

Burrus Buzz

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Do Stacked Traits Pay? – *Bryan Young*

This question is best answered by the individual grower who measures the value added traits bring to their own operation.

Excerpts from an article in the Iowa State University Crop News written by Roger Elmore, Department of Agronomy and Aaron Gassmann, Department of Entomology may provoke new thoughts on the value stacked traits have on your farm.

Grateful producers in the mid-1990s eagerly adopted European corn-borer (ECB) resistant transgenic hybrids recognizing their value in protecting yield potential as well as reducing pesticide use. Our heads swam when industry colleagues mentioned the long-term goal of stacking multiple traits. Since then, the seed industry introduced various types of herbicide and rootworm (RW) resistance. Double and triple stacks of transgenic traits comprise the norm.

Multiple Traits - Stacking

What are the advantages of stacking multiple traits that target the same groups of pests?

- First, producers may legally reduce acreage planted to a refuge hybrid by using SmartStax hybrids, from 20 percent to 5 percent. We must make it clear though, legal refuge required with all other Bt hybrids currently remains at 20 percent.
- Second, if reduced yields occur with the refuge, planting fewer acres to the refuge will result in more yield.
- Third, stacking multiple traits for above ground insects will increase the range of insects controlled in some cases.
- Fourth, adding additional traits for the same pest may increase the durability of the traits. If this indeed happens, it will delay the development of pest resistance.

What possible disadvantages occur with stacking multiple traits that control the same pests?

- First, reducing refuge acres may not increase yields. Refuge hybrids can produce comparable yields if either no insect pressure occurs, or insecticides effectively control insects.
- Second, producers will see limited additional insect protection as single trait transgenic hybrids already effectively control key insect pests such as ECB and RW. Increasing the number of traits protecting against the same pests will not necessarily improve insect pest control or yield.
- Third, although adding two traits to control the same pest may increase durability of the traits, this is only true if each trait acts in a unique manner to control the insect pest. Scientists currently do not know if an insect that develops resistance to one mode of action will simultaneously develop resistance to the other mode of action.

Does “One size fit all?”

We encourage producers to carefully evaluate their production systems and select high-yield hybrid platforms based on research evaluations across multiple environments before deciding which package of transgenic traits to purchase.

Packaging I.D. of Herbicide Traits - Tom Burrus

We haven't forgotten about the concern of a grower inadvertently grabbing a bag without the same herbicide technology as the rest of the planter. We are addressing that concern by using a new color of ink to the bag flap that indicates a specific technology. For instance, the red color lettering will indicate Roundup® or glyphosate tolerance and blue color lettering will indicate resistance to Ignite® or glufosinate. If a hybrid carries both traits, both red and blue color ink is used.

In addition, the tags on the end of each bag have a color-coded warning strip on the bottom. Again red indicates Roundup® - it says "Roundup® or glyphosate herbicide" in the center of the color band. Blue again indicates Ignite® or Liberty Link®. Also the thread used to sew the bags will be color coded similarly as the tag color, allowing identification in the event the tag has been damaged or lost.

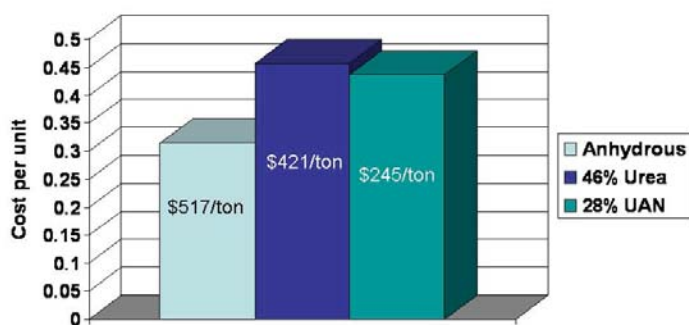
Finally, a second tag is located below the herbicide tolerance tag when a single Bt technology or stacked Bt trait is present. The Bt tag will include the proper IRM (insect resistance management), as well as the patent number and logo identifying the technology.

Yes, it is a complex world, and that means opportunity for more choices that can potentially mean more mistakes. With our new system, both the front and back of each bag contain reminders for growers to see.

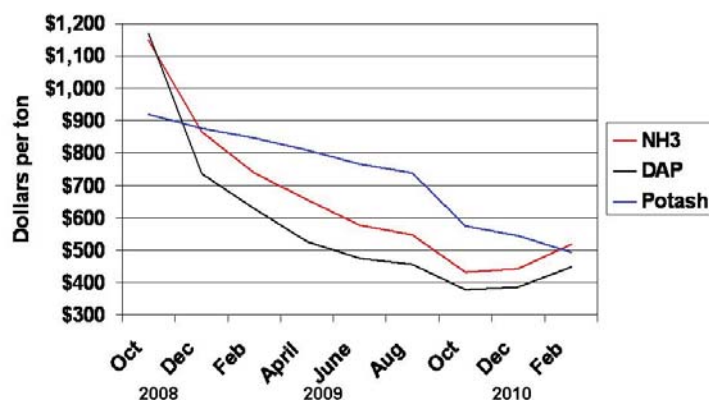
2010 Fertilizer Cost Comparison - Don Rhoads

Below are a couple of graphs addressing fertilizer prices. The first one compares the costs per unit from different nitrogen sources. The second one shows the prices of fertilizer for the last 16 months. We know input costs were high for the 2009 crop, but these numbers are encouraging for the 2010 season.

January 2010 Midwest nitrogen prices per unit



Midwest fertilizer prices



Great Time for Planter Care

In two months corn planters could be rolling! Now is a good time to fine tune planters for optimum performance. The chart at the right shows the importance of adjusting corn planters for accurate spacing. More planter information will be discussed in the next Burrus Buzz.

Seeds dropped per second in 30" rows

Planting population	Planting speed	Seeds per second
30,000	4 MPH	10
30,000	5MPH	12
30,000	6MPH	15
34,000	4 MPH	11
34,000	5MPH	14
34,000	6MPH	17

