

News/What to Watch For:

Maintain protection of apples until Sept. 15 for codling moth, and for peach twig borer on peaches: until harvest. Make sure trees get plenty of irrigation water toward late season

Spray timing dates for codling moth and peach twig borer, page 4

Spray information, pages 5-6

Insect and Disease Activity/Info

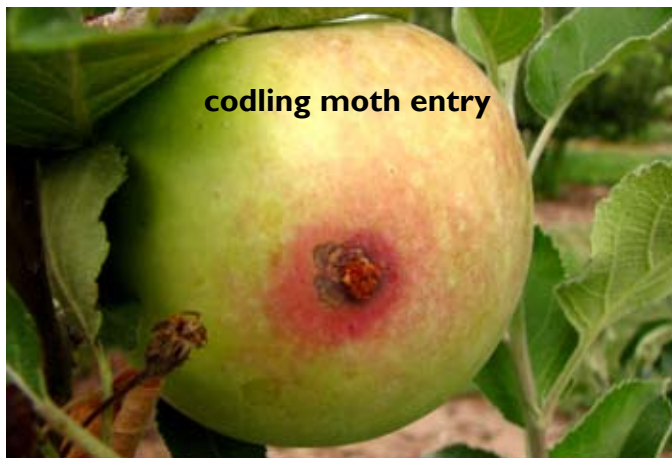
APPLE AND PEAR

Codling Moth

Most growers have applied their last insecticide spray for codling moth, with harvest of early varieties underway, and of later varieties soon to come. If a “last minute” treatment is needed where pressure is high, carbaryl (Sevin) can be used due to the 3-day preharvest interval.

Apple Maladies

As we did last year, let’s look at some potential problems with apples you may encounter during harvest:



Insect and Disease Activity/Info, continued



San Jose scale



thrips' oviposition scar surrounded by "pansy spot"



sunburn



frost damage at calyx end



sunburn followed by rot



fruit doubling caused by water stress during flower bud development



frost damage at stem end



calyx end splitting caused by unknown nutrient deficiency

Degree Day Accumulations and Insect Development

Upcoming Monitoring/Insect Activity

| By Insect (in alphabetical order) | |
|-----------------------------------|---|
| Codling moth (CM) | 3rd gen. egg hatch begins at 2160 DD (after biofix) |
| Obliquebanded Leafroller (OBLR) | 2nd gen. moth flight ends at approx. 2400 DD (base 50) |
| White apple leafhopper (WALH) | Look for nymph and adult activity; look for stippling on leaves |

| By Host (see abbrev. at left) | |
|-------------------------------|----------------|
| Apple | CM, OBLR, WALH |
| Cherry | OBLR |
| Peach | |
| Pear | |

Degree Day (DD) Accumulations and Insect Phenology

([click here](#) for more information on degree days)

