

# **Insect Screening Results**

## **Evaluation of Corn Hybrids for Resistance to Insects**

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During the growing season of 2004, the environmental conditions in southern Georgia were favorable for the rapid buildup of insect populations, providing the potential for considerable damage to the corn crop. The four most common ear-feeding insects collected in our trials were the corn earworm, the fall armyworm, the maize weevil, and the pink scavenger caterpillar. These ear-feeding insects usually cause the greatest amount of damage in the late-planted corn, or in the corn left in the field for an extended period past maturity.

Percent yield losses attributable to all insects for individual hybrids varied from 0.4% to 7.6% and are reflected by VG, G, F, P, and VP ratings in the tables. Hybrids in the two tests sustained average yield losses of 4.1% and 2.4% in the short-season and mid-season hybrid tests, respectively. The mean yield loss for all tests was 3.1%. Of the total loss, about 9% was attributable to feeding damage by the corn earworm and the fall armyworm, 41% to the maize weevil, and 50% to the pink scavenger caterpillar. Losses to the pink scavenger caterpillar and maize weevil were based on damage by multiple generations of these insects as the corn dries in the field. Timely harvest can substantially reduce losses caused by these two insects.

Hybrids resistant to insects are highly recommended for planting and are presently the most economical means, especially in late plantings, for the reduction of ear-feeding insect damage. Consult your local county agent and/or extension entomologists for additional control recommendations for other insects.

Evaluations for resistance to corn earworm and fall armyworm, maize weevil, and pink scavenger caterpillar are given for hybrids in the following tables. Lettered ratings in the tables refer only to relative resistance to insects and are not indicative of yield. Thus, a hybrid rated poor for resistance to insects might be among the best for yield and vice-versa. Please refer to the yield data in other tables for specific information.

During the damage evaluation process, husk tightness ratings were assigned using a scale of 1 to 5, in which 1 = very loose and 5 = very tight. Because average rating for husk tightness is between 3.0 and 4.9, only loose (L), medium (M), and tight (T) ratings are given in the tables.

Both short-season and mid-season tests were planted on April 19, 2004. Plots were thinned to 20,000 plants per acre. Ratings for overall ear-feeding insect damage were completed during October 2-4, 2004. Data for this section was compiled by J. C. Mullis and J. M. Cook of the United States Department of Agriculture, Crop Genetics and Breeding Research Unit, Coastal Plain Experiment Station, Tifton, Georgia.

**Tifton, Georgia:  
 Short-Season Corn Hybrids, 2004  
 Evaluations for Resistance to Insects and Other Traits**

Company or Brand Name	Hybrid Name	Days to Antheses	Husk Tightness <sup>1</sup>	Overall Resistance to Insect Injury <sup>2</sup>	
				2004	2 or more years
Croplan Genetics	799Bt	57	M	VG	-
Hyttest	7799Bt	57	L	VG	-
DeKalb	DKC63-52(RR2/YGCB)	57	M	G	-
Terral	TVX26BR401	58	T	G	-
AgraTech	755RRBt	59	T	G	-
Terral	TV26BR10n	57	M	G	F
NK	1851W*	61	M	G	G
Hyttest	7806Bt/RR	58	T	G	-
Pioneer	34B24(YGCB)	57	M	F	F
Croplan Genetics	691LL/Bt	57	M	F	F
Pioneer	33M54	58	M	F	F
Hyttest	7729Hx/LL	58	T	F	-
Terral	TVX26B401	59	L	F	-
Hyttest	7761RR	56	M	F	-
Terral	TV2160Bt	59	M	F	-
AgraTech	733RR	59	M	F	F
Croplan Genetics	705RR	56	M	F	-
Pioneer	32R25	61	T	P	F
Terral	TV2140	61	L	P	-
Terral	TV2140nRR	60	L	P	F
Terral	TVX23R401	62	L	P	-
Terral	TVX23R31	60	M	P	-
SS	E83462	57	M	P	-
Pioneer	33V15	58	T	P	F
Vigoro	V56Y51	58	M	VP	-
Terral	TV2130	60	M	VP	P
Golden Acres	8112	59	M	VP	-

\* White hybrid. OR Full-season hybrid.

