



# Pennsylvania Commercial Hybrid Corn Tests Report

College of Agricultural Sciences  
Cooperative Extension

## Short-season hybrids (Maturity Zone 1) 1993 results

Tests of commercially available corn hybrids are conducted annually at several locations in each of the four maturity zones in Pennsylvania to provide farmers, seed producers, county extension agents, and other interested persons with information about hybrid performance. This report includes both the grain and silage results from the 1993 season.

Tables 1 and 2 contain the combined results for all locations in this zone, except as noted. Those in Table 1 are for the advanced hybrids tested previously for at least one year, and those in Table 2 are for new hybrid entries. New entries are tested for at least one year before being included in the advanced tests. A two-year summary of results for hybrids tested in both 1992 and 1993 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

Soil temperatures and moisture levels were good at the time of planting. The plots at the six locations were planted from May 14 to May 27. Heat units throughout the summer were normal, but many areas were short on moisture. Temperatures during September and October were below normal while rainfall amounts from the latter half of September through October were above normal. Grain moisture at some of the locations, especially at the Erie and Clearfield County locations, was high. Harvesting was delayed because of wet conditions and a late October snow fall at several locations.

### Diseases, insects and other pests


Hybrids grown at the Rock Springs Centre County location were inoculated with the fungi causing northern leaf blight (NLB) and northern leaf spot (NLS). Ratings made for the combined leaf disease levels 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 cause a significant problem. Stalk and ear rot was observed.

Corn borer damage tended to be minimal, as was corn root worm damage. Some bird and animal damage was observed, especially at the Clearfield and Erie sites.

### Interpretation of results

Least significant differences (LSD) is the tool used to determine if two average values are actually different statistically. The

(Turn to Page 7)



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