



Bayer CropScience

# Bayer Product Update for 2011 Season

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**BELT**<sup>®</sup>

A new mode of action offering **rapid stopping power, long residual** control and is considered **harmless to pollinators and beneficials.**



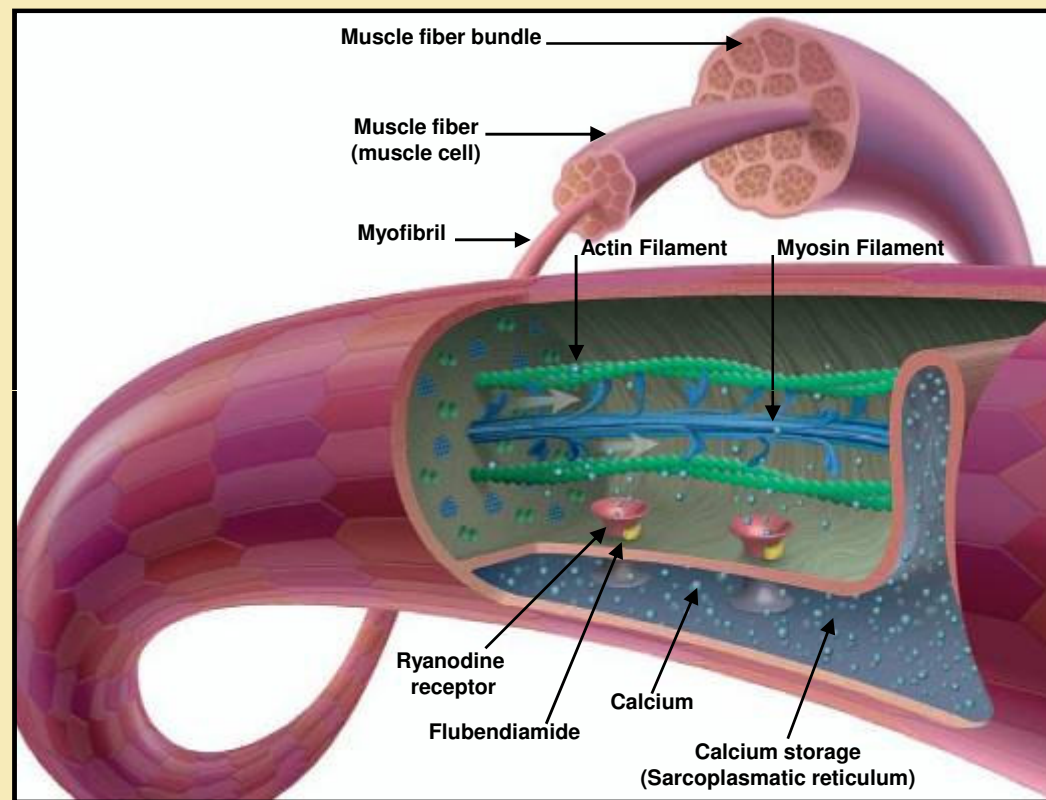
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## Belt – Product Overview

Pest Target:	Lepidoptera
Labeled crops:	Cotton, Corn, Soybean, Tobacco, Pome, Stone, Grapes, Tree Nuts
Active ingredient:	Flubendiamide
Chemical Class:	Phthalic acid diamides
Mode of Action:	Ryanodine receptor modulator (new)
Formulations:	4 SC
Signal word:	Caution
REI:	12 hours
Packaging:	4 x 1 gallon case

