



December 2006
Bulletin No. B18063

2006
Purdue
Corn & Soybean
Performance Trials



Department of Agronomy
Agricultural Research Programs
Purdue University
West Lafayette, IN

CORN TABLE OF CONTENTS

Introduction and Experimental Methods	1
Interpretation of Results and Description of Corn Trials	2
Corn Location Information.....	3
Location of Corn Performance Trials.....	4
2006 Rainfall & GDD's at Corn Locations	5
Sources of Seed Corn for Performance Trials.....	6
Corn Performance Summary Data	
Table 1. Northern Early	7
Table 2. Northern Mid	9
Table 3. Northern Late.....	12
Table 4. Central Early.....	15
Table 5. Central Mid.....	17
Table 6. Central Late.....	20
Table 7. Southern Early	23
Table 8. Southern Late.....	26
Hybrid Index	28

SOYBEAN TABLE OF CONTENTS

Introduction, Experimental Methods and Understanding LSD's	31
Maturity Ranges, Monthly Rainfall and weather summary	32
Soybean Location Information.....	33
Sources of Soybean Seed for Performance Trials	34
Soybean Performance Data	
Table 1. North East Early.....	35
Table 2. North East Mid.....	36
Table 3. North East Late	37
Table 4. North West Early	38
Table 5. North West Mid.....	39
Table 6. North West Late.....	40
Table 7. Southern Early	41
Table 7. Southern Mid	42
Table 8. Southern Late.....	43
Variety Index.....	44

ACKNOWLEDGMENTS

Sincere appreciation to Ray Allen, Kip Bergman, Tom Boyd, Paul DeVries, Joe Russell, David Norris, Stewart Jackson, Fred Peterson and Pat Graham for their assistance with establishing and carrying out the performance tests on their private farms. Appreciation also to Jim Beaty, Don Biehle, Jon Leuck, Phil Walker, and their supporting staff, at the regional Purdue Agricultural Research Centers, for all the extra effort in making the performance testing program successful. Special thanks to Terry Semmel of Monsanto for providing border and buffer seed corn.

2006 Purdue Corn & Soybean Performance Trials Bulletin No. B-18063

Philip DeVillez, William D. Foster and Paul Lorton
Department of Agronomy

Introduction

This bulletin summarizes results of the 2006 performance trials of commercial corn hybrids & soybean varieties being sold in Indiana.

The participating seed companies selected the hybrids for testing and mailed samples of seed taken from commercial seed lots to Purdue University for evaluation.

The state is split into three regions, North, Central and South. In the north and central regions early, mid and late tests were established based on appropriate maturities. The tests established in the south were early and late.

It is best to use multi site, multi year data to determine how a hybrid responds over a variety of growing environments.

This information, copyright protected by the Purdue Research Foundation, is presented under authority granted the Indiana Agricultural Research Programs to conduct performance trials, including interpretation of data to the public, and does not imply endorsement or recommendation by Purdue University. Performance information may be used in the following ways:

1) Permission is granted to reproduce the tables in their entirety provided the source is referenced and the data are not manipulated or reinterpreted. A conspicuous disclaimer which states "*endorsement or recommendation by Purdue University is not implied*" must accompany any information reproduced.

2) Advertising statements by an individual company about the performance of its entries can be made as long as they are accurate statements about the data as published, with no reference to other companies' hybrids. A statement similar to "*See the official Purdue University bulletin B-18063 2006 Purde Corn & Soybean Performance Trials for details.*" must be included in the ad. Additional copies of this publication are available to Indiana residents from their local Purdue Cooperative Extension Offices.

This document can be accessed electronically by the following method.

1. World Wide Web (Internet Explorer, etc.): by pointing to the URL address:
<http://www.agry.purdue.edu/pcpp/corn.html>

Experimental Methods

Predominant soil types or production levels commonly found in northern, central, and southern Indiana were represented by four locations in each region. At each location, plots consisted of four 30 inch rows, 21.5 ft in length and were, replicated three times within a randomized complete block design. All data was collected from the middle two rows of the plot.

