<table>
<thead>
<tr>
<th>Growth Stage</th>
<th>Description</th>
<th>Target Information</th>
<th>Chemical Sprays</th>
<th>Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed-</td>
<td>In late winter, just as buds begin to show</td>
<td>Spray when daytime temperature is between 45 – 55 F, with no frost forecast overnight. Finish spraying by noon to insure good dry time. Spray for over-wintering scales, aphids, and mites. Oils are not effective against woolly apple aphids. Manage pests as they hatch in early spring.</td>
<td>Superior type petroleum horticultural oils May mix with lime-sulfur. Products available under a variety of labels. Follow directions on label carefully to avoid plant damage. U.R. rate of 92% or more. See “Pink”.</td>
<td>This is the most important stage and chemical spray to control pests.</td>
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<tr>
<td>Dormant</td>
<td>first green tissue.</td>
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<tr>
<td>Pink</td>
<td>Just as flower clusters open, but before flowers open.</td>
<td>Powdery mildew control. Hatching insect pests such as mealybug, lygus bug, stinkbug, aphid, mites. Feeding caterpillars</td>
<td>Summer Horticulture Oil Lime sulfur (Ex. Bonide Lime sulfur) Insecticidal soaps (Ex. Safer); Acetamiprid (Ex. Ortho Flower, Fruit &amp; Vegetable Insect Killer); Imidacloprid (Ex. Bayer Advanced Fruit, Citrus &amp; Vegetable Insect Control); Permethrin (Ex. Bonide Eight Insect Control Vegetable Fruit &amp; Flower Conc); Esfenvalerate (Ex. Ortho BugB Gone Max Garden &amp; Landscape Insect Killer)</td>
<td>Do not use Summer Horticulture Oil if using lime sulfur at any time of year. Do not apply lime sulfur spray to Delicious varieties at this time as severe fruit drop can occur later. Make sure spray covers top and bottom of leaves.</td>
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<tr>
<td>Bloom</td>
<td>When flowers are open.</td>
<td>Avoid pesticide application during bloom to protect honeybees!!!!!</td>
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Petal Fall

Just after petals fall from blossoms.

- Powdery mildew
- Critical time for management of insect pests listed in “Pink”
- Summer Horticulture Oil
- See “Pink” section above

Late Spring & Early Summer

Starting 17-21 days after full bloom. Keep protected through August/mid-September.

Reapply after brief, heavy rainfall or showers of longer duration, then resume regular schedule

- Codling moth “Stings”- shallow entries made on surface of fruit. Treat “stung” apples as source of codling moth by removing infested apples from the tree, seal in black garbage bags. Leave in sun for two weeks to kill worms.
- Apple maggot

PRIMARY PEST OF APPLES. Start preventative spraying of fruit 17-21 days after full bloom or 10 days after petal fall. SPRAY TIMING IS CRITICAL – First generation lasts 6 weeks, second generation lives another 6 weeks. Protect during this entire period. Follow spray schedule on label.

- Esfenvalerate (Ex. Ortho BugGone Max Garden & Landscape Insect Killer); Spinosad (Ex. Monterey Garden Insect Spray); Permethrin (Ex. Bonide Eight Insect Control Vegetable Fruit & Flower Conc), Acetamiprid (Ex. Ortho Flower, Fruit & Vegetable Insect Killer).

Apply first in early July
- Pesticides as above for codling moth.
- Follow spray schedule on label for apple maggot.

Additional Information

- CAUTION – Read this guide carefully. Read the product label directions carefully. Read and follow all label directions for responsible use of any pesticide. THE LABEL IS THE LAW.

- Aphids – Seldom build up to damaging levels in home garden fruit trees. Wash them off with stream of water from the hose, you rarely have to spray.

- Pesticide resistance – Vary products during the season and in following seasons to minimize pest resistance.

- Too much fruit to handle – Cut down tree and purchase quality fruit for use. Help commercial orchards by maintaining good care and pest management practices for your desired fruit trees!!!

- Further information – Contact WSU Chelan County Extension at (509) 667-6540 or our website at http://county.wsu.edu/chelan-douglas/GARDENING/MG/Pages/default.aspx

- Trade name disclaimer – Use of trade names are for example purposes only. No endorsement is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control.