



Pennsylvania Commercial Hybrid Corn Tests Report

College of Agricultural Sciences
Cooperative Extension

Late-season hybrids (Maturity Zone 4) 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

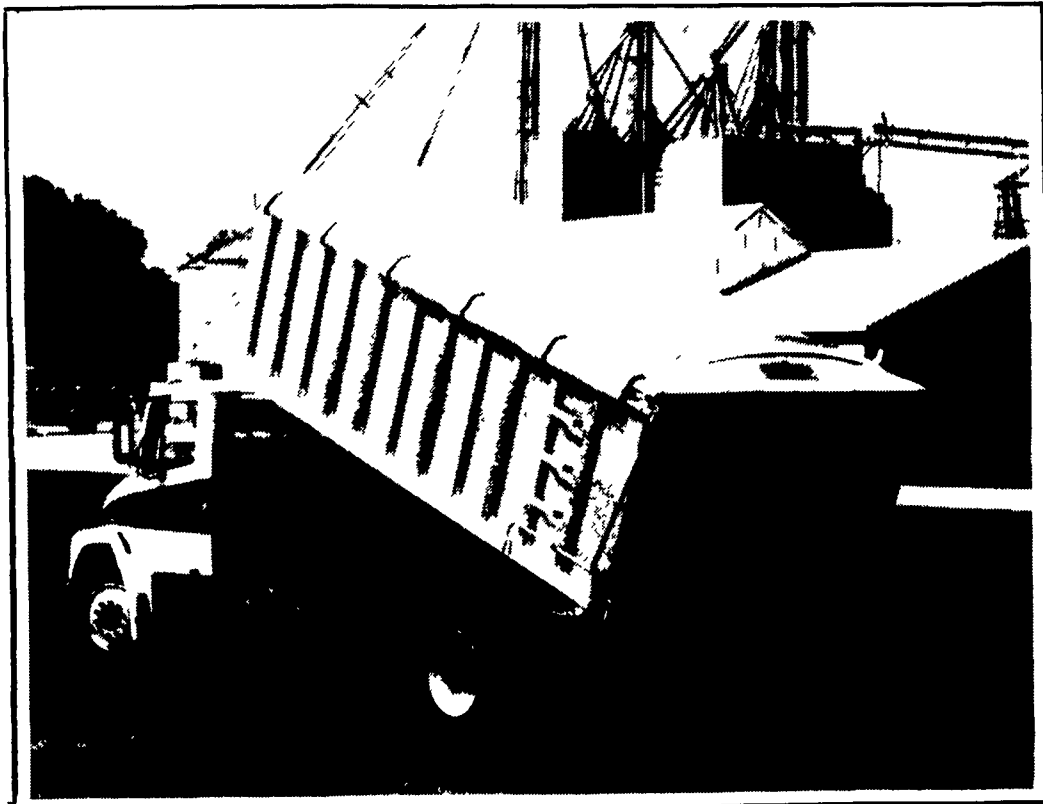
and moisture. Silage plots were harvested with a forage harvester. Grain yields are reported as bushels per acre while grain moisture and erect plants are reported as percentages. Shelled grain yields were standardized at 15.5 percent grain moisture. Percentage of checks for each hybrid was based on 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 plant.

Growing conditions

Weather and soil conditions for planting were unsatisfactory the latter part of April so initial planting in this zone was not initiated until May 3 and was completed May 11. The seed germinated and emerged well at these locations. Temperatures were near normal for the summer, but moisture levels were generally below normal. The Lancaster County locations suffered severe drought stress throughout the summer resulting in very poor plant, ear, and grain development and were abandoned. The yields were fair to good at the other locations, where they received needed moisture at crucial times during growth. Although September and October were cooler and wetter than normal, the corn matured fairly well so that harvesting was begun October 10 and completed by November 3.

(Turn to Page 20)

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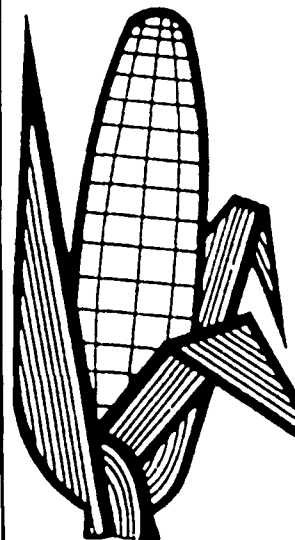
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