


## Consistent, Cost-Effective Control of Lepidoptera Pests

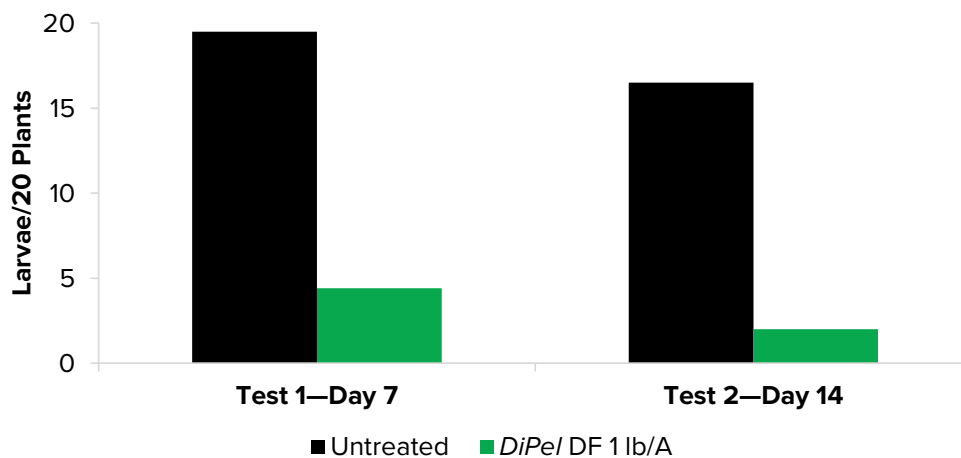
DiPel® DF Biological Insecticide Dry Flowable<sup>+</sup> is a proven insecticide derived from a soil bacterium that selectively targets Lepidoptera pests and delivers effective, economical control. *DiPel* DF also has no harvest residue or MRL concerns because it is exempt from tolerances.

- ▶ **Proven Lepidopteran Larvae Control:** Data shows *DiPel* DF is highly effective against Lepidopteran pests in tobacco, including tobacco budworm, tobacco hornworm and loopers
- ▶ **Excellent Fit for Resistance Management Programs:** *DiPel* DF is a great rotational partner to reduce the potential of larvae developing resistance to insecticides with other modes of action
- ▶ **Highly Selective—Won't Harm Beneficial Insects:** *DiPel* DF does not diminish or harm beneficials
- ▶ *DiPel* DF is NOP Compliant and OMRI Listed for Use in Organic Production 

## DiPel DF Controls Tobacco Budworm, Tobacco Hornworm and Loopers

*DiPel* DF reduced the number of tobacco budworm larvae on burley tobacco.

Source:  
Test 1: L. Townsend,  
Lexington, KY  
Test 2: N.B. Shamiyeh,  
Knoxville, TN



## How To Use

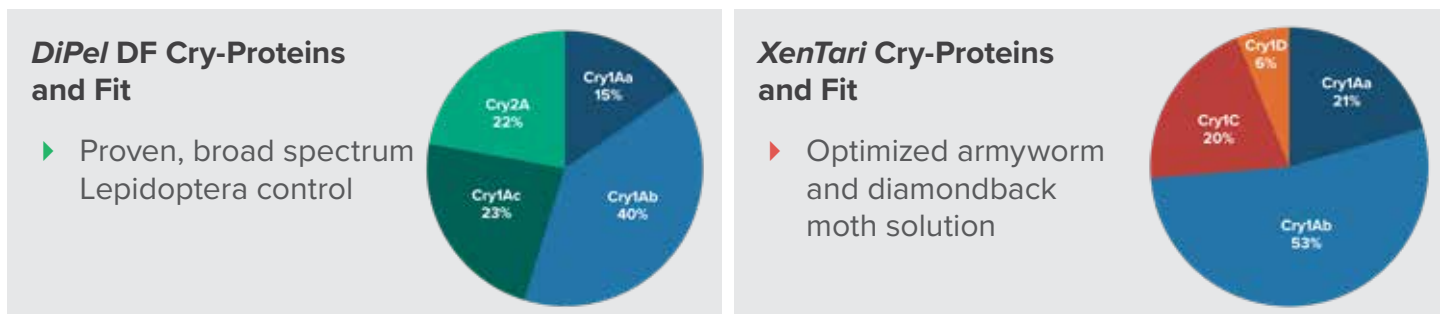
|                     |   |
|---------------------|---|
| <b>Rate</b>         | 1 lb/A (½ lb may be used under low to moderate pest pressure)   |
| <b>Timing</b>       | Treat when larvae are young (early instars) before the crop is damaged  |
| <b>Method</b>       | Ground or air   |
| <b>Spray Volume</b> | For optimal results, use at least 20 gallons of water per acre for ground application. For aerial application use at least 3 gallons of water per acre. |
| <b>Adjuvant</b>     | Use a spreader-sticker for hard-to-wet crops or to improve weather fastness   |
| <b>REI / PHI</b>    | 4 hours / 0 days (no MRL restrictions)  |

## Other Important Information

- ▶ Larvae must be actively feeding on treated, exposed plant surfaces
- ▶ Thorough spray coverage is needed to provide a uniform deposit of *DiPel* DF at the site of larval feeding. Use overhead and drop nozzles to obtain good spray coverage on both sides of foliage.
- ▶ Under heavy pest population pressure, use the higher label rates, shorten the spray interval, and/or raise spray volume to improve spray coverage
- ▶ Reapply as needed, typically every 3–14 days depending on plant growth rate, moth activity and rainfall

## The Cry-Protein Strain and Ratio Make the Difference with Bts

*DiPel* DF and *XenTari*® Biological Insecticide Dry Flowable<sup>+</sup> offer effective ratios of unique Cry-proteins to control problematic Lepidoptera. *DiPel* DF is designed for broad spectrum Lepidoptera activity by having a balanced ratio of four Cry-proteins. *XenTari* has a Cry-protein profile that includes Cry1D, which is not found in any other product.



For tobacco budworm, your strongest Bt is *DiPel* DF for the Cry1Ac and Cry2A cry-proteins. For tobacco hornworm, you have two options, or rotational partners, with *DiPel* DF and *XenTari*.

| Lepidopteran Species | Cry-Proteins only in <i>DiPel</i> DF |       | Cry-Proteins in <i>DiPel</i> DF & <i>XenTari</i> |        | Cry-Proteins only in <i>XenTari</i> |       |
|----------------------|--------------------------------------|-------|--|--------|-------------------------------------|-------|
|                      | Cry1Ac                               | Cry2A | Cry1Aa   | Cry1Ab | Cry1C                               | Cry1D |
| Tobacco Budworm      | ++                                   | ++    | +  | +      | -                                   | -     |
| Tobacco Hornworm     | ++                                   | -     | ++   | ++     | ++                                  | ++    |

++ good activity      + moderate activity      - poor control



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**Always read and follow label instructions.**

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**\*DiPel® DF Biological Insecticide Dry Flowable and XenTari® Biological Insecticide Dry Flowable are NOP compliant and OMRI Listed for organic production.**



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