

# 2010 ORGANIC APPLE PROGRAM

(Based on February 2010 list of approved products)

## DORMANT SPRAY (Zinc)

Zinc Sulfate	20-40 pounds/acre
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Apply at silver tip stage. Some green tip may be showing when finishing this spray. No zinc sulfate should be applied past the green tip stage, however, as severe foliage injury may occur. Temperatures should be expected to reach the high 40°F range or above on days zinc is applied. Be sure and shut off early enough in afternoon so that the last tank of spray will have plenty of time to dry before temperatures begin to drop.

## DELAYED-DORMANT (San Jose Scale, European Red Mite, Green Apple Aphid, Rosy Apple Aphid, Pandemis Leafroller, Mildew)

Summer Oil	6 gallons/acre
Surround WP	50 pounds/acre
B-17 (Boric Acid)	3-5 pounds/acre
Kumulus	12 pounds/acre
OR Sonata	2-4 quarts/acre
Bio Min Zinc	1-2 quarts/acre

Apply this spray from 1/4 inch green to 1/2 inch green stages. For the best green apple aphid control this spray should be applied before the aphid begin to hatch. Do not apply oil sprays within 5 days of zinc sulfate. Temperatures should be expected to be in mid-40's or above on days oil is applied. Shut off early enough in afternoon so last tank will have plenty of time to dry before evening.

## PRE-BLOOM (Apple Scab, Apple Mildew)

Lime-Sulfur Solution	2.5 gallons/100 gallons
OR Kumulus	12 pounds/acre
OR Serenade Max	3 pounds/acre
OR Sonata	2-4 quarts/acre
<b>All rates are shown per acre except those products where concentration of material is important.</b>	

Start applying **mildew** sprays on susceptible varieties (Golden, Rome, Jonathan, Granny Smith, Gala, Fuji, Braeburn, and Jonagold) at the first sign of mildew, usually at 1/2" green. Additional sprays at pink and petal fall are important in an over all mildew control program. In light mildew pressure conditions, micronized sulfur before and after bloom may be sufficient. **Scab** infections may occur any time in the spring when there is green tissue and a wetting period occurs. If scab was present the preceding year, a protectant cover must be applied prior to an expected wetting period for maximum protection. If a wetting (infection) period occurs without a protectant in place, apply Lime Sulfur solution as soon as the trees are dry. Do not apply Lime Sulfur solution at temperatures above 85 degrees.

**PRE-PINK TO PINK\* (Pandemis Leafroller, Cutworms) Apply when populations warrant treatment.**

Dipel DF	1-1.5 pounds/acre
Summer Oil**	1 gallon/100 gallons
Bio Min Calcium	1-2 quarts/acre
<p>*Sample the orchard at known leafroller locations before deciding to apply this control. Two Surround applications preceding this timing should provide all of the leafroller control required. If needed Dipel plus the Neemix and oil will control Pandemis leafroller with good coverage and warm nighttime temperatures. Daytime temperatures should be 65°F or higher. Control will be poor under cool or wet conditions. Two or more applications may be needed during the pre bloom to 1/2-inch fruit stage for good control of the first generation if leafroller or leafroller damage was easy to find the previous harvest.</p> <p>**The oil at the 1% rate will also have a suppression affect on mildew. If a sulfur or lime sulfur spray is also planned pre-bloom, an interval of 10 days must be maintained. If that is not possible remove the oil from this combination and substitute Nu-Film 17 at 1 pint/acre, or use a full rate of Serenade for mildew control.</p> <p><b>All rates are shown per acre except those products where concentration of material is important.</b></p>	

**PINK (Fruit finish)**

Lime-Sulfur Solution	2.5 gallons/100 gallons
OR Kumulus	12 pounds/acre
OR Serenade Max	3 pounds/acre
OR Sonata	2-4 quarts/acre
Bio Min Calcium	1-2 quarts/acre
<p><b>All rates are shown per acre except those products where concentration of material is important.</b></p>	

Do not apply Lime Sulfur solution or sulfur at temperatures above 85°F. Do not apply sulfur or lime sulfur within 10 days of an oil application.

PHEROMONE DISPENSERS FOR CODLING MOTH DISRUPTION MUST BE IN PLACE BY THE TIME KING BLOOM OPENS (See mating disruption for Codling Moth in conventional programs).

**PETAL FALL (Leaf roller, Mildew, Apple Scab)**

Dipel DF*	1-1.5 pounds/acre
Neemix 3EC	8 ounces/acre
Kumulus	12 pounds/acre
Entrust**	3 ounces/acre
<p>*Dipel should be buffered.</p> <p>**Entrust may be needed at this timing for control of Western Flower Thrip on sensitive varieties.</p>	

Dipel plus Neemix will control Pandemis leafroller with good coverage and warm nighttime temperatures. Daytime temperatures should be 65°F or higher. Control will be poor under cool or wet conditions. Two or more applications may be needed post bloom for good control of the first generation. A feeding stimulant such as Coax may improve the effectiveness of the Bt's. Coax has a built-in sunscreen and sticker.

You should be breathing a little easier this season than you were last year at this time. Both of the newly approved organic materials for Codling Moth control performed very well. If you took advantage of them your pressure should be a lot less this year than you've experienced in the past. A single down side, Entrust appears to be somewhat harsh on predators, particularly the aphid predators in larval stage. A rotation of the available materials will be your best practice, if you successfully destroyed your codling moth population last year you might even consider using only oil and virus to help maintain both your aphid predators and the efficacy of Entrust against Leafroller and Thrip.

**SUMMER COVERS** (Codling moth, Mildew, Aphid)

Summer Oil*	1-1.5 gallons/100 gallons
Entrust**	3 ounces/acre
CYD-X Virus***	1-4 ounces/acre
Dipel DF****	1.5 pounds/acre
<p>*Apply oil just prior to codling moth egg hatch, (150 to 200-degree days past biofix). Use the degree-day model for proper timing.  **Apply 2–3 ounces per acre 10–14 days after the initial oil cover. Consistent cover over the first codling moth generation should also control most leafroller populations.  ***Alternate Granulosis virus and Entrust until egg hatch for the first generation is complete. Granulosis is a suppression tool aimed at lowering the population level of succeeding codling moth generations. It will not appreciably lower the damage of the generation that is treated. Use higher rates if stand alone application.  ****Dipel may be needed for leafroller control if Entrust is not being applied consistently.  <b>All rates are shown per acre except those products where concentration of material is important.</b></p>	

Second generation pressure should be low enough to alternate oil and virus on a 10–14 day schedule, beginning with the oil at 1300–1400 degree-days past biofix, or as indicated by trap catch.

**FALL NUTRIENT**

Zinc Sulfate	20-40 pounds/acre
+Nu-Cop 50WP*	10-12 pounds/acre
+B-17 (Boric Acid)	3-5 pounds/acre
*Nu-Cop 50WP is certified organic. <b>Nu-Cop 50DF is not certified organic.</b>	

Do not apply zinc sulfate before October 1st to avoid premature leaf drop. The leaves need to senesce normally for any amount of Zinc and Boron to cross the abscission layer. It is best to apply this program while leaves are still green and active so that the nutrients may be absorbed through the leaves into the plant.