Participating companies supplied relative maturity data for placement in trials The plots were planted from pre-counted packets of seed using an air plot planter, and harvested with a self-propelled harvester without gleaning. Stand counts for each plot were recorded during in June. The percent stand is determined based on the number of kernels planted and the number of plants emerged, and therefore, indicates only germination and emergence losses.

Average harvest moisture is presented for each hybrid, and yield data are calculated in bushels of shelled grain per acre, adjusted to 15.5% moisture. No yield adjustment was made for stand except for continuous skips, which are determined to be of mechanical origin. Lodged plants (stalks broken below the ear) were counted just prior to harvest.

Each farm cooperator prepared the seedbed using conventional tillage practices and applied herbicides at labeled rates. Fertilizer application was based upon the management program of each cooperator and the desired plant population of each test. The planting populations were 32,000 ppa, for the north and central tests 30,000 ppa for the southern test.

Understanding the LSD (least significant difference)

The least significant difference (LSD) listed at the bottom of each table for each column of data should be used to determine if the difference between hybrids is due to performance differences or random chance. This bulletin presents data with an LSD of 10%. If the difference between two hybrids were equal to or greater than the LSD, the difference would be attributable to hybrid differences in 9 out of 10 (90%) instances when the two hybrids are evaluated under conditions like those of the test. A difference which is less than the LSD is likely due to chance. The top performing hybrids that are different due to only random chance are marked with asterisk.

When no significant difference for a given parameter is found among hybrids, “ns” (nonsignificant) replaces an LSD value.

Suggestions for using these results to select top-performing hybrids

The results provide producers with an **independent and objective evaluation** of the performance of hybrids sold in Indiana.

1. Use **multi-year data** in tables 1-8 (3yr averages) and tables 1A-8A (2yr averages).
2. Use **multi-location average data** (tables 1B-8B). Consider single location results with extreme caution.
3. Evaluate **consistency of performance** of the hybrids you are interested in over years, across locations in other zones.
 - A. Look for hybrids that are consistently in the top group (those with an asterisk).
 - B. Beware of hybrids that have up and down performance.
4. Look at several other **reliable, unbiased** trial results focusing on consistency.
5. Test hybrids on your farm. Try to get experimental numbers and put them in your test for two years.

Remember you are taking a tremendous gamble if you make hybrid selection decisions based on one year yield comparisons in only one or two local test plots.

Data format

The performance data for each test within a region is reported in a table. The regional average data is listed first followed by the individual site yield and harvest moisture data. Hybrids in each table are listed by yield in descending order. Comparisons can be made only between hybrids within a table. Comparing two hybrids from different tables (i.e. different environments and/or production levels) would likely lead to an erroneous conclusion.

Description of Performance Trials

Northern Early Trial: Hybrids with a relative maturity of 106 days or less. Grown at four sites.

Northern Mid Trial: Hybrids with a relative maturity between 107 and 110 days. Grown at four sites.

Northern Late Trial: Hybrids with a relative maturity of 113 days or less. Grown at four sites.

Central Early Trial: Hybrids with a relative maturity of 108 days or less. Grown at four sites.

Central Mid Trial: Hybrids with a relative maturity between 109 and 111 days. Grown at four sites.

Central Late Trial: Hybrids with a relative maturity of 115 days or less. Grown at four sites.

Southern Early Trial: Hybrids with a relative maturity of 112 days or less. Grown at four sites.

Southern Late Trial: Hybrids with a relative maturity of 113 days or more. Grown at four sites.

The sites for each trial are marked on an Indiana map on page 4 in this bulletin.

2006 Weather Summary

Tough, would be the best word to describe the planting season for 2006. Mid to late April planting went very smooth but in May conditions turned cold and wet for two and a half weeks. Unfortunately we planted a couple of our locations (Wabash & Columbia City) right before this wet cold period. Emergence at these locations was about 10%. Heavy rains after planting at Washington actually washed the rows out of place. We hoped for a mild summer.

