Diamond™ 0.83EC Insecticide

Sugarcane Borer Efficacy in Sugarcane and Registration Update

Alan W. Dalrymple
Chemetura Corporation

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Product Characteristics

• Common name is novaluron
• New chemistry – Chitin Inhibitor
  - Insect resistance management tool
• Residual Control – product not degraded by UV light.
  - Product present on cotton and other crops for 14+ days.
• Rainfast in a few hours
• IPM Friendly – easy on beneficial insects
• Low Mammalian toxicity
How Does Diamond Work Against Target Pests?

Diamond inhibits chitin production resulting in the inability of the target insect to molt successfully to the next growth stage, thus causing death.
Applications were made on July 10 and August 9. All treatments were applied with Latron CS-7 @ 0.25% v/v.

Source: Dr. T.E. Reagan, LSU AgCenter
Sugarcane Borer Control
St. Gabriel, LA - 2005

Application was made on July 26. All treatments were applied with Latron CS-7 @ 0.25% v/v.

Source: Dr. T.E. Reagan, LSU AgCenter.
Sugarcane Borer Control
Cheneyville, LA – 2004

Aerial applications (5 gal/A) were made on July 16 and August 13. All treatments were applied with Latron CS-7 @ 0.25% v/v. There were no treatment differences for any beneficial arthropod monitored.

Source: Dr. Grady Coburn, Pest Management Enterprises, Inc.
Louisiana Sec. 18 SLN Label - 2006

- Section 18 Emergency Exemption granted to LA on August 3, 2006 for sugarcane borer control.
- Justification for SLN based on damage to beneficial insect populations from salt water intrusion and concern for potential Confirm resistance in SCB populations from overuse in affected areas.
- Lateness of SLN issuance limited Diamond use in commercial fields.
- Commercial field tests will continue in 2007.
- 2007 Sec. 18 ??
Diamond Insecticide Test: Paul J. Templet & Jeremy Babin; Ag Consultants

Grower: Northside Plt Co.; Clint & Chad Judice; Franklin, LA
Farm Tract: Oaklawn
Plot Size: 5 cuts totaling 70 acres
Variety: HoCP 96-540
SC Borer Infestation on 8/22/06: 11.2%

Five leaf samples consisting of 25 leaves each in five different locations were examined for the presence of live borers.

Insecticides: Diamond @ 9 oz/ac; Confirm @ 6 oz/ac; No untreated check
Application Date: 8/22/06; Mid Morning
Application Method: Aerial @ 2 GPA with non-ionic surfactant @ 1 qt/100 gal.
Weather: Partly cloudy; shower 24 hrs later; showers frequent after application
Procedure: SC Borer infestations determined 7 DAT and 28 DAT;

Table 1: % Live SCB Larvae*  

<table>
<thead>
<tr>
<th>Rate</th>
<th>DAT 7</th>
<th>DAT 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond</td>
<td>9.0 oz</td>
<td>0.0</td>
</tr>
<tr>
<td>Confirm**</td>
<td>6.0 oz</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*Five samples of twenty five leaf sheaths and stalks examined for live borers  
**One recently killed 2nd instar observed 7 DAT

Table 2: % Bored Internodes*  

<table>
<thead>
<tr>
<th>Rate</th>
<th>DAT 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamond</td>
<td>9.0 oz</td>
</tr>
<tr>
<td>Confirm</td>
<td>6.0 oz</td>
</tr>
</tbody>
</table>

* Five samples of 100 joints examined for bored joints  
**One recently killed 2nd instar observed

Observations:  
Diamond appeared to have a quicker kill than Confirm.  
7 DAT: leaf feeding signs were observed but no larvae present.  
Rain increased performance of both insecticides.  
Predators were observed following Diamond treatment both on 7 & 14 DAT: ants; spiders, and an earwig.  
Numerous red imported fireant mounds were observed on the edge of rows and headlands for both treatments.
Sugarcane Borer Control - 2006
Sotile Farms - St. James Parish, LA

14 DAT
Treated 8-31-06 by air. Spray Volume = 2 GPA. NIS added @ 0.25% v/v.
10% live SCB larvae behind leaf sheaths @ time of application.
<1% live SCB larvae @ 7 DAT.

Source: Fred Posey - Calvin Viator and Associates, LLC
Diamond 0.83EC Label and Use Pattern - Sugarcane

- Use Rates: 9-12 fl oz/A
- Application Volume: Air – 2 to 10 gal/A
  Ground – 10 gal/A minimum
- Timing: At SCB / MRB economic thresholds determined by local authorities, e.g. 3-5% larval infestations.
- Do not apply more than 5 applications per season
- Do not apply more than 60 ounces per acre per season
- ‘Warning’ signal word - potential temporary eye injury
- PHI and REI to be set by EPA. Sec. 18 label PHI was 14 days and REI of 12 hours.
Diamond™ 0.83EC for Sugarcane

Registration Status

• All required residue and environmental fate studies are under review at EPA.
• Federal Sec. 3 registration anticipated in 1st Quarter of 2008.