March 1 - Tuesday, September 9

| County | Location | *GDD50 | Codling Moth - 3rd Gen. | | | Peach Twig Borer - 2nd/3rd gen. | | |
|-----------|------------------|--------|-------------------------|-------------|---------------|---------------------------------|-------------|---------------|
| | | | DD (post biofix) | % Egg Hatch | % Moth Flight | DD (post biofix) | % Egg Hatch | % Moth Flight |
| Box Elder | Perry | 2537 | 2409 | unk. | unk. | 2160 | 7 | 41 |
| Cache | North Logan | 1991 | 1812 | 82 (2nd) | 98 (2nd) | 1496 | 61 (2nd) | 96 (2nd) |
| | Providence | 2111 | 1944 | 92 (2nd) | 2 | 1651 | 88 (2nd) | 100 (2nd) |
| | Smithfield | 2188 | 2033 | 95 (2nd) | 4 | 1677 | 90 (2nd) | 100 (2nd) |
| Carbon | Price | 2460 | 2245 | unk. | unk. | 1959 | 0 | 10 |
| Davis | Kaysville | 2507 | 2305 | unk. | unk. | 2123 | 4 | 33 |
| Grand | Castle Valley | 3417 | 3025 | unk. | unk. | 2952 | 1 (4th) | 14 (4th) |
| Salt Lake | SLC | 2829 | 2664 | unk. | unk. | 2396 | 40 | 82 |
| | West Valley City | 2902 | 2726 | unk. | unk. | 2469 | 18 | 62 |
| Tooele | Erda | 3086 | 2781 | unk. | unk. | --- | --- | --- |
| | Grantsville | 3102 | 3102 | unk. | unk. | --- | --- | --- |
| | Tooele | 2864 | 2616 | unk. | unk. | 2429 | 46 | 86 |
| Utah | Alpine | 2295 | 2077 | 98 (2nd) | 9 | 1807 | 97 (2nd) | 1 |
| | Genola | 2490 | 2312 | unk. | unk. | 2048 | 2 | 23 |
| | Lincoln Point | 2296 | 2132 | 8 | 31 | 1899 | 0 | 5 |
| | Orem | 2516 | 2404 | unk. | unk. | 2130 | 5 | 35 |
| | Payson | 2573 | 2398 | unk. | unk. | 2176 | 8 | 45 |
| | Provo | 2472 | 2284 | unk. | unk. | 2029 | 1 | 18 |
| | Santaquin | 2427 | 2280 | unk. | unk. | 2043 | 1 | 20 |
| | West Mountain | 2410 | 2240 | unk. | unk. | 1986 | 0 | 12 |
| Weber | Pleasant View | 2679 | 2536 | unk. | unk. | 2258 | 17 | 60 |

*GDD50 (growing degree days base 50) are degree days since March 1, calculated using 50 F as the lower threshold value. This number is used for insects that develop at temperatures above 50 F only.

Spray Timing

Codling Moth, Second and Third Generations (period of greatest egg hatch of 2nd generation is 1380 - 1780 DD, and end of 2nd gen. egg hatch is 2100 DD after biofix; third generation egg hatch begins at 2160 DD after biofix)

| County | Location | End of Protection (egg hatch ends) | Begin Protection (3rd gen. egg hatch) |
|-----------|------------------|---------------------------------------|--|
| Box Elder | Perry | Aug. 21 | Aug. 24 |
| Cache | North Logan | Sept. 27 | --- |
| | Providence | Sept. 16 | --- |
| | Smithfield | Sept. 23 | --- |
| Carbon | Price | Sept. 1 | Sept. 4 |
| Davis | Kaysville | Aug. 26 | Aug. 29 |
| Grand | Castle Valley | Aug. 5 | Aug. 6 |
| Salt Lake | SLC | Aug. 15 | Aug. 18 |
| | West Valley City | Aug. 14 | Aug. 16 |
| Tooele | Erda | Aug. 13 | Aug. 15 |
| | Tooele | Aug. 15 | Aug. 18 |
| Utah | Alpine | Sept. 5 | Sept. 11 |
| | Genola | Aug. 24 | Aug. 29 |
| | Lincoln Point | Aug. 29 | Sept. 4 |
| | Orem | Aug. 22 | Aug. 25 |
| | Payson | Aug. 25 | Aug. 27 |
| | Provo | Aug. 28 | Aug. 31 |
| | Santaquin | Aug. 26 | Aug. 30 |
| | West Mountain | Aug. 29 | Sept. 1 |
| Weber | Pleasant View | Aug. 17 | Aug. 20 |

Peach Twig Borer, Second and Third Generations Second generation egg hatch ends at 1900 DD. Third generation egg hatch (5%) begins at 2140 DD after biofix.

