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Michigan State University Extension Service
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# 1986 Michigan Soybean Performance Report

Extension Bulletin E-1206 January 1987

#### By M.L. Vitosh, T.G. Isleib, R.H. Leep, J.L. Lockwood, D.E. Wolfe and L. Rood-Kao

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This bulletin provides information on the performance of sovbean varieties available in Michigan.

Comprehensive variety yield trials were conducted in Southeastern Michigan (Lenawee County), Southwestern Michigan (St. Joseph County), Far Southwestern Michigan (Berrien County), South Central Michigan (Ingham County), Central Michigan (Saginaw County), and East Central Michigan (Sanilac County). Smaller trials were conducted in Huron and Alger Counties.

# **Testing Procedures**

Commercial varieties voluntarily entered were obtained from seed companies. Public varieties were supplied by the Michigan Foundation Seed Association.

Cooperators, planting and harvest dates, fertilizer practices, previous crops, and soil management groups at the seven locations are listed in Table 1.

Maturity groups of all varieties tested are listed in tables 2 and 5. Seed of entries was planted in plots 20 feet long with a 20-inch row spacing. Seeds were planted 1½ inches deep at 4.5 seeds per foot of row. Each plot was randomized in the field and replicated 3 times. Fourteen feet of the center two rows were harvested for yield.

### **Evaluation of Characteristics**

YIELD—Yield is expressed in bushels per acre at 13% moisture.

MATURITY DATE—Entries were considered mature when 95% of the pods had attained their final color and would crack under finger pressure. Additional field drying was required before the plants were ready to harvest. Dates were recorded by month and day.

HEIGHT—Plant height, in inches, was measured at maturity from the soil surface to the tip of the main stem.

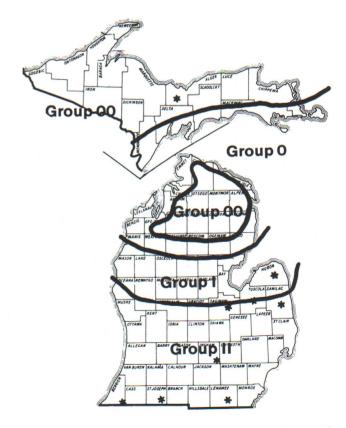
LODGING—Lodging rates reflect the erectness of the plants before harvest. Ratings are based on the following scale:

1. Almost all plants erect

- 2. All plants leaning slightly, or fewer than 25% of the plants down
- 3. All plants leaning moderately (45%), or 25% to 50% of the plants down
- 4. All plants leaning considerably, or 50% to 80% of the plants down
- 5. Almost all plants down

#### **Results**

Tables 3-6 show results of 1986 soybean variety trials. Table 7 is 1985 data from Alger County in the Upper Peninsula. Values given are the averages of all replications harvested at each location. Extremely rainy weather in September adversely affected the plots at Saginaw, Sanilac and Huron counties.



Soybean Maturity Zones for Full-Season Varieties in Michigan, and Locations (\*) of Trials.

The LSD (least significant difference) value is useful when comparing two varieties in the same table. Two varieties with the same genetic potential for yield may have different yields due to variation in soil fertility, compaction, and other environmental factors. If the difference is less than the LSD value, the difference between the varieties may be due to chance or minor environmental differences. However, if the difference between two varieties is greater than the LSD, there is a 95%, or better, probability that the performance is actually different. The CV value is an indicator of the degree of precision for a particular test. The lower the CV value, the more discerning the test.

# **Selecting a Variety**

The primary consideration in selecting a variety is yield. When evaluating a variety, consider yield performance over several years, if available. Give preference to data obtained in the nearest variety trial. Use all trials in determining a variety's performance under various environmental conditions.

Considerations other than yield are important in selecting a variety, and in some cases result in choosing a variety with only moderate performance. It is especially important to select a variety with proper maturity. From past weather data, farmers can determine the percent probability of the first fall frost. A general rule of thumb is to choose a variety that will mature (see maturity date definition) before the average date for 25% chance of the first killing frost in the fall. Farmers growing soybeans for the first time may wish to contact neighbors to determine what varieties mature before frost in their area. When large acreages of soybeans are planted, varieties of different maturities provide staggered maturity dates for a longer harvest season.

