

# 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	Cooperator:	Brian Forman
Nearest Town:	Andover	Nearest Town:	Geneva
Soil Type:	Platea silt loam	Soil Type:	Sheffield silt loam
Previous Crop:	Wheat	Previous Crop:	Oats
Planting Date:	April 25, 1998	Planting Date:	May 18, 1998
Planting Rate:	30,136 seeds/A	Planting Rate:	26,800 seeds/A
Harvest Date:	October 12, 1998	Harvest Date:	October 27, 1998
Harvest Pop.:	29,048 plants/A (avg)	Harvest Pop.:	17,464 plants/A (avg)
Plot Yield (avg.):	125.68 bu/A	Plot Yield (avg.):	109.87 bu/A
Moisture (avg.):	18.1%	Moisture (avg.):	22.1%
Cooperator:	Stan Ruck	Cooperator:	Lester Marrison
Nearest Town:	Geneva	Nearest Town:	Jefferson
Soil Type:	Platea silt loam	Soil Type:	Sheffield silt loam
Previous Crop:	Soybeans	Previous Crop:	Grass/legume hay
Planting Date:	June 4, 1998	Planting Date:	May 29, 1998
Planting Rate:	30,000 seeds/A	Planting Rate:	28,000 seeds/A
Harvest Date:	November 12, 1998	Harvest Date:	October 31, 1998
Harvest Pop.:	22,125 plants/A (avg)	Harvest Pop.:	23,094 plants/A (avg)
Plot Yield (avg.):	97.87 bu/A	Plot Yield (avg.):	151.84 bu/A
Moisture (avg.):	24.7%	Moisture (avg.):	23.6%

## Methods

This research project was designed to study the performance of short-season corn hybrids using four farms within the county as replicates. Hybrids submitted for evaluation were 80-90 day hybrids, and the specific characteristics that were noted were: yield, harvest population, grain moisture at harvest, test weight, and gross return per bushel after corrections were made for drying costs and low test weights. A check variety with a maturity of 102 days (Countrymark 447) was used at each location.

Hybrids were randomly planted in field-length strips at each of the four farm locations. Hybrids were planted with a commercial-type 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 its plot.

## Results

Hybrid (Maturity)	Yield (bu/A @ 15%)	Final Stand	Test Weight (lbs/bu)	Moisture (%)	Gross Return (\$/A)
Novartis 3030Bt (95)	131.48 a	22,729	56	22.2	271.64
Pioneer 37M81 (97)	131.32 a	23,625	54	22.3	271.04
Novartis 2555Bt (90)	127.71 ab	26,245	59	19.7	270.23
Countrymark 447 (102)	124.82 abc	22,042	53	27	244.65
Countrymark 1660 (85)	123.29 abc	22,208	55	20.4	259.16
Pioneer 3905 (87)	118.48 bc	23,583	57	19.2	251.89
Novartis 4242Bt (100)	116.97 c	24,906	55	21.6	243.06
Novartis N15-B4(80)	102.50 d	23,409	57	18.9	218.53
Countrymark 1682 (88)	102.44 d	23,000	56	18.9	218.4

F = 8.06 Yields followed by same letter are not significantly different at P = 0.05.

CV(farm x variety) = 6.8% Analysis of variance used farm by variety interaction as estimate of experimental error.

Farm by variety interaction (F = 1.37) was not significant at P = 0.05 indicating that relative performance of all hybrids was not affected by farm location.

Population means were not significantly different among hybrids at P = 0.05 (F = 1.41, CV = 10.5%).

\* Gross Return: \$2.20 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 lbs.

## Summary

All nine corn hybrids in this experiment yielded higher than the 10-year county average of 98.88 bushels per acre, and seven yielded better than the five-year average of 111.08 bushels per acre. Given the relatively low number of growing-degree units available to Ashtabula County farmers, the use of short-season corn hybrids could potentially increase gross returns. The results of this analysis indicate that five of the hybrids returned higher gross returns than the long-season check variety (Countrymark 447). In addition, the shorter-season corn varieties had higher test weights and in a general field situation would be able to be harvested earlier in the fall when weather conditions are more favorable.

For additional information, contact:

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