1. L = loose husks, M = medium-tight husks, and T = tight husks.
2. Overall insect resistance to ear-feeding insects (i.e., the corn earworm, the fall armyworm, the maize weevil, and the pink scavenger caterpillar). The damage measured by the percentage of kernels infested with the ear-feeding insects from five ears, where VG = very good, G = good, F = fair, P = poor, and VP = very poor.

**Tifton, Georgia:**  
**Mid-Season Corn Hybrids, 2004**  
**Evaluations for Resistance to Insects and Other Traits**

Company or Brand Name	Hybrid Name	Days to Antheses	Husk Tightness <sup>1</sup>	Overall Resistance to Insect Injury <sup>2</sup>	
				2004	2 or more years
Croplan Genetics	895Bt	58	T	VG	-
AgraTech	999Bt	59	M	VG	-
Garst	8230IT	57	M	VG	VG
Greenwood	865*	62	M	VG	VG
Greenwood	863*	62	L	VG	-
Garst	8200YGI	57	M	VG	-
Garst	8288	57	M	VG	G
Pioneer	31N27	58	M	VG	-
Dyna-Gro	CX04319	58	M	VG	-
Greenwood	835	60	M	VG	-
DeKalb	DKC69-72(RR2)	57	T	VG	-
Dyna-Gro	5518	60	M	VG	-
NK	N82-A7	59	L	VG	-
Dyna-Gro	58K22	60	L	G	G
Vigoro	V58Y41	57	T	G	-
Hyttest	7887RR2	59	T	G	-
Golden Acres	8311	61	M	G	G
Southern States	842RR	58	T	G	G
SS	894RR	59	M	G	-
Pioneer	31G98	60	M	G	-
AgraTech	919RR	60	M	G	-
Garst	8292YGI	58	M	G	-
Golden Acres	8681FQ	60	M	G	G
Vigoro	Ex274001	59	M	G	-
NK	N91-R9*	61	M	G	-
DeKalb	DKC67-60(RR2)	58	L	G	-
DeKalb	DKC69-71(RR2/YGCB)	58	M	G	G
DeKalb	DK 697	58	T	G	F
Croplan Genetics	DS822RR	58	T	G	G
Hyttest	7930Bt	58	T	G	-
Croplan Genetics	872RR	59	M	G	-
NK	NX8363	58	L	G	-
AgraTech	X41620RR	59	M	G	-
Greenwood	780	59	T	G	F
Dyna-Gro	5515	60	M	G	F

**Tifton, Georgia:**  
**Mid-Season Corn Hybrids, 2004**  
**Evaluations for Resistance to Insects and Other Traits**  
**(Continued)**

Company or Brand Name	Hybrid Name	Days to Antheses	Husk Tightness <sup>1</sup>	Overall Resistance to Insect Injury <sup>2</sup>	
				2004	2 or more years
DeKalb	DKC66-80(RR2)	58	L	F	-
Hyttest	TNT119	58	M	F	-
Pioneer	31G66	58	M	F	-
NK	N83-N5	58	M	F	F
Croplan Genetics	DS830	59	M	F	-
Vigoro	Ex284001	58	L	F	-
AgraTech	X41636RR	58	M	F	-
AgraTech	855RR	60	M	P	-
Pioneer	32D99	59	M	P	-
AgraTech	955RR	61	L	P	-

\* White hybrid OR Full-season hybrid.

1. L = loose husks, M = medium-tight husks, and T = tight husks.

2. Overall insect resistance to ear-feeding insects (i.e., the corn earworm, the fall armyworm, the maize weevil, and the pink scavenger caterpillar). The damage measured by the percentage of kernels infested with the ear-feeding insects from five ears, where VG = very good, G = good, F = fair, P = poor, and VP = very poor.