The summer weather was much better with timely rains at most of our locations and very little weed pressure. Temperatures were high but the crop looked good all summer long. By the middle of August we were already looking forward to harvest.

In the fall the rains continued and the machinery breakdowns started. Still most locations were harvested in a timely manner with only a one location really being delayed, Milford. It was easy to see from the 2006 results that the timely rains of the summer were playing a big part in hybrid performance. Inconsistency not consistency seems to be the theme of 2006 hybrid performance. Remember to use multi-year data for hybrid selection when ever possible.

2006 Purdue Corn Performance Location Information

<u>Location</u>	<u>Soil Type</u>	<u>Date of Planting</u>	<u>Date of Harvest</u>	<u>Fertilization</u>		
				<u>N</u>	<u>P</u>	<u>K</u>
Pinney Purdue	Sebewa loam	5/23/06	10/24/06	200lbs/a	none	none
Columbia City	Boyer sandy loam	5/8/06	Discard			
Wabash	Fincastle silt loam	5/8/06	Discard			
Milford	Crosier loam	5/9/06	11/10/06	117lbs/a	none	none
W. Lafayette	Chalmers silty clay loam	4/24/06	10/4/06	220lbs/a	none	none
Rushville	Crosby silty clay loam	4/27/06	10/9/06	160lbs/a	200lbs/a	100lbs/a
Muncie	Pawamo silty clay loam	4/27/06	10/9/06	200lbs/a	92lbs/a	120lbs/a
Tipton	Patton silt loam	5/5/06	10/10/06	202lbs/a	45lbs/a	120lbs/a
Evansville	Evansville clay loam	4/20/06	9/17/06	202lbs/a	65lbs/a	120lbs/a
Washington	Iva silt loam	4/28/06	Discard			
Butlerville	Avonburg silt loam	5/24/06	10/23/06	180lbs/a	70lbs/a	168lbs/a
Shelburn	Iva & Cory silt loam	4/28/06	10/13/06	200lbs/a	100lbs/a	200lbs/a

2006 Corn Performance Locations



2006 Indiana Rainfall Summary

	April		May		June		July		August		September	
Pinney Purdue	0	(3.81)	3.56	(3.64)	2.30	(3.95)	6.50	(4.20)	5.21	(3.37)	2.18	(3.90)
Milford	0	(3.14)	4.87	(3.46)	3.83	(4.01)	6.35	(3.62)	4.10	(3.49)	1.88	(3.35)
Tipton	0	(3.74)	3.77	(4.91)	10.03	(4.06)	4.57	(5.14)	3.93	(3.54)	5.33	(3.63)
W. Lafayette	.68	(3.71)	5.16	(3.89)	2.86	(3.71)	6.43	(3.95)	5.21	(3.84)	3.10	(3.01)
Rushville	.81	(3.74)	7.94	(4.91)	6.22	(4.06)	5.45	(5.14)	3.79	(3.54)	3.78	(3.63)
Muncie	.27	(3.66)	5.93	(3.74)	8.12	(3.71)	3.67	(3.91)	4.92	(3.41)	2.61	(2.86)
Evansville	2.53	(4.02)	5.77	(4.75)	3.73	(3.49)	6.47	(4.04)	7.41	(3.11)	8.75	(2.97)
Butlerville	0	(4.02)	3.98	(4.46)	4.59	(3.55)	7.43	(4.62)	6.21	(3.69)	6.46	(2.63)
Shelburn	.29	(3.89)	5.33	(4.47)	5.44	(3.58)	4.05	(4.90)	3.50	(3.56)	6.17	(3.36)
* Rainfall from planting date to Sept. 30th												
() Denotes 30yr average												

