Late Planted Field Corn Variety Trial, 2011

University of Delaware
J. Whalen and B. Cissel

Objective: Producers continue to have questions about the effect of fall armyworm feeding in whorl stage corn and ear damage from corn earworm in later plantings of field corn. Foliar insecticides have not provided effective control of these two insects. Research results from trials with newer BT technologies (i.e. Herculex, SmartStax and Viptera) indicate that these technologies can provide control of these two insect problems. This is the second year of a trial established to determine the effectiveness of "newer" Bt technologies in controlling worm pests in "double crop "field corn under Delaware conditions.

Procedures: Seven field corn hybrids were planted on June 22 at the University of Delaware's Research and Education Center located near Georgetown, DE. Research plots 20 ft wide (8 rows on 30-inch centers) by 30 ft long were replicated four times in a randomized complete block design. Stand counts were taken from the center two rows of each plot (60 linear foot of row) on July 11. Observations on July 11 and 20 indicated that no fall armyworm were present in the trial. Corn earworm damage was evaluated on Aug 30 before physiological maturity. All the ears were collected from a single row (30 linear feet) and evaluated for corn earworm damage. The following data was collected: total number of infested ears (1 or more larvae per ear) and total number of damaged ears (included ears with and without larvae present). Damage was rated as no damage, tip damage (1" or less), and damage >1" below tip. Plots were harvested at physiological maturity on November 2 and yields adjusted to 15.5 % moisture. Data were analyzed using Proc GLM and means were separated by Tukey's mean separation test (P=0.05).

Results:

Variety	Traits	Intended Use	Stand Count July 11	% Clean Ears Aug 30	% Ears CEW Tip Damage Aug 30	% Ears CEW Damage > 1 cm Aug 30	Yield BU/A Nov 2
DKC55-08	RR-2	Grain	85.25a	2.06c	5.42ab	92.52a	90.47ab
DKC55-09	GENSS SmartStax	Grain	84.25a	61.77b	12.53ab	25.70b	102.82ab
TMF2Q717	SmartStax	Silage	84.50a	73.11ab	19.82a	7.07b	90.59ab
TMF2Q716	Herculex	Silage	82.75a	9.10c	13.47ab	77.43a	87.16b
TMF2Q715	RR2	Silage	88.00a	0.58c	2.40ab	91.25a	85.60b
P1184YHR	YGCB,HX1,LL,RR2	Dual Purpose (grain/silage)	84.75a	16.25c	16.68ab	67.07a	120.15ab
NK N68B-3111 Brand	Viptera	Grain	86.50a	99.39a	0.00b	0.61b	130.94a

Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).

Comments: NK N68B3111 brand and the TMF 2Q717 provided the highest percentage of clean ears. Overall, the NK N68B3111 brand provided the best corn earworm control .