

Ashtabula County Short-Season Corn Variety Test Plot

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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:	Stan Ruck	Cooperator:	Brian Forman
Nearest town:	Geneva	Nearest town:	Geneva
Soil Type:	Platea silt loam	Soil Type:	Sheffield silt loam
Planting Date:	May 10, 2001	Planting Date:	May 1, 2001
Harvest Date:	November 13, 2001	Harvest Date:	November 1, 2001
Row Width:	30 inches	Row Width:	30 inches
Plot Width:	6 Rows	Plot Width:	4 Rows
Plot Length:	1,125 feet	Plot Length:	990 feet
Average Harvest Pop.:	26,500 plants/A	Average Harvest Pop.:	26,792 plants/A
Average Moisture:	18.2%	Average Moisture:	20.5%
Average Yield:	178 bu/A	Average Yield:	152 bu/A

Cooperator:	Bill Hurst	Cooperator:	Larry Woodard
Nearest town:	Dorset	Nearest town:	Cherry Valley
Soil Type:	Sheffield silt loam	Soil Type:	Platea silt loam
Planting Date:	May 7, 2001	Planting Date:	April 30, 2001
Harvest Date:	November 19, 2001	Harvest Date:	November 1, 2001
Row Width:	30 inches	Row Width:	34 inches
Plot Width:	6 Rows	Plot Width:	4 Rows
Plot Length:	935 feet	Plot Length:	810 feet
Average Harvest Pop.:	21,077 plants/A	Average Harvest Pop.:	30,077 plants/A
Average Moisture:	19.2%	Average Moisture:	18.65%
Average Yield:	133 bu/A	Average Yield:	191 bu/A

Cooperator:	Lester Marrison
Nearest town:	Jefferson
Soil Type:	Sheffield silt loam
Planting Date:	May 6, 2001
Harvest Date:	November 7, 2001
Row Width:	36 inches
Plot Width:	4 Rows
Plot Length:	850 feet
Average Harvest Pop.:	24,462 plants/A
Average Moisture:	19.5%
Average Yield:	160 bu/A

Methods

This research project was designed to study the performance of short-season corn hybrids using five farms within the county as replicates. All hybrids submitted required less than 2,500 total growing degree-days (GDD) to reach physiological maturity.

Hybrids were randomly planted in field-length strips. Hybrids were planted with each cooperator's planter. Fertilizer, herbicides, and insecticides were applied according to recommended cultural practices for obtaining optimum grain yields. If space permitted, each host farm was permitted to put additional varieties in the plot.

The specific characteristics analyzed were grain yield, grain moisture at harvest, test weight, and gross return per bushel after corrections were made for drying costs and low test weights.

Results

Table 1. Hybrid Performance Across Farm Locations.¹

Hybrid (Maturity)	Yield ² (bu/A)	Test Weight (lbs./bu)	Moisture (%)	GrossReturn ³ (\$/A)
Dekalb 46-26 (96)	178.2 a	57.2 bc	19.2 cd	343.42
Pioneer 36B08 (103)	176.6 ab	57.0 bc	20.7 f	334.76
Novartis N45-A6 (103)	173.0 abc	55.6 d	20.0 e	330.54
Pioneer 37Y15 (99)	171.0 abcd	56.6 cd	20.1 ef	326.34
Novartis N35-R7 (98)	170.1 abcd	55.6 d	18.5 b	330.36
Pioneer 38T27 (96)	163.6 bcde	57.2 bc	19.1 cde	315.45
Pioneer 38P05 (93)	162.0 cdef	58.0 ab	18.6 bc	314.07
Croplan 384BT (95)	160.5 cdefg	56.8 c	19.1 bcd	309.65
Croplan 373 (94)	160.4 cdefg	56.8 c	19.7 de	307.54
Croplan 364 (94)	158.4 defg	56.8 c	19.0 bc	305.97
Novartis N21V6 (85)	149.2 efg	58.0 ab	17.7 a	292.09
Novartis N27-M3 (91)	148.3 fg	58.8 a	19.1 bcd	285.9
Dekalb 39-45 (89)	147.0 g	57.6 bc	17.7 a	287.79
LSD(0.05)	14.5	1.09	0.68	
F-test	4.2	5.5	14	
CV(%)	7	1.5	2.8	

¹ Means followed by the same letter are not significantly different from each other at P = 0.05.

² Yields adjusted to 15.5% moisture.

³ Gross Return equals: \$2.00 per bushel less discounts of 2 cents per point of moisture over 15.5% and 1 (53 lb.), 3 (52 lb.) cents for test weight under 54 lb.

Population means were not significantly different among hybrids with an average of 25,971 plants/A ($F < 1$, CV = 6.0%).

Summary and Notes

All 13 corn hybrids in the trial yielded higher than the 10-year county average of 106 bu/A and the five-year average of 116 bu/A. The overall average of 162 bu/A was remarkable, given the cool and wet growing season for Ashtabula County, especially in the month of July. Projected yields for the 2001 crop were estimated at 130 bu/A. DeKalb 46-26 and Pioneer 36B08 produced significantly higher yield than any hybrid with a yield less than 163 bu/A.

Significant differences were shown with moisture and test weight between hybrids.

Ashtabula County farms encounter fewer growing degree-days than most of the remainder of Ohio. The use of short-season 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.

For additional information, contact:

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