Iowa State Research Farm Progress Reports

2011

Corn Trait Evaluations

Kent R. Berns
Iowa State University, krberns@iastate.edu

Mark A. Licht
Iowa State University, lichtma@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/farms_reports

Part of the Agricultural Science Commons, Agriculture Commons, and the Agronomy and Crop Sciences Commons

Corn Trait Evaluations

Abstract

Every year new hybrids are available in the market and, recently, new trait packages are available. In the coming years, there will be increasingly more trait packages. The question this trial addresses is how trait packages with multiple modes of action perform compared with the closest refuge hybrid (i.e., a hybrid without the trait package).

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

Corn Trait Evaluations

RFR-A10125

Kent Berns, superintendent
Central Iowa Research Farms
Mark Licht, field agronomist
ISU Extension

Introduction

Every year new hybrids are available in the market and, recently, new trait packages are available. In the coming years, there will be increasingly more trait packages. The question this trial addresses is how trait packages with multiple modes of action perform compared with the closest refuge hybrid (i.e., a hybrid without the trait package).

Materials and Methods

The evaluation trial was conducted in 2010. Three hybrids were compared with the closest refuge hybrid. The hybrids used were Channel 209-77 VT3 vs. Channel 209-76 RR; Agrigold 6533 VT3 vs. Agrigold 6533 RR; and Dekalb SmartStax 55-09 vs. Dekalb RR 55-08.

The trial was planted on May 1, 2010 with three replications. Fertilization included 140 lb N/acre as liquid UAN and 100 lb K/acre as potash. No phosphorus was required based on soil testing. A preplant herbicide program was used and a post emergence application of glyphosate was used at the fifth leaf stage. The seeding population was 34,200 seeds/acre using a White 6100 30-in. planter. The harvest population was approximately 33,000 plants/acre at harvest on October 14, 2010. Yields were collected using a John Deere 9410 with a Harvest Master weigh system.

Results and Discussion

The results of this trial indicate that corn traits often show increases in productivity and profitability. In all three pairings, the refuge hybrid was more expensive than the non-refuge hybrid, ranging from $17.10 to $57.71/acre higher. The non-refuge hybrid resulted in higher yields in two of the three pairings.

It is important to consider that higher yielding does not always result in more profits. Therefore, it is important to weigh the additional cost of the trait packages compared with the yield benefits one hopes to attain by using them.

Table 1. Evaluation of trait packages compared with refuge equivalent hybrids at the ISU Central Iowa Farms near Boone.

	Grain yield (bu/ac)	Gross revenue* ($/ac)	Gross revenue diff** ($/ac)	Seed cost*** ($/ac)	Seed cost diff ($/ac)	Trait advantage ($/ac)
Channel 209-76RR	176.32	952.12		83.79		
Channel 209-77VT3	192.42	1,039.05	86.93	106.88	23.09	63.85
Agrigold 6533RR	183.27	989.66		74.81		
Agrigold 6533VT3	192.04	1,037.04	47.38	91.91	17.10	30.28
Dekalb 55-08RR	196.60	1,061.62		85.50		
Dekalb 55-09 SmartStax	193.91	1,047.10	(14.53)	143.21	57.71	(72.24)

*The gross revenue is the 3-treatment average of each hybrid multiplied by a $5.40 per bushel commodity price.
**Trait package hybrid gross revenue – refuge hybrid gross revenue.
***The seed cost are actual costs of the acquired seed.