## Mode of Action

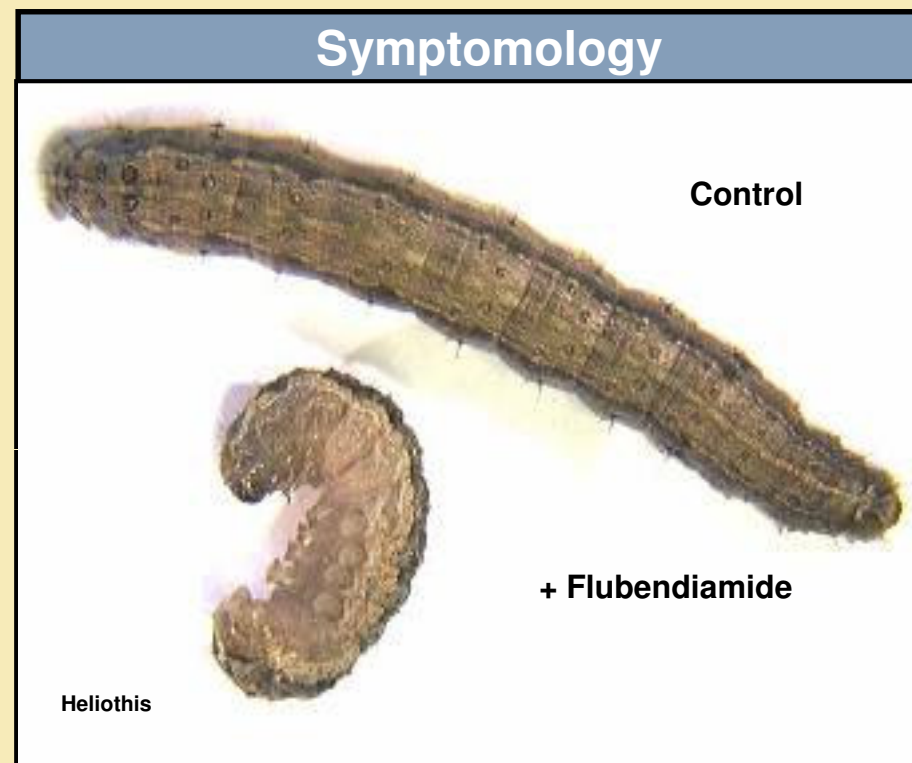
- ◆ Ryanodine receptors are intracellular  $\text{Ca}^{2+}$  channels specialized for the rapid and massive but transient release of calcium.
- ◆ The released calcium then triggers muscle contraction.
- ◆ Following an application of flubendiamide, the ryanodine receptor stays open, allowing all available calcium to be released in an uncontrolled manner.
- ◆ The result is an immediate cessation of feeding, followed by paralysis, then eventual death of the larvae shortly thereafter.



Flubendiamide activates a newly discovered and novel insecticidal target, the ryanodine receptor (RyR)

## Biological Characteristics

- ◆ Following application, larvae lose muscle control, become immobile and cease feeding immediately.
- ◆ The most typical symptom of treatment occurs 1 to 2 hours after application. The larvae contracts to half the size of an untreated larvae.

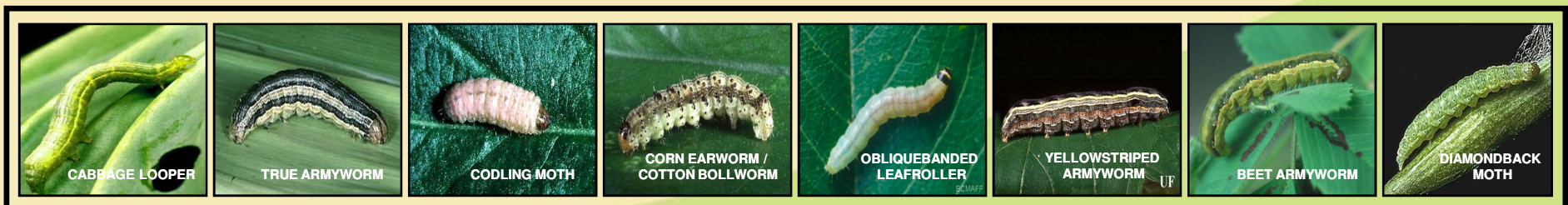


- feeding stops immediately
- contraction and paralysis
- slow movement  
(motion strongly restricted)



## Biological Characteristics

- ◆ Larva Stages of Lepidoptera
- ◆ Effective against early- & mid-instar
- ◆ Highest protection gained when applied at early threshold.



## Belt – Product Overview

Use Rate:	2 – 3 oz/acre for row crops
App Timing (Pest):	Coincides with early threshold in a developing larval infestation
Application Type:	Aerial, ground or overhead irrigation/chemigation
Rainfastness:	Upon drying
Cross-Resistance:	None – New mode of action / New chemical class
Product Benefits:	<ul style="list-style-type: none"><li>• Long residual efficacy</li><li>• Locally systemic translaminar activity – total leaf protection</li><li>• Rapid feeding cessation - Plant/Fruit protection</li><li>• IPM compatible (non-toxic to beneficial insects)</li><li>• Excellent margins of safety - crop, environment, worker/handler</li></ul>

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## Belt – Product Overview

Sugarcane registration is expected in 2011.

