CORN TALK NEWS
PENNSYLVANIA MASTER CORN GROWERS ASSOC., INC.

Maturity Zone 1

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growing seasons is given in Table 3. The results for hybrids entered in the silage performance test are given in Table 4.

Procedures

This testing program was available to any producer of hybrid seed corn. For the grain tests, hybrids were planted in paired-row plots of 1/500 of an acre. Each row was overplanted—34 kernels per row, and thinned to a standard count of 48 plants per plot when the corn was 12-18 inches tall. The final population was 24,000 plants per acre. Silage plots were 1/1,000 acre in size, consisting of one row overplanted to 38 kernels and thinned to a final population of 28,000 plants per acre. All entries were replicated three times in each test.

Test plots were planted with modified mechanical planters. Grain-test plots were harvested with a self-propelled combine equipped with electronic instrumentation for determining weight and moisture. Silage plots were harvested with a forage harvester. Grain yields are reported as bushels per acre while grain moisture and erect plants are reported as percentages. Shelled grain yields were standardized at 15.5 percent grain moisture. Percentage of checks for each hybrid was based on the mean of five check hybrids and calculated for moisture, yield, and erect plants. Data such as plant height, ear height, and leaf disease ratings were taken in the field. Disease ratings were based on a scale of 0.5 to 5.0, progressing from little or no disease to premature death. Silage results are given as actual field yield in tons per acre, calculated on the basis of 65 percent moisture, tons of dry matter per acre, and percentage of water in the plants.

Growing conditions

Temperature was below normal while soil moisture tended to be above normal throughout the growing season. The Somerset location was planted May 4, but germination and emergence were adversely affected by a herbicide. The plot had to be abandoned because of very poor stands and retarded plant growth. The other locations were planted from May 11 to 22. Maturity was delayed because heat units were below normal throughout the growing season. All locations had adequate to excessive moisture throughout the season. Harvesting at all locations was delayed because the grain moisture levels remained too high. Grain moisture level at both the Clarion and Erie County locations was so high that our on-the-combine moisture testing equipment could not give a readout. At the Clarion County location the grain was so wet it gummed up the combine screens. Snow cover at the Erie County location also was a deterrent to harvesting. Thus, data for these two locations were not included in this report.

Diseases, insects, and other pests

Hybrids grown at a Centre County location were inoculated with the fungi causing northern leaf blight (NLB) and northern leaf spot (NLS). Ratings were made for northern leaf spot and are given in Tables 1 and 2. These diseases were not a problem at the other locations. Some bacterial leaf blight was noted but did not create a significant problem. Also, some stalk and ear rot was observed.

Corn borer damage tended to be low at most sites; however, the incidence of infestation was higher at the Centre County location.

Animal and bird damages varied, but were most severe at the Clearfield County location where raccoon, deer, and bear damages were noted.

Interpretation of results

Least significant differences (LSD) is the tool used to determine if two average values are actually different statistically. The difference between two hybrids must exceed the LSD value to be considered significantly different. Example for yield: LSD = 8.1 Bu/A; Hybrid X = 120.0 Bu/A; Hybrid Y = 105.0 Bu/A; 120.0 - 105 = 15.0 Bu/A difference. Since the difference between Hybrid X and Y (15.0 Bu/A), exceeded the LSD (8.1 Bu/A), hybrid X was higher yielding due to hybrid superiority and not simply as a result of uncontrolled environmental factors.

ADVANCE ENTRIES

Table 1 Short-season hybrid performances (Maturity Zone 1) Combined Penn State Commercial Advanced Entries (average of three locations) Data under Location Means indicate counties where values were obtained

BRAND-HYBRID	PERCENT-OF-CHECKS H_2O	YIELD	ERECT	%H_2O GRAIN	BU/A GRAIN	% ERECT	HEIGHT (IN) PLANT	EAR	NLS RATING
AGWAY AG 261	92.8	84 9	97.0	21 9	110 1	85.9	77.7	31.7	1 8
DOEBLER'S 29XA	95.7	78.7	105 6	22 6	102.1	93 5	77.0	33.0	2.2
HALSEY H188	98 4	95 4	107.8	23.2	123.7	95.4	79 7	35.7	3 0
DOEBLER'S 48XE	100 1	104 7	105 2	23 6	135 8	93 1	84 0	34.7	1 7
AGWAY AG 310	100 8	108 8	93 7	23 8	141 0	82 9	80 7	40 7	1 7
AGWAY AG 295	100 8	92 3	103 1	23 8	119 7	91 2	89 0	38.3	3 2
FUNK'S G-4106	101 1	98 3	98 1	23.9	127 5	86 8	81 3	36.3	2 3
PIONEER 3921	101.9	76 5	108 3	24 1	99 2	95 8	77 0	36 0	1 5
DOEBLER'S 35XP	102 9	92 1	108 5	24.3	119 5	96 0	78 3	35 3	2 7

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