

2010 PEAR SPRAY PROGRAM

DORMANT (Zinc)**

Zinc Sulfate* +Tech Spray MG	20-40 pounds/ acre 8 ounces/ gallons
Surround	50 pounds/ acre
Warrior II	2.5 ounces/ acre
Exponent (PBO)	16 ounces/ acre
*Zinc Sulfate products must be buffered to a ph lower then 7.5 to prevent zinc from solidifying in tank! **If orchard or weather conditions make this application difficult, zinc deficiency may be avoid by following an aggressive spring foliar program plus a post harvest zinc sulfate in early October. (See the Fall Foliar Nutrition Program) All rates are shown per acre except those products where concentration of material is important.	

Do not apply this spray past the stage that the bud scales have separated. Do not apply Zinc Sulfate within 5 days of an oil application. Temperatures should be expected to reach 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. In late spring areas a fall application of Surround as soon as most of the leaves can be blown off the tree has proven effective for repelling Psylla in the spring. The initial Surround application, either spring or fall should be at full rate (50#/acre) or more. Subsequent applications may be made at 25 lbs./acre.

Surround should be included with the dormant Zinc to repel egg laying in the first year of a Surround program. If Surround was used the previous year, there may be sufficient residue on the spurs to repel early egg laying on the bark, allowing the first Surround application to be delayed until new growth becomes available for egg deposit. (Stages 1 or 2) Coverage is critical! A film or layer of Surround must continually cover the leaves and buds of the tree for as long as this method of control is depended upon to repel egg laying. Failure of Surround to reduce first generation Psylla numbers are frequently traced to single or infrequent applications that are quickly outgrown providing the Psylla with attractive locations for egg laying. The manufacturer recommends that all sprays containing Surround should be applied at 200 gallons per acre for best coverage and performance.

DELAYED DORMANT (stage 1-2)* (Pear Psylla, Lygus bug, Grape mealybug, San Jose scale, Rust Mite)

Dormant Oil**	4-6 gallons/ acre
MicrothiolSulfur OR Lime Sulfur	12-15 pounds/ acre 10-12 gallons/ acre
Lorsban (Chlorpyrifos) 4EC	2 quarts/ acre
Thiodan (Endosulfan) 3EC***	3 quarts/ acre
Warrior II (In Water Restricted Areas)	2.5 ounces/ acre
Exponent (PBO)	16 ounces/ acre
Tech Flo Zeta Zinc 22%	2 quarts/ acre
Surround****	50 pounds/ acre

*Growers spraying within a stream buffer zone may substitute Warrior for leafroller control and Cluster Bud Esteem for San Jose Scale control in place of Thiodan and Lorsban.
 **The oil in this spray will make the Surround on the tree seem to disappear. It will become visible again as the oil degrades with warm weather. The oily surface will discourage Psylla egg laying for a few days.
 ***Use of Thiodan EC at Delayed Dormant will reduce the egg count and improve the performance of later control measures. Thiodan and the sulfur should provide adequate rust mite control, but monitoring is essential. Daytime temps of 60 or higher will give best results with Thiodan.
NOTE:You may not use more than 3 lbs. (4 quarts EC or 6 pound WP) of active ingredient per year, therefore do NOT apply Thiodan at both delayed dormant and pre-bloom. Do not apply Thiodan within 300 feet of any lake, stream or pond.
 ****Surround may be tank mixed with both Micronized Sulfur and oil. When mixing high rates of oil with Surround and sulfur, be sure to put the Surround and sulfur in the sprayer first. After the dry materials are thoroughly wetted and the tank is nearly full, add the oil. If more adult Psylla control will be needed than Oil and Sulfur will provide, include Thiodan EC in the cluster bud timing.

This spray may be applied from the time the bud cluster is exposed until tight cluster stage. Do not apply oil within 5 days of a Zinc Sulfate application. Use Lorsban if grape Mealybug is present. Temperatures should be expected to be in mid-40°F range or above on days oil is applied. Shut off early enough in the afternoon so the last tank will have plenty of time to dry before evening.

TIGHT CLUSTER/ PREBLOOM (stage 3-4)

Surround	25 pounds/ acre
Centaur*	34.5 ounces/ acre
B-17 (Boric Acid Spray)	3 pounds/ acre
Procure 480 SC	8-16 ounces/ acre
Carzol SP**	8-16 ounces/ acre
Saf-T-Cide Oil	1.25 gallons/ acre
Rimon	32 ounces/ acre
Dithane/ Penncozeb***	8 pounds/ acre
*Do not tank mix Rimon and Centaur. **Carzol may not be used past petal fall without a specific written recommendation. Read SLN WA-000028 for details on maximum use rates and reporting requirements. Carzol is ph sensitive. ***Do not apply with oil!	

PETAL FALL (Pear Psylla, Grape Mealybug, Leaf roller, Fruit Finish Alfalfa greening)

Rimon	32 ounces/ acre
Proclaim	4-4.8 ounces/ acre
Agrimek	20 ounces/ acre
OR Envidor	16-18 ounces/acre
Actara* (Mealybug)	4 ounces/ acre
Saf-T-Cide Oil	1 gallon/ acre
Flint	2 ounces/ acre
Tech Flo CalBor+Moly	2 quarts/ acre
Alpha 24 DF	12 pounds/ acre
Miracal SP	3 pounds/ acre
*Make sure bees have been removed!! Can substitute Centaur for Actara at this timing.	

Suckering trees at this time is an excellent tool to help control maximum coverage of sprays.

FIRST COVER (Codling Moth, Spider Mites, Fruit Finish, Pear Psylla, Mealybug)

Delegate*	6.5 ounces/ acre
Saf-T-Cide Oil	1.25 gallons/ acre
Miracal SP	5-6.25 pounds/ acre
Centaur**	35.4 ounces/ acre
*Limited to two applications per season. Use in only one generation. **Add Centaur if Mealybug is a concern.	

Apply this spray at timing indicated by the Codling Moth model. This cover should be repeated approximately 10 days later.

SECOND COVER (Codling moth, Leafroller, Pear Psylla)

Voliam Flexi*	4-7 ounces/ acre
Zeal	3 ounces/ acre
OR Enviodor +Summer Oil (70 grade)	16-18 ounces/ acre 1-2 quarts/ 100 gallons
Delegate**	6.5 ounces/acre
*Make the first application just before 1-% egg hatch for Codling Moth (150 - 200-degree days past biofix). Use the degree-day model for proper timing. This application will thoroughly control leaf roller. **Limited to two applications per season. Use in only one generation. All rates are shown per acre except those products where concentration of material is important.	

SUMMER PSYLLA AND CODLING MOTH

Fuji Mite	32 ounces/ acre
OR Clutch	6 ounces/ acre

Many different programs can and will work. Remember to rotate products to avoid resistance if possible. Coverage will be the key to successful control from this point forward. Don't lose focus of control when generation looks to be light. An ounce of prevention is worth a pound of cure!!!

For complete leaf feed program on pears see the Nutrient section.