i> are same as half-inch green</p> <p><i>Insecticide</i> Imidan or methoxychlor or rotenone or MPFS*</p>	<p><i>Fungicides</i> are same as white bud on pear</p> <p><i>Insecticides</i> are same as for pears at petal fall.</p>	Fungicide for control of scab, rust, black rot, calyx rots and blotches. Insecticide for codling moth and plum curculio. This is a key time for control of the first generation of codling moth.
<b>Second cover</b> Two weeks after first cover spray	<p><i>Fungicide</i> lime sulfur or  captan or ferbam or thiophanate-methyl or MPFS*</p> <p><i>Insecticides</i> are same as for apples at tight cluster</p>	<p><i>Fungicide</i> lime sulfur or  ferbam or MPFS*</p> <p><i>Insecticides</i> are same as for pears at petal fall</p>	Fungicide for control of scab, rust, fruit rots, blotches and leaf spots. Insecticide for codling moth, plum curculio, and San Jose scale crawlers. Mancozeb cannot be applied within 77 days of harvest.
<b>Third cover</b> Two weeks after second cover	<p><i>Fungicides</i> are same as second cover</p> <p><i>Insecticide</i> Sevin or others as listed for apples at first cover.</p> <p><i>Miticide</i> Kelthane or insecticidal soap</p>	<p><i>Fungicides</i> are same as second cover</p> <p><i>Insecticide</i> Sevin or others as listed for pears at petal fall</p> <p><i>Miticide</i> Kelthane or insecticidal soap</p>	Fungicide for control of scab, fruit rots and blotches. Insecticides for codling moth, apple maggot and pear psylla. Miticide for spider mites only if detected. Soap can russet pear fruits. Insecticide in third and fourth cover sprays can be omitted if problems with codling moth and apple maggot are not usually severe.
<b>Remaining covers</b> Spray every two weeks	<p><i>Fungicides</i> are same as second cover</p> <p><i>Insecticides</i> are same as third cover</p> <p><i>Miticides</i> are same as third cover</p>	<p><i>Fungicides</i> same as second cover</p> <p><i>Insecticides</i> are same as third cover</p> <p><i>Miticides</i> are same as third cover.</p>	Fungicide for control of fruit rots, scab and blotches. Insecticides for codling moth, apple maggot, leafhoppers and pear psylla. <b>Always observe all pre-harvest intervals that are stated on the label.</b> Fifth cover is usually the best time to apply insecticide for second generation of codling moth. An insecticide is needed on late maturing varieties in September in warm years when there is a third generation of codling moth.

\*MPFS=multi purpose fruit spray.