2006 Indiana GDD Summary

	April		May		June		July		August		September	
Pinney Purdue	0	(122)	147	(332)	526	(561)	706	(682)	603	(621)	350	(399)
Milford	0	(157)	240	(335)	555	(553)	747	(679)	655	(610)	376	(399)
Tipton	0	(122)	283	(331)	548	(555)	724	(679)	659	(608)	374	(404)
W. Lafayette	55	(153)	358	(372)	590	(611)	751	(733)	671	(663)	407	(441)
Rushville	32	(122)	350	(331)	561	(555)	759	(679)	714	(608)	385	(404)
Muncie	27	(157)	307	(368)	532	(614)	725	(742)	658	(683)	386	(443)
Evansville	133	(270)	457	(486)	711	(792)	836	(833)	837	(787)	464	(562)
Butlerville	0	(258)	186	(428)	599	(653)	781	(782)	788	(725)	426	(499)
Shelburn	35	(203)	415	(397)	669	(637)	815	(770)	770	(721)	465	(490)
* GDD's from planting date to Sept. 30th												
() Denotes 30yr average												

Sources of Seed for Indiana Corn Performance Trials, 2006

<u>BRAND</u>	<u>COMPANY</u>	<u>WEB ADDRESS / MAILING ADDRESS</u>	<u>PHONE #</u>
Adler	Adler Seeds	Adlerseeds.com	800-536-2676
Adrain	Adrain Associates	9988 Daylilly Galesburg, MI. 49053	269-665-9805
AgriGold	AgriGold Hybrids	agrigold.com	800-262-7333
ASGROW	Monsanto	monsanto.com	815-758-9323
Battleground	Battleground Industries LLC	bghybrids.com	765-463-4455
Beck	Beck's Superior Hybrids	beckshybrids.com	317-984-3508
Bio Gene	Bio Gene Hybrids	biogeneseeds.com	888-862-3276
Campbell	Campbell Seed, Inc	campbellseed.com	800-788-5950
Corn Belt	Corn Belt Hybrids	cornbelthybrids.com	800-977-3841
Croplan	Grower's Coop	growerscoop.com	812-249-7542
Dairyland-Stealth	Dairyland Seed Co., Inc	dairylandseed.com	262-338-0163
DeKalb	Monsanto	monsanto.com	815-758-9323
Dyna-Gro	UAP/Richter Dyna-Gro Seed	dynagroseed.com	800-646-8587
Exsegen	Miles Seed	milesnmore.com	800-666-4537
Favored	Kerkhoff Seed Farm	favoredgrain.com	765-583-4680
Garst	Garst Seeds	garstseed.com	888-464-2778
Golden Harvest	Golden Harvest Seed Co.	goldenharvestseeds.com	309-346-2127
Gries	Gries Seed Farms Inc.	griesseed.com	419-332-5571
Hubner	Hubner Seed	hubnerseed.com	765-893-4428
ICORN	ICORN	icorn.com	800-240-0101
Pfister	Pfister Hybrid Corn Co.	pfisterhybrid.com	309-527-6000
Pioneer brand	Pioneer Hi-Bred Intl., Inc	pioneer.com	800-950-3489
PRIME Farm Seeds	PRIME Farm Seeds, Inc	primefarmseeds.com	765-665-0170
Rupp	Rupp Seeds, Inc.	ruppseeds.com	419-337-1841
Seed Consultants	Seed Consultants, Inc.	seedconsultants.com	800-708-2676
Specialty	Specialty Hybrids	specialtyhybrids.com	765-463-4707
Steyer	Steyer Seeds	6154 N. Co.Rd. 33 Tiffin, OH. 44883	419-992-4570
Sygenta	Grower's Coop	growerscoop.com	812-249-7542
Trisler	Trisler Seed Farms, Inc.	trisler.com	217-288-9301
Vigoro	Royster-Clark Inc.	vigorofoods.com	740-869-2181
Wyckoff	Wyckoff Hybrids, Inc.	wyckoffhybrids.com	219-462-6716
Wyffels	Miles Seed	milesnmore.com	800-666-4537
Unity Seeds	Unity Seeds	Unityseeds.com	219-474-5810