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Performance of Corn Transgenic Technologies during 2012

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Numerous new corn transgenic technologies are tested every year in the UW Corn Hybrid Performance Trials. Companies that enter the UW trials must disclose the transgenic technology incorporated into the corn hybrid. Hybrid seed is then planted, managed and harvested as part of the normal process involved with testing hybrids. The objective of this article is to present preliminary performance results of transgenic technologies using data derived from the UW trials.

Transgenic technologies are analyzed in relation to the trial mean. We assume that transgenic technologies are randomly incorporated into corn germplasm. The more test plots of a technology (N), the better the

estimate of differences between technologies.

Data are summarized two ways. In the first method, transgenic technologies are analyzed using all hybrids. In the second method, the bottom 80% of the hybrids in a trial is discarded. If a technology does not make it into the Top 20%, then the best hybrid representing the technology from that trial is included.

Significant differences are measured between transgenic technologies (Table 1). In the Top 20% of a trial, four transgenic technologies yield better than others.

Table 1. Performance of corn transgenic technologies during 2012. Assumption: Transgenic technologies are randomly incorporated into corn germplasm. Grain yield difference (Bu/A) = Hybrid average – Trial mean.

Technology	All hybrids		Top 20% †	
	N	Bu/A	N	Bu/A
Agrisure Viptera® 3111	273	-6.3	68	-1.2
Agrisure® 3000GT	813	-3.2	187	-0.5
Agrisure® GT	132	-2.0	40	-4.7
Agrisure® GT/CB/LL	171	* 3.3	31	-5.3
Conventional	321	-9.1	68	-7.8
DAS SmartStax™	399	-9.6	59	-6.8
Genuity™ SmartStax™	303	-2.8	63	-3.6
Genuity™ VT Double Pro™	147	* 4.1	45	* 0.1
Genuity™ VT Triple Pro™	1482	* 4.5	380	* 3.6
Herculex® I plus Roundup Ready® Corn 2	402	* 7.2	110	* 4.9
Herculex® XTRA plus Roundup Ready® Corn 2	168	* 8.2	49	* 0.0
Optimum® AcreMax® 1	36	* 10.7	15	-4.0
Optimum® AcreMax® Xtra	48	* 2.5	13	-16.6
Roundup Ready® Corn 2	132	-7.2	26	-17.6
YieldGard® VT Triple	423	0.3	97	0.2
Total or LSD (0.10)	5250	8.3	1295	6.2

† Includes the top 20% of hybrids in a trial AND the top hybrid of a technology.

* Technology cohorts that performed statistically similar to the highest technology cohort.

