



2008 Spray Bulletin Update

Entomology Changes

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New Products



Pyrethroid

- **Mustang Max**

Pyridine Carboxamide

- **Beleaf**

Spinosyn

- **Delegate**

Mustang Max (zeta-cypermethrin)



- **Manufacturer:** FMC Corporation
- **Formulation:** 0.8 EC
- **Chemistry:** Pyrethroid
- **Crop:** Apple, Pear, Stone fruits
- **Labeled Pests:** 25+ foliage and fruit-feeding insects
- **Rating:** Good or Excellent, except Fair for Spirea Aphids; Poor for Green Peach Aphids
- **Caution:** Postbloom use likely to cause outbreaks of mites and other secondary pests

Mustang Max (zeta-cypermethrin)



- **Rate:** 1.28 – 4.0 fl oz/acre
Maximum of 24 fl oz/acre/season
- **Toxicity:** Warning
- **REI:** 12 hours
- **PHI:** 14 days
- **Listed**
 - Timings*:** Apple – ¼-½ inch green to prepink
Pear – Dormant to white bud
Peach – Pink to petal fall and 1C

*In 2008 Spray Bulletin

Beleaf (Flonicamid)



- **Manufacturer:** FMC Corporation
- **Formulation:** 50 SG
- **Chemistry:** Pyridine carboxamide;
Potassium channel blocker
- **Crop:** Apple, Pear, Stone fruits
- **Labeled Pests:** Aphids, Tarnished Plant Bug
- **Activity:** Ingestion inhibits feeding
resulting in starvation;
translaminar/systemic
- **Rating:** Excellent for Aphids
Good for TPB and Stink Bugs

Beleaf (flonicamid)



- **Rate:** 2.0 – 2.8 fl oz/acre
Maximum of 3 applications and
8.4 oz/acre/season
- **Toxicity:** Caution
- **REI:** 12 hours
- **PHI:** Apple, Pear – 21 days
Stone fruits – 14 days
- **Listed**
Timings*: Apple – 1/4-1/2 inch green to 2C
Pear – Green cluster bud to 5C
Peach – Pink to 1C
Cherry – Petal fall to 1C

*In 2008 Spray Bulletin

Delegate (spinetoram)



- **Manufacturer:** Dow AgroSciences
- **Formulation:** 25 WG
- **Chemistry:** Spinosyn; chemical modification of naturally occurring soil organism; disrupts nervous system
- **Crop:** Apple, Pear, Stone fruits
- **Labeled Pests:** Codling Moth, Oriental Fruit Moth, Leafrollers, Leafminers, Pear Psylla, Thrips, Cherry Fruit Fly, Apple Maggot*, Plum Curculio*
- **Activity:** Through contact and ingestion; also translaminar
- **Rating:** Excellent; Good for Cherry Fruit Fly

*Suppression only

Delegate (spinetoram)



- **Rate:** 4.5 – 7.0 oz/acre
Maximum of 4 applications and 28 oz/acre/season
- **Toxicity:** Caution
- **REI:** 4 hours
- **PHI:** Peach, Apricot – 14 days; Apple, Pear, Cherry, Plum, Prune – 7 days; Nectarine – 1 day
- **Listed**
Timings*: Apple – 1C-8C; Pear – PF-5C;
Peach – PF-5C; Cherry – 2C
- **Comments:** Initiate sprays at start of egg hatch;
Addition of an adjuvant may improve control of Thrips, Leafminers and Pear Psylla

*In 2008 Spray Bulletin



Label Expansion

Acramite

- Labeled on bearing tart and sweet cherries*.

Assail

- Labeled on stone fruits**.

Avaunt

- Labeled on stone fruits.

Zeal

- Labeled on tart and sweet cherries**.

*Had been labeled on non-bearing trees. **Not in Spray Bulletin.

Acramite (bifenazate)



- **Pests:** European Red Mites;
Two-Spotted Spider Mites
- **Rate:** 12 – 16 oz/acre
Maximum of 1 application and
16 oz/acre/season
- **Rating:** Excellent
- **REI:** 12 hours
- **PHI:** Cherry – 3 days
- **Listed**
Timings*: Cherry – Petal fall to 2C

*In 2008 Spray Bulletin

Assail (acetamiprid)



- **Pests:** Aphids, Oriental Fruit Moth, Plum Curculio, Tarnished Plant Bug, Stink Bugs, San Jose Scale, Japanese Beetle, Cherry and Black Cherry Fruit Flies
- **Rate:** Aphids: 2.5 – 5.3 oz/acre
Others: 5.3 – 8.0 oz/acre
Maximum of 4 applications and 32 oz/acre/season
- **Rating:** Good to Excellent
- **REI:** 12 hours
- **PHI:** All stone fruits – 7 days
- **Listed**
Timings: Not in Spray Bulletin

Avaunt (indoxacarb)



- **Pests:** Plum Curculio, Oriental Fruit Moth*
- **Rate:** 5 – 6 oz/acre
Maximum of 4 applications (3 applications before hand-thinning) and 24 oz/acre/season
- **Rating:** Excellent
- **REI:** 12 hours
- **PHI:** All stone fruits – 14 days
- **Listed**
Timings**:
 - Peach – Petal fall to shuck fall
 - Plum – Petal fall to 1C
 - Cherry – Petal fall to 1C

*Suppression only. **In 2008 Spray Bulletin.

Zeal (etoxazole)



- **Pests:** European Red Mites;
Two-Spotted Spider Mites
- **Rate:** 2 – 3 oz/acre
Maximum of 1 application and
3 oz/acre/season
- **Rating:** Excellent
- **REI:** 12 hours
- **PHI:** Cherry – 7 days
- **Listed**
Timings: Not in Spray Bulletin

New Formulations



- **Product:** Onager
- **Formulation:** 1EC [liquid hexythiazox (Savey)]
- **Manufacturer:** Gowan Company
- **Crops:** All pome and stone fruits
- **Pests:** European Red Mites,
Two-Spotted Spider Mites
- **Rates:** 12-24 oz/acre (equivalent to 3-6 oz/acre of Savey 50DF)
- **REI:** 12 hours
- **PHI:** 28 days
- **Listed**
- **Timings:** Not in Spray Bulletin



Label Changes

Guthion (Azinphos-methyl)

- **Seasonal maximum of 6 lbs/acre on apples and pears in 2008.**



West Virginia University

Extension Service

Helping you put knowledge to work.

Thanks!

Questions?