The degree of lodging varies among varieties. Lodged plants in variety trials are manually picked up and threshed, thus yield losses from lodging are not reflected in the yields reported. Lodging ratings should be used to evaluate potential losses. Farmers who have experienced lodging in the past and have had harvest problems may select a more lodging-resistant variety. Alternately, a variety susceptible to lodging may be planted at a slightly lower population to increase standability. Evaluate lodging data over all locations to determine a variety's lodging characteristics.

Note seed size when selecting planting rates. Planting rates should be based on number of seeds per foot of row and not on pounds per acre.

Many diseases occur in soybean fields in Michigan. The diseases which contribute most significantly to yield reduction are seed and seedling diseases and those causing root and stem rot. Root rots of soybeans are generally recognized when plants turn yellow prematurely, wilt, or die. Less noticeable is the yield reduction that occurs when root rot destroys part of the root system, but causes no visible symptoms to above-ground parts. The fungi

that cause root rots often survive in the soil for several years, even in the absence of a host plant. Once root rot fungi are established in a field, control is difficult, even with crop rotation.

New varieties with resistance to one or more diseases are being developed, particularly varieties resistant to Phytophthora root rot. Disease resistance characteristics to Phytophthora root rot are noted in Table 2, but the large number of races of this fungus complicates variety selection.

Sclerotinia stem rot (white mold) studies were conducted at East Lansing in 1984 and 1985 with 20 and 16 varieties, respectively. The disease was encouraged by irrigating with 1.5 to 2 inches of water weekly beginning at flowering until the end of August. The disease ratings, expressed as percentage of plants infected, are shown in Table 2. The disease ratings for 13 of the varieties grown both years were positively correlated. Yields were measured in 1985 and the data showed that for every 10 percent increase in disease, yield was reduced 3.5 bushels per acre. The maximum yield in the study was 45 bushels per acre.

It is often beneficial for growers to select a few good varieties for planting each year. Yield determination and careful field evaluation during the growing season will add to the grower's knowledge of varietal performance and allow better selection.

More information about variety selection and cultural practices can be found in Extension Bulletin E-1549, "Soybean Production in Michigan."

#### **Use of Data**

Table 3 presents multiple-environment averages from all tests in the Southern and Central Michigan regions since 1975. The column labeled N refers to the number of tests in which each variety was included. The column labeled DEV. refers to the difference (in bushels per acre) between the mean yield of the variety over N tests and the mean yield of all varieties in those tests. The maturity checks used for tests of Group I and Group II varieties were "Hodgson 78" (H78) and "Corsoy 79" (C79), respectively. A positive relative maturity value means that the variety matured later than the check and a negative value means that the variety matured earlier than the check. The value is the actual number of days in either direction.

Data presented in Tables 4 through 6 are from both regional and site-specific performance trials. Both 1986 yields and multiple-year average yields from all tests since 1975 are given. Maturity, height (in inches), and lodging scores are the 1986 regional averages. Maturity is expressed as + or – days when compared with the check variety. For 1986 yield data, all starred entries designate yields not significantly different from the highest yield for that location. Multiple-environment and multiple-year averages comprised of a greater number of tests (greater N) should be considered more reliable.

The presentation of data for the entries tested does not

suggest approval or endorsement of varieties by the authors or by those responsible for conducting the performance trials.

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no portion is deleted, if the data are not rearranged or otherwise manipulated, and if appropriate credit is given.

