

Ashtabula County Short-Season Corn Variety Test Plots

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Objective

To provide a source of objective information on the relative performance of short-season corn hybrids currently available to Ashtabula County farmers.

Background

Cooperator: Keith Palmer
Nearest Town: Andover
Soil Type: Platea silt loam
Previous Crop: Wheat
Planting Date: April 28, 1999
Harvest Date: October 18, 1999
Plot Yield (avg.): 139.2 bu/A
Moisture (avg.): 15.2%

Cooperator: Brian Forman
Nearest Town: Geneva
Soil Type: Sheffield silt loam
Previous Crop: Legume hay
Planting Date: April 30, 1999
Harvest Date: October 20, 1999
Plot Yield (avg.): 161.8 bu/A
Moisture (avg.): 17.1%

Cooperator: Rick Humphries
Nearest Town: Orwell
Soil Type: Sheffield silt loam
Previous Crop: Soybeans
Planting Date: May 3, 1999
Harvest Date: September 27, 1999
Plot Yield (avg.): 142.8 bu/A
Moisture (avg.): 18.4%

Cooperator: Lester Marrison
Nearest Town: Jefferson
Soil Type: Sheffield silt loam
Previous Crop: Grass/legume hay
Planting Date: May 11, 1999
Harvest Date: November 5, 1999
Plot Yield (avg.): 138.0 bu/A
Moisture (avg.): 16.7%

Cooperator: Bill Hurst
Nearest Town: Dorset
Soil Type: Sheffield silt loam
Previous Crop: Soybeans
Planting Date: May 18, 1999
Harvest Date: November 10, 1999
Plot Yield (avg.): 152.6 bu/A
Moisture (avg.): 16.2%

Cooperator: Stan Ruck
Nearest Town: Geneva
Soil Type: Platea silt loam
Previous Crop: Grass/legume hay
Planting Date: May 18, 1999
Harvest Date: November 11, 1999
Plot Yield (avg.): 145.0 bu/A
Moisture (avg.): 17.1%

Methods

This research project was designed to study the performance of short-season corn hybrids using six farms within the county as replicates. Hybrids submitted for evaluation were 80- to 90-day hybrids with total growing degree days (gdds) required to reach physiological maturity to be less than 2,400 gdds. The specific characteristics that were analyzed were yield, grain moisture at harvest, test weight, and gross return per bushel after corrections were made for drying costs and low test weights.

Hybrids were randomly planted in field-length strips at each of the four farm locations.

Results

Hybrid (Maturity)	Yield (bu/A @ 15%)	Final Stand	Test Weight (lbs/bu)	Moisture (%)	Gross Return (\$/A)
Pioneer 37M34 (99)	177.9 a	27,300	58	17.9	383.91
Pioneer 38P05 (94)	175.7 a	28,000	58	17.1	381.01
Novartis 3030Bt (95)	169.6 ab	27,333	58	17.0	366.77
Novartis 21V6 (87)	157.2 bc	27,000	58	16.1	343.42
Croplan D5862 (87)	148.8 cd	25,583	58	17.8	320.2
Pioneer 3893 (89)	147.1 cd	26,250	58	16.8	319.7
Pioneer 38R21 (92)	145.7 cd	25,700	58	16.7	316.93
Novartis 2555Bt (90)	141.2 de	26,000	58	16.2	308.23
Novartis 24-B9 (90)	131.7 ef	26,000	59	16.6	286.55
Croplan 216 (85)	122.3 f	25,583	56	15.7	267.88
Croplan 154 (77)	94.4 g	24,000	60	16.2	206.04
Average	146.0	26,242	58	16.7	317.23

Yields followed by same letter are not significantly different at $P = 0.05$ Analysis of variance $F = 6.57$ - yields very significantly different at $P = 0.01$ - lsd (0.05) = 12.4 CV (yields) = 7.15% Indicates good control of experimental error and relative performance of hybrids not affected by farm location.

Populations were not significantly different among hybrids at $P = 0.01$ CV (populations) = 5.9%. Indicates good control of experimental error and the population counts on each farm were consistent across hybrids.

Gross Return equals: \$2.20 per bushel less discounts of 2 cents per point of moisture over 15.5% and 1 (53lb), 3 (52lb) cents for test weight under 54 lbs.

Summary

Ten of the 11 corn hybrids in this year's trials yielded higher than the 10-year county average of 104.47 bushels per acre and the five-year average of 114.38 bushels per acre. The top three performing hybrids for 1999 were not significantly different from each other and performed significantly better than the lowest yielding seven hybrids.

Ashtabula County farms encounter fewer growing degree days than most of the remainder of Ohio. The use of 80- to 90-day corn hybrids potentially increases gross returns by reducing the cost of drying longer-season corns. Additionally, the shorter-season corn varieties usually can be harvested earlier in the fall when weather conditions are more favorable.

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