Fall Armyworm Update - Forage

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Fall armyworms (FAW) are at extreme population levels across much of the state. It's not uncommon to encounter 20+ worms in some bermudagrass fields. They have also attacked other warm season grasses such as sorghum sudangrass, pearl millet, johnsongrass and crabgrass. Many of the infestations are multigenerational (mixed worm sizes) which are more difficult to control because moths are potentially laying eggs daily. In my 23+ years with extension, I've not witnessed this level of infestation spread across such a wide geographical area – all regions of Arkansas have been infested at varying degrees. To add insult to injury, some of our traditional control options are not performing as well as they have in past armyworm outbreaks.

We are seeing subpar FAW control with some of the pyrethroids such as lamda-cyhalothrin. Although this is not occurring with all applications, the frequency of occurrence causes concern. With this in mind and the multigenerational population structure, if producers plan on using pyrethroids, tank mixing with the IGR diflubenzuron (Dimilin®, Unforgiven® or Cavalier®) is good advice.

How is the tank mixing of lambda-cyhalothrin and Dimilin® performing? The short answer is that it is working better than lambda-cyhalothrin alone. Some applications are very effective and providing about 2 weeks or so of residual control. And in other applications, we are not achieving more than a week of residual control and leaving some live worms in the field.

This year we are seeing more use of the IGR methoxyfenozide (Intrepid® and the generic version - Troubadour®) than in past years. And how is it working? The short answer is - similar to the tank mix of lambdacyhalothrin and Dimilin®. Some applications have provided 2-3 weeks of control and others are not providing 2 weeks control.

With a few exceptions, chlorantraniliprole (Prevathon®) and chlorantraniprole and lambda-cyhalothrin (Besiege®) are performing well and providing good residual control. We expect longer term residual control with chlorantraniliprole because it is a true systemic compound. It translocates within the plant including new growth. In contrast, the IGRs (Dimilin® and Intrepid®) exhibit translaminar activity and are not true systemic products. I've had a report of Prevathon® not providing good residual control. And in further investigation, we determined that the field was sprayed a few days after harvest and the grass was very short with many bare stems. For a systemic to work, the plants must have enough foliage to absorb the compound so than translocation within the plant can occur.

With this quick rundown on what we are seeing in the field, below are some comments/explanations related to the residual efficacy of the IGRs. With Dimilin, Intrepid and their generic equivalents, the compound penetrates the leaf tissue and is present in that area of the leaf. If the grass was short with limited leaf surface at the time of application, then through fertilization, rainfall or irrigation begins to grow rapidly – the

grass can simply outgrow the application. We are seeing this happen in some fields where the bermudagrass is growing rapidly. For example, you spray an IGR on a field with 2-3 inch tall grass, then 10 days after application that field has grass that is 12-14 inches tall resulting in less than optimal FAW control. In this example, only 15-25% of the grass contains the IGR compound. This is less of a concern in slower growing fields. We should also remember that when the grass is cut and harvested, the products (translaminar or systemic) present before cutting are no longer present in the plant. Below is a breakdown describing residual activity.

Insecticides lacking residual activity (no translaminar activity)

Pyrethroid class
Lambda-cyhalothrin
Zeta-cypermethrin
Beta-cyfluthrin
Cyfluthrin

Insecticides with translaminar activity

Insect growth regulator class
Diflubenzuron
Methoxyfenozide

Insecticides with systemic activity

Anthranilic diamide class
Chlorantraniliprole

We continue to encounter bermudagrass stem maggots and their damage in some locations. The best treatment option is to apply a pyrethroid 7 – 10 days after cutting.

I want to end this article on a positive note and a picture. Last week in SW Arkansas we encountered FAWs infected with a naturally occurring nuclear polyhedrosis virus (NPV). Although we can't count on a naturally occurring pathogen to solve our current FAW crisis, it is encouraging. And it's likely more common to see FAW disease epizootics when population levels are very high. Despite high mortality, FAW diseases often appears too late to alleviate high levels of defoliation. Hopefully in the future, we will have a NPV available commercially to treat FAW.


Dead fall armyworms infected with naturally occurring NPV (nuclear polyhedrosis virus).