**TABLE 1. Variety Trial Information.** 

County	Lenawee	St. Joseph	Ingham	Saginaw	St. Clair	Sanilac	Huron
CES Director/ Agent	N.H. Bless G.A. Wuethrich	F.J. Henningsen D. Bowen	M.M. Preston R.A. Morrison	H.R. Ferris S.S. Poindexter	M.F. Hansen T.R. Johnson	A.R. Sieting R.C. Weber	R.A. Johnson J.L. LeCureux
Farmer Cooperator	D. Woods	B. Marantette J. Sheppard		C. Gosen	R.A. Greenia	K. Pritchett	H. Hass
Address	10992 Holloway Britton, MI	25660 Simpson Mendon, MI	MSU Campus East Lansing, MI	8735 Swan Creek Saginaw, MI	1395 Kronner Richmond, MI	2985 S. Sandusky Sandusky, MI	1001 Learman Bad Axe, MI
Soil Type	Lenawee silty clay loam	Elston sandy loam	Aubbeenaubbee- Capac and Riddles-Hillsdale sandy loam	Colwood silt loam	Wasepi sandy loam and Bayer loamy sand	Capac and Parkhill laom	Corunna sandy loam and Kilmanagh loam
Soil Management Group	1.5 c	4 a	3.2 b/2.5 b and 2.5 a/3 a	2.5 c-s	4 a and 4 b	2.5 b and 2.5 c	3/2 c and 2.5 c
Previous Crop	Sod	Corn	Corn	Soybeans	Wheat	Soybeans	Corn
Fertilizer	100# K₂O		200# 6-24-24	200# 8-18-36	200# K₂O	290# 8-23-10	250# 10-26-26
Planting Date	5/10/86	5/29/86	6/18/86	5/30/86	6/2/86	6/2/86	5/27/86
Harvest Date	10/11/86	10/9/86	10/31/86	10/23/86	10/10/86	11/13/86	10/21/86

TABLE 2. Reactions of Soybean Cultivars to Sclerotinia Stem Rot (White Mold) in 1984-85 Field Tests.

		Disease Inc	idence (%)
Cultivar	Maturity Group	1984	1985
GNOME	II	39.5	52.4
WEBER 84	I	31.1	48.5
SPRITE	III	_	28.8
CENTURY	II	19.1	28.1
ELGIN	II	15.5	21.2
VICKERY	II .	13.8	_
AMSOY 71	II	13.7	_
AMCOR	II	13.4	_
CORSOY	II	_	7.9
CORSOY 79	II .	13.3	5.3
LAKOTA	Ī	13.0	_
BEESON 80	II	12.6	18.0
HARCOR	II	12.4	
WELLS II	II	11.9	23.1
NEBSOY	II	10.0	29.3
HODGSON 78	I	6.8	2.8
PELLA	III	6.7	3.8
SIMPSON	0	6.1	_
HARDIN	, I	5.7	7.1
HOBBIT	III	4.1	40.4
DAWSON	0	2.8	_
EVANS	0	2.2	12.0
OZZIE	0	<u> </u>	0.0
LSD (.05)		12.4	13.6

<sup>\*</sup>Percentage of diseased plants in two rows 14 feet long.

TABLE 3. Performance Summary for Varieties Entered in the Michigan Trials in 1986. Phytophthora Resistance Designations Denote the Following: Type 1A Resistant to Races 1, 2, and 10; Type 1B Resistant to Races 1 and 3-9; Type 1C Resistant to Races 1-3 and 6-10; Type 1K Resistant to Races 1-10; Type 3 Resistant to Races 1-5, 8, and 9; Type 6 Resistant to Races 1-4 and 10.

				YIEL	BU/	A) WITH (	DEVIATI	ON FRO	M MEAN	MATU	RITY	RELA	TIVE TO	O CHE	CKS		
			PHYT. RES.		SOUTHE	RN		CENTR	AL		UTHER			ENTRA			NG SCORE
RAND	ENTRY	MG	TYPE	YIEL	(N)	DEV.		D (N)	DEV.	DATE	H78	C79	DATE	H78	C79	SOUTH.	CENTRA
UBLIC												====					
	DASSEL	0	6		-	-	36.3	(7)	-2.3		-	-	9-29	0	-7	-	1.3
	DAWSON EVANS	0	1 A 1 A				40.5	(19)	-0.7		-	-	9-23		- 12	-	1.6
	OZZIE	0	1A		_	_	36.8 39.0	(31) (17)	-2.5 * -3.7 *		-	-	9-21		- 12	-	1.5
	SIMPSON	0	1.4		_	_	38.5	(15)	-3.5 *		_	_	9-19 9-23	-8 -4	- 15 - 11	_	1.2
	BSR 101	I	1 A	46.4	(11)	2.0 *	41.4	(13)	2.0 *	9-22	3	-4	10-5	7	-1	1.6	1.8
	HARDIN	I	1A	42.7	(17)	1.1	45.2	(22)	3.8 *	9-22	3	-3	10-2	4	-3	2.2	2.3
	HODGSON 78	I	1 A	40.3	(26)	-1.0	41.3	(33)	0.0	9-19	0	-6	9-28	0	-6	1.9	1.9
	SIBLEY WEBER 84	I	