

# Surround®

Crop Protectant

## Use Of Surround to Suppress Onion Thrips Can Aid in the Control of Iris Yellow Spot Virus

Onion thrips are the known vector for Iris Yellow Spot Virus, and Surround can assist in protecting your field from this harmful disease. In studies by researchers and commercial use by onion growers, Surround has significantly suppressed thrips. Best results are obtained if Surround is applied early **before thrips enter the field** and followed up with repeat applications to protect new growth.

**Hermiston (OR) Agricultural Research and Ext. Center (HAREC) – 2007**

**Objective** – To evaluate several products for efficacy controlling thrips on dry bulb onions.

**Table 1. Thrips Control in Onion, Hermiston, OR — 2007**

Treatment	Rate	No. Apps	Post Treatment Count <sup>1</sup>	Pre to Post Difference	Change (%)
Lannate	2 pt/a	5	18.9 bcd	+ 0.3	+ 1.8
Vydate L	2 qt/a	5	20.3 bcd	- 3.7	-15.3
PennCap M	2.0 pt/a	7	14.9 def	-12.7	-46.9
Trilogy	2.4 pt/a	18	9.3 fgh	-5.3	-36.5
BotaniGard	12 oz/a	9	19.6 bcd	- 7.1	-26.6
Warrior	3.0 oz/a	5	12.4 efg	- 7.5	-37.1
Radiant	8.0 oz/a	9	6.2 h	-5.5	-46.9
<b>Surround</b>	<b>20 lb/a</b>	<b>8</b>	<b>7.2 gh</b>	<b>-6.9</b>	<b>-48.8</b>
Check			15.5 cde	-9.1	-36.9
			***	NS	

<sup>1</sup> Thrips/plant; average 5 plants/plot/application.

NS, \*\*\* Treatment not significant or significant at P=0.001, respectively.

Means followed by different letters are significantly different at P=0.05 (Duncan's multiple range test).

**Results for Registered Products** – “The post-treatment counts, averaged across several applications, were similar between the control and all treatments except Radiant, **Surround** and Trilogy, which were significantly lower than the control. When the percent change between pre- and post-application thrips counts is calculated in Table 1, it appears that the best control overall was obtained with **Surround**, Radiant and PennCap M, followed by Warrior, Trilogy and BotaniGard. Lannate did not perform well.”

For a full copy of the HAREC report e-mail us at [novasource@tkinet.com](mailto:novasource@tkinet.com).



### 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

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**RECOMMENDATION FOR ONIONS**

- Surround must be applied prior to thrips entering the field to be effective.
- Reapply 5–7 days later to ensure thorough coverage and create a “base coating” of protection.
- Reapply as necessary to maintain coverage of new leaf growth. (In overhead irrigated fields this could require weekly application.)
- If insect pressure exceeds acceptable thresholds then a knockdown insecticide should be used in combination with Surround.
- Use of Surround under high heat conditions also provides protection from heat stress and sunburn.

Pest	Lbs/Acre	Application Instruction
Thrips	25-50	Suppression only*. Start prior to infestation and apply every 5–7 days throughout infestation. Good coverage down into the plant crown is essential for efficacy.
*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**

- Use no less than 10 gallons per acre. Best mixing results are achieved when mixing no more than 1 lb per gallon of water.
- Surround may be applied using standard aerial application nozzles.
- Make applications not more than 10 feet above the top of the largest plant unless a greater height is required for aircraft safety.
- When spraying at low relative humidity, increase droplet size to compensate for evaporation.

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

Penncap M is a registered trademark of United Phosphorus Inc.  
Warrior is a registered trademark of Syngenta Crop Protection.  
Radiant is a registered trademark of Dow AgroSciences LLC.  
Trilogy is a registered trademark of Certis USA LLC.

Lannate and Vydate L are registered trademarks of E.I. du Pont de Nemours and Company.  
Botanigard is a registered trademark of Emerald BioAgriculture.

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

**CONDITIONS OF SALE – LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES**

Failure to strictly follow label directions may cause injury to crops, animals, man or the environment. Tessenderlo Kerley, Inc. (TKI) warrants that the product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use when properly applied in normal weather conditions. TKI makes no other warranty or representation of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose. The exclusive remedy against TKI for any cause of action relating to the handling or use of the product is a claim for actual out-of-pocket damages, and in no event shall TKI be liable for special, indirect, incidental or consequential damages or expense of any nature, including, but not limited to, loss of profits or income, whether or not based on the negligence of TKI, breach of warranty, strict liability in tort, or any other cause of action. TKI and the seller offer the product, and the buyer and users accept it, subject to the foregoing conditions of sale and limitations of warranty, liability and remedies.

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