

# Borers take big bite out of 2005 yields

By TOM J. BECHMAN

**D**AVE Nanda knew his eyes didn't deceive him. Four different versions of the same hybrid stood before him, yet one looked so different that few people would have suspected it had nearly the same genetics as the other three. Same genetics with one major exception: It contained the *Bt* corn-borer trait.

*Bt* plants were untouched while sister versions literally fell apart. What's even more amazing is that Nanda saw the same trend in two different hybrids. Plots were planted in late May, much later than other corn in the area. That's what attracted corn borers, entomologists say. Early planted and late-planted corn are most vulnerable. There are no guarantees corn borers will show up,

## Key Points

- *Bt* protection provides big edge if corn borers are present.
- One different trait impacts yield of same genetics.
- Early and late-planted corn is most vulnerable to corn borer.

but they certainly did in the Stewart Seeds plot near Greensburg, Ind.

## Proof in numbers

Now Nanda has proof of performance. For both hybrids, *Bt* yielded considerably more than original versions.

Here's the order of finish in both hybrids: YieldGard *Bt*, first; Clearfield (Lightning-herbicide tolerant), second; Roundup, third; and original, fourth.

Yields for Stewart's S600 hybrid were:

## Bt vs. same genetics

Hybrid	Yield (bu./acre)	Moisture	Lodging	Test weight (lbs.)
HC8B600 <i>Bt</i>	216.4	23.5%	1.0%	54.1
S601CI	170.5	18.3%	12%	55.6
HC8R609	165.3	17.9%	20%	56.0
S600	156	18.5%	17.5%	55.6
HC7B738	212.6	19.9%	0%	54.7
S531CI	186.1	18.1%	16.7%	55.1
HC7R739	175.9	18.0%	14.2%	56.0
S530	166.6	18.3%	25.8%	55.6

Notes: S600 and S530 were original hybrids. Others are YieldGard *Bt*, Clearfield (CI) and Roundup (R) versions; two replications; planted May 26, harvested Oct. 8.

SOURCE: DAVE NANDA, STEWART SEEDS



**ZAPPED:** Dave Nanda found corn-borer larva in a non-*Bt* hybrid.

YieldGard *Bt*, 216.4 bushels per acre; Clearfield, 170.5; Roundup, 165.3; original, 156. For Stewart's S530, numbers were: YieldGard *Bt*, 212.6; Clearfield, 186.1; Roundup, 175.9; original, 166.6.

Here's how traits stacked up against S600: *Bt*, +39%; Clearfield, +9%; Roundup, +6%. Against standard S530, trait versions yielded: *Bt*, +28%; Clearfield, +12%; Roundup, +6%.

In addition, Nanda noted big differences in lodging. Late-fall winds could have made differences even more striking with later harvest. The plant breeder also found 1% ear drop for Roundup versions of both hybrids.

What could these results mean? Put a pencil to potential yield increases.

Averaging both hybrids together,

*Bt* outyielded original genetics more than 50 bushels per acre. At \$1.75 per bushel, that's \$87.50 extra with corn borers present. At \$2 per bushel, it's \$100, and at \$2.25, cash in on an extra \$112.50 per acre.

Considering many seed companies offer *Bt* corn borer for just a few dollars more, it's a big payoff. Statistics say you're not likely to see that type of payoff often, however.

What would these versions of the same hybrids yield without corn borer? You can't determine an answer since corn borer was present across the entire test. However, you can say all versions of both hybrids outyielded original genetic versions. And order of finish by yield was the same for both hybrids.

## See how you score in our corn quiz

**C**AN you pass muster when it comes to understanding how corn grows, and how to manage it most effectively? Here's your chance to find out. Try this quiz, based largely on information in Purdue University's unique Corn and Soybean Field Guide.

Fill in true or false:

\_\_\_\_\_1. Maximum test weight for US #2 yellow corn is 54 pounds per bushel and no less than 3% cracked corn/foreign material.

\_\_\_\_\_2. Corn with more than 3% heat-damaged kernels is labeled "sample grade."

\_\_\_\_\_3. Corn with 1% heat damage can still rate as #2 yellow corn.

\_\_\_\_\_4. Corn plants with four leaves visible is considered late whorl.

\_\_\_\_\_5. Tassels on corn plants emerge after silks.

\_\_\_\_\_6. Black cutworms overwinter under corn residue in Illinois/Indiana.

\_\_\_\_\_7. If two plants in 50 show armyworm feeding, spray with Pounce, Sevin or other labeled insecticides.

\_\_\_\_\_8. Northern corn rootworm beetles lay eggs into soybean stubble in northern Illinois and Indiana.

\_\_\_\_\_9. Rootworm larvae typically emerge about the same time as lightning bugs appear in the night sky.

\_\_\_\_\_10. First-year corn rootworm damage is most prevalent in southern Illinois and southwestern Indiana.

\_\_\_\_\_11. Japanese beetles affect pollination by chewing silks.

\_\_\_\_\_12. If silks are cut to less than ½ inch before 50% pollination, and beetles are present and feeding, then spray.

\_\_\_\_\_13. Wireworms become slender, hard-bodied, brownish larvae that attack corn roots.

\_\_\_\_\_14. Southern corn leaf blight is the most common corn-leaf disease in Illinois and Indiana cornfields today.

\_\_\_\_\_15. Gray leaf spot produces parallel, pale brown to gray/tan lesions on corn leaves.

\_\_\_\_\_16. Flea beetles can transmit

Stewart's wilt, which tends to be a bigger issue in seed fields.

\_\_\_\_\_17. Gray leaf spot is of most concern when the disease enters a field late in the growing season.

\_\_\_\_\_18. Anthracnose is more common when corn follows corn, especially in no-till fields.

\_\_\_\_\_19. More than 3,000 growing degree days typically accumulate between April 6 and Oct. 1 in central Illinois and Indiana.

\_\_\_\_\_20. The average midseason commercial hybrid in the central Corn Belt requires about 130 days from planting to maturity.

\_\_\_\_\_21. If you obtain 20,000 plants per acre planted April 30, you can still harvest 90% of maximum yield.

\_\_\_\_\_22. Yields max out in Illinois for hybrids planted April 1 at 34,000 plants per acre, year in and year out.

\_\_\_\_\_23. Yield loss from hail is greatest when leaves are shredded very late in the growing season.

\_\_\_\_\_24. The nutrients represented in 10-34-0 are nitrogen, phosphorus and potassium.

\_\_\_\_\_25. Phosphate fertilizer provides potassium for the soil.

Answers:

(1) False, minimum 54 pounds, no more than 3% foreign material. (2) True. (3) False. (4) False, early whorl. (5) False. (6) False. (7) False. (8) False, western corn rootworm beetles. (9) True. (10) False, northwestern Indiana and east-central Illinois. (11) True. (12) True. (13) True. (14) False, gray leaf spot. (15) True. (16) True. (17) False, early in season. (18) True. (19) True. (20) True. (21) True. (22) False. (23) False, during reproductive stage. (24) True. (25) False, phosphorus.

**Where do you rank?**

**25 correct:** Corn wizard!

**15 to 24 correct:** Good enough to grow high yields.

**10 to 15 correct:** You'd better bone up on corn.

**5 to 9 correct:** Where did you get those corny answers?

**None correct:** You know more about corn-pone than corn!

■ **Hungry for more? Go online to take the second half of our quiz. Visit [www.prairiefarmer.com](http://www.prairiefarmer.com).**