IPM TOOL TO SUPPRESS WALNUT HUSK FLY AND CODLING MOTH

OMRI LISTED
For pesticide use only

Surround®
Agricultural Crop Protectant

Use of Surround® to Suppress Walnut Husk Fly and Codling Moth

Developed in conjunction with the United States Department of Agriculture (USDA), Surround® is an EPA-registered insecticide specially formulated with calcined kaolin to suppress insect activity. In a walnut IPM program, SURROUND can suppress walnut husk fly and codling moth. To be effective, SURROUND must be used in a preventative program and should be sprayed on trees before the insect appears. SURROUND will reduce pest pressure and may delay or eliminate the need for a conventional insecticide spray. If pest pressure reaches an economic threshold then a knockdown insecticide should be used.

Codling Moth Suppression

- Start SURROUND application at bio-fix for each generation.
- Repeat applications at 50 pounds per acre on a 7–14 day schedule. Two applications per generation are normal.
- Apply 50 pounds in 100 to 200 gpa per application. Complete coverage is critical.
- Reapplication rates can vary depending on tree size and coverage remaining from prior application.

Husk Fly Suppression

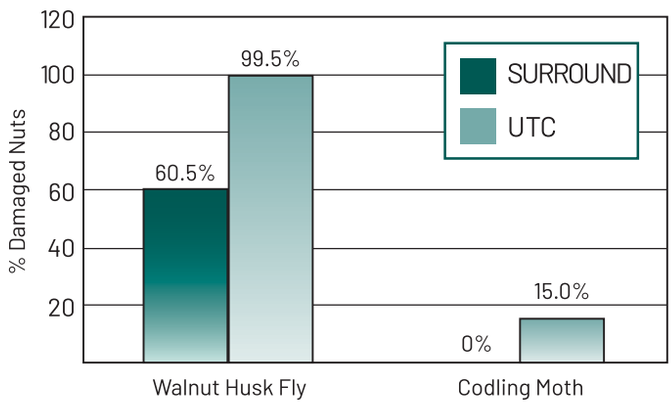
- Start SURROUND applications at the first sign of husk fly adults in trees or traps.
- Apply 50 pounds in 100 to 200 gpa per application. Complete coverage is critical.
- Reapply on a 7–14 day schedule to maintain a thorough coating on nuts during the susceptible period. Adjust rates according to tree size and coverage remaining from prior application.

FOOTNOTES:

1. Use of additional control measures may be necessary in orchards with high insect pressure. SURROUND is compatible with typical crop protection products.
2. SURROUND may suppress beneficial insect activity. Close monitoring of, and a typical control program for, scale and mites are recommended.

SURROUND Effects on Walnut Husk Fly and Codling Moth in Walnuts

D Hicks, D Hulst; California, 2004



Application Timing:
June 15, 29; July 13, 27

Rate: 35 lb/A in 100 gpa by handgun

Nine Ways SURROUND May Suppress Insects

1. **Repellency**
2. **Impedes egglaying**
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**

Novasource® Tessenderlo Group

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Recommendations for Walnuts

Volume: For 20-foot trees, use 200 gallons per acre. Large trees require up to 300 gallons per acre.

Concentration: Use 25 to 50 pounds per 100 gallons of water.

Pest	Pounds / Acre	Application Instruction
Codling moth, husk fly	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

- Apply SURROUND to near-drip. Avoid foliage run-off.
- Change the direction of travel on alternate applications for best coverage.
- SURROUND can be tank mixed with most pesticides. When tank-mixing, always add SURROUND to the tank first. A pre-mix tank is suggested for sprayers without mechanical agitation.
- Aerial application of SURROUND is not recommended for insect suppression as adequate coverage of large trees is difficult to achieve.

Important: Always read the label before buying and follow label instructions when using this product.
The use of Surround® in agricultural crop protection may be covered by patents held by Tessenderlo Kerley, Inc. For more information, visit novasource.com.

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