Refer to specific product labels for detailed information



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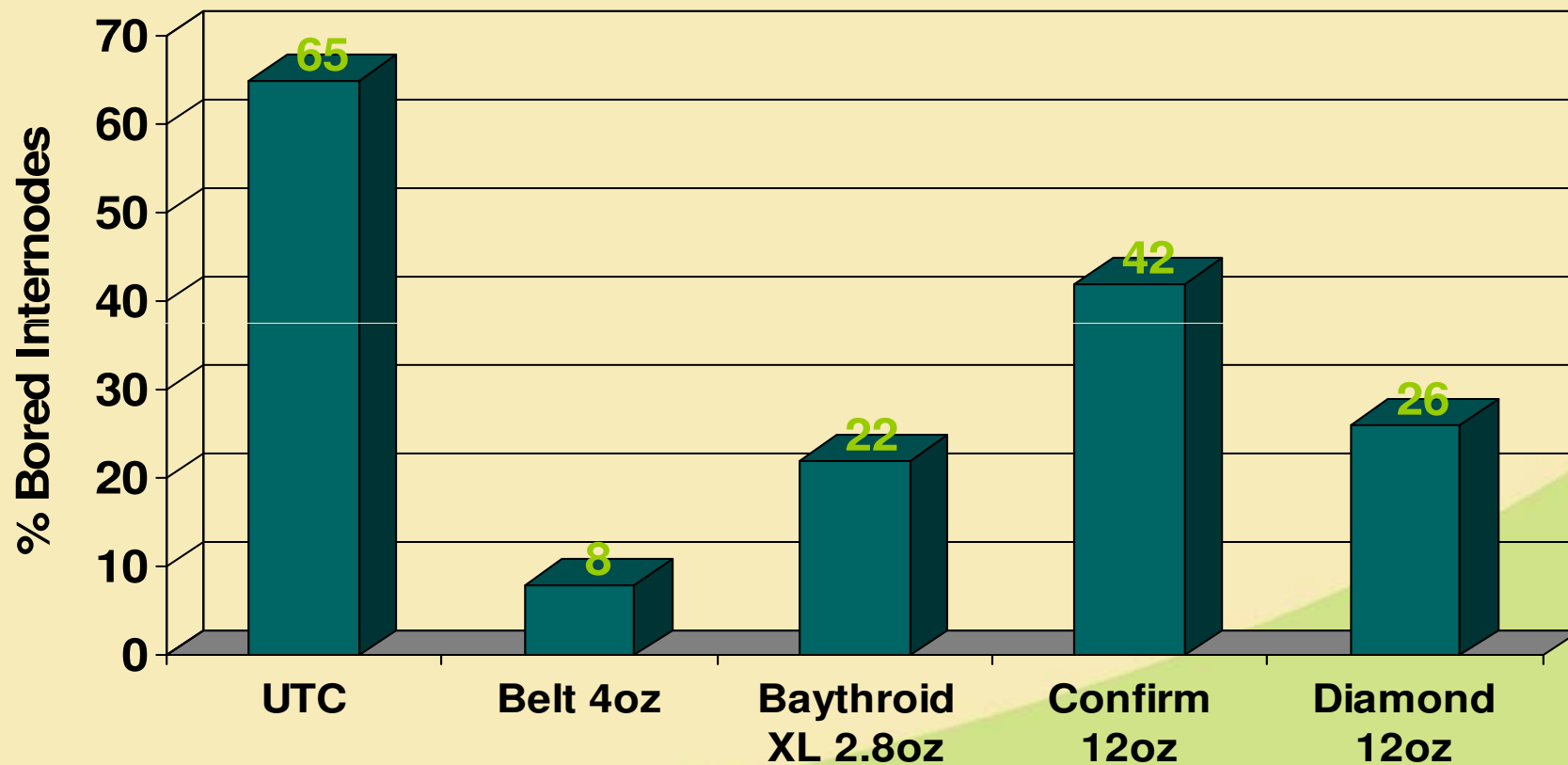
# Proposed Labeling for Sugarcane

