

Surround[®]

Agricultural Crop Protectant



Repel Damaging Insects From Pistachio Trees

INSECT SUPPRESSION

Developed in conjunction with the United States Department of Agriculture (USDA), Surround is formulated to suppress insect activity and can be a valuable tool in pistachio IPM programs. Surround is an EPA-registered



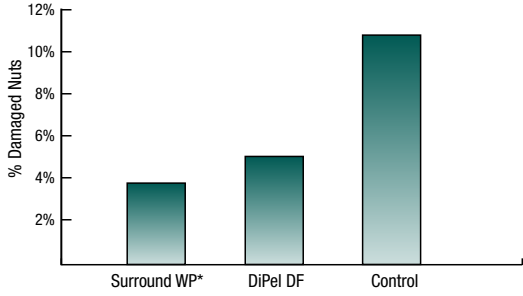
insecticide that can help reduce the damage caused in pistachios by aphids (such as pecan, black and yellow aphid), stink bug and navel orangeworm. In addition, Surround may be used to maximize the effectiveness of conventional insecticides by avoiding their overuse, thus minimizing the likelihood of insect resistance.

Surround functions best when used as a preventative program, applied to the tree before the pest appears. Surround will reduce pest pressure and may eliminate the need for additional treatments. If pest pressure reaches an economic damage threshold, a knockdown insecticide should be used. Surround may be tank mixed with most crop protection products.

Surround may suppress beneficial insect activity. Closely monitor and employ a typical control program for scale and mite.

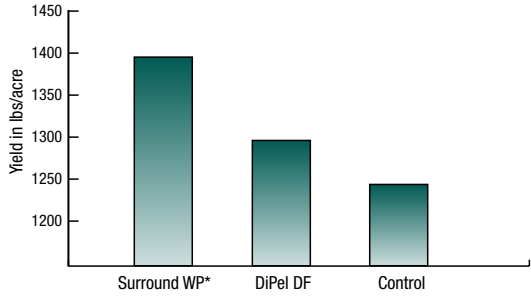
- Nine Ways Surround May Suppress Insects**
1. Repellency
 2. Impedes egg laying
 3. Reduces feeding
 4. Impedes grasping
 5. Restricts movement
 6. Camouflages the host – prevents host recognition
 7. Alters behavior
 8. Induces paralysis
 9. Causes mortality

Surround Significantly Reduced Damage From Oblique-banded Leaf Roller and Navel Orangeworm*



*Note: Surround is not currently registered for control of these pests.

Surround Increased Pistachio Yield 12% Versus the Untreated Control



Crop: 'Kerman' Pistachio Trees
Researcher: RL Kirkland, Madera CA; 2003
Application Timing: May 22; June 3; June 26
Rate: 50 lb/A in 133 gpa by airblast sprayer

TESSENDERLO KERLEY, INC.
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Customer Service:
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RECOMMENDATION FOR NUT CROPS

Volume: Apply to near-drip, not to excessive run-off. For 20-foot trees, it is best to use 200 gallons per acre. Large trees like walnut and pecan can require up to 300 gallons per acre.

Concentration: It is best to use 25 to 50 lbs Surround WP per 100 gallons of water.

For Tree Nuts: such as almond, beech nut, Brazil nut, butternut, chestnut, cashew, filbert, hickory nut, macadamia nut, pecan, walnut and pistachio

Pest	Lbs/Acre	Application Instruction
Aphids such as pecan, black and yellow aphid, codling moth, grasshoppers, husk fly, leafhoppers, navel orangeworm, stink bug	50-75*	Suppression only**: Start at biofix or as infestation occurs. Apply every 7-14 days throughout infestation. For codling moth, apply a minimum of 2 sprays per generation.
*50 lbs per 200 gallons per acre preferred. **If complete control is needed, consider using supplemental controls.		

Application Tips

- Avoid foliage run-off. Apply the spray volume that will achieve near-drip.
- Best results usually achieved at 25-50 lbs per 100 gallons.
- Surfactants may improve spreading.
- Consult the specimen label for instructions on aerial application.
- See Surround spray guide for more information on effective application techniques.

Important: Always read the label before buying and follow label instructions when using this product.

The use of Surround® WP in agricultural crop protection applications is covered by US Patents 6,027,740; 6,069,112; 6,110,867, 6,156,327, 6,464,995 and 6,877,275.

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