| County | Location | End Protection (egg hatch ends) | Begin 3rd. Generation Treatment (if necessary) |
|-----------|------------------|------------------------------------|---|
| Box Elder | Perry | Aug. 23 | Sept. 4 |
| Cache | All locations | after Sept. 30 | --- |
| Carbon | Price | Sept. 5 | --- |
| Davis | Kaysville | Aug. 25 | Sept. 6 |
| Grand | Castle Valley | Sept. 12 (3rd) | --- |
| Salt Lake | Salt Lake City | Aug. 18 | Aug. 28 |
| | West Valley City | Aug. 16 | Aug. 25 |
| Tooele | Tooele | Aug. 14 | Aug. 25 |
| Utah | Alpine | Sept. 9 | --- |
| | Genola | Aug. 27 | Sept. 11 |
| | Lincoln Point | Aug. 30 | Sept. 16 |
| | Orem | Aug. 25 | Sept. 5 |
| | Payson | Aug. 25 | Sept. 7 |
| | Provo | Aug. 31 | Sept. 17 |
| | Santaquin | Aug. 27 | Sept. 12 |
| | West Mountain | Aug. 29 | Sept. 14 |
| Weber | Pleasant View | Aug. 21 | Aug. 31 |

Spray Materials - Commercial Applicators

| Target Pest | Host | Chemical | Example Brands | Amount per acre | REI | PHI | Comments |
|------------------------|--------------------|--|---|---|--|--|--|
| Codling moth | apple, pear | acetamiprid deltamethrin methoxyfenozide phosmet spinetoram thiacloprid codling moth virus | Assail Battalion Intrepid Imidan Delegate Calypso Virosoft, etc | 3.4 oz 7-14 oz 16 oz 5.33 lbs 6-7 oz 4-8 oz --- | 12 h 12 h 4 h 5 d 4 h 12 h --- | 7 d 21 d 14 d 7 d 7 d 30 d 0 d | <ul style="list-style-type: none"> ensure good coverage for effective control virus must be applied every 7 days |
| White apple leafhopper | apple | acetamiprid horticultural oil imidacloprid indoxacarb thiamethoxam | Assail variety Provado Avaunt Actara | 1.1-1.7 oz see label 4-8 oz 4-6 oz 2-2.7 | 12 h 0 h 12 h 12 h 12 h | 7 d 0 d 7 d 14 d 14 d | |
| Box-elder bug | peaches, nectarine | carbaryl pyrethrin | Sevin 4F Prentox Pyronyl | see label 1-12 oz | | 3 d 0 d | |
| Earwigs | peaches, nectarine | carbaryl | Sevin 4F | see label | | 3 d | |
| Walnut husk fly | walnuts | cyfluthrin phosmet spinosad spinetoram permethrin | Baythroid Imidan GF-120 Delegate Ambush | 2.4-2.8 oz 4.33-8.5 lb. 20 oz 3-7 oz 16-24 oz | 12 h 5 d 4 h 4 h 12 h | see label for all | |

Spray Materials - Residential Applicators

Note that these treatments are only recommended if you know you have the particular pest in your trees.

| Target Pest | Host | Chemical | Example Brands | How Often | Comments |
|-------------------------|-------------|---|---|--|---|
| Codling moth | apple, pear | azadirachtin bifenthrin carbaryl esfenvalerate malathion permethrin pyrethrin spinosad | Azatin Ortho Bug-B-Gone (new) Sevin, Bonide Fruit Tree Spray Ortho Bug-B-Gone (old) Malathion Bayer Advanced Dust Concern Multi-Purpose, Green Light | Most are applied every 7 days, but read the label. Continue through harvest or until Sept. 15. | <ul style="list-style-type: none"> • Rotate among chemical classes to prevent resistance. • to reduce number of sprays, time them so that none are applied in between generations |
| White apple leaf-hopper | apple | carbaryl horticultural oil insecticidal soap permethrin | Sevin variety variety Bayer Advanced, Maxide, etc. | one application only if necessary | |
| Walnut husk fly | walnuts | spinosad esfenvalerate malathion permethrin | GF-120, Gardens Alive Bulls-eye Ortho Bug-B-Gone (old) malathion Bayer Advanced Dust | Most are every 7 days. Continue until harvest. | |

Precautionary Statement: Utah State University Extension and its employees are not responsible for the use, misuse, or damage caused by application or misapplication of products or information mentioned in this document. All pesticides are labeled with ingredients, instructions, and risks. The pesticide applicator is legally responsible for proper use. USU makes no endorsement of the products listed herein.

Tree Fruit IPM Advisory
is published weekly by Utah State University Extension

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