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- Use Rate: 2 – 4 oz/ac
- Do not apply more than 4 oz/ac in a 7 day period
- Do not apply more than 12 oz/ac per crop season
- Pests Controlled: Sugarcane borer and Mexican rice borer
- Minimum Application Volume: 10 GPA – Ground; 2 GPA - Air

# Belt – Sugarcane Mexican Rice Borer Ganado, TX 2009

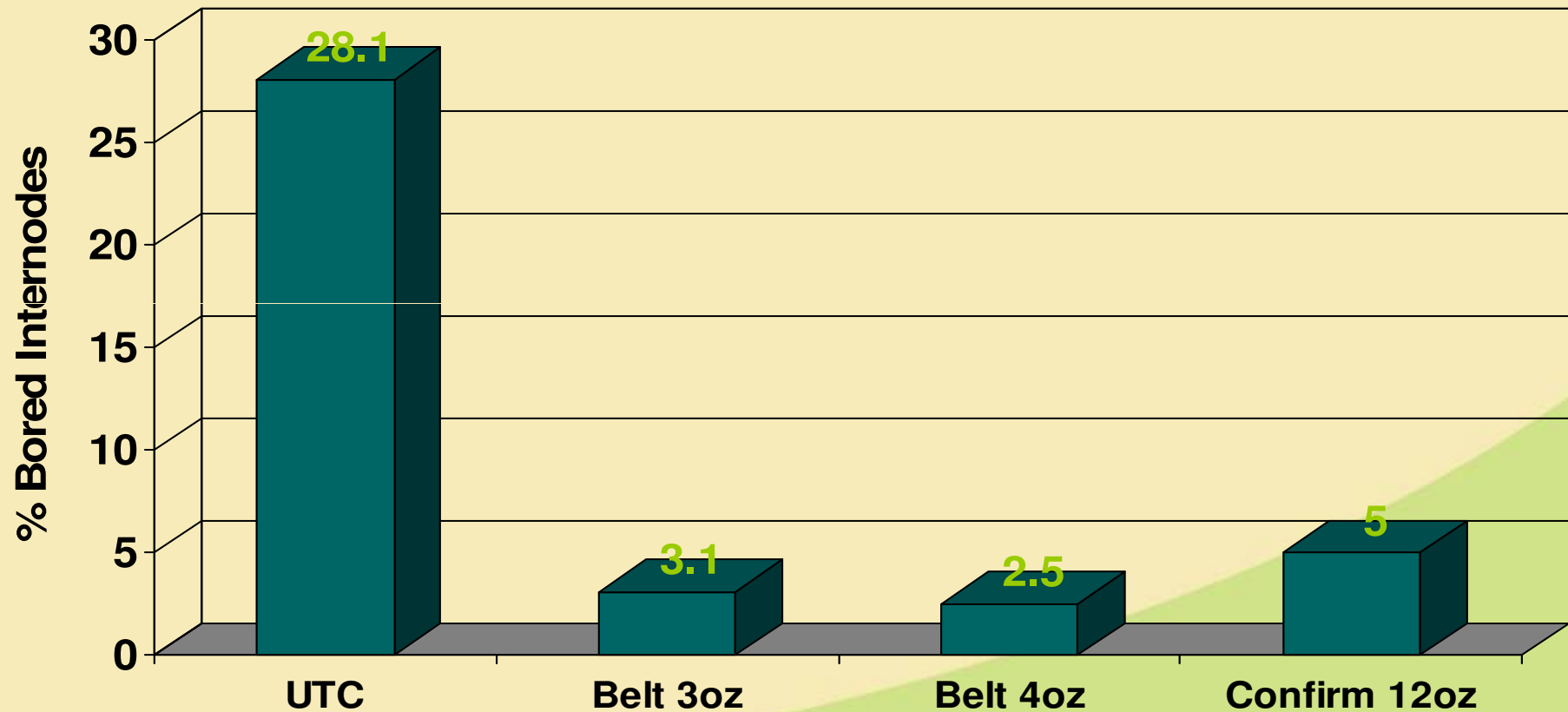
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3 Applications

# Belt – Sugarcane Sugarcane Borer Burns Point, LA 2009

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2 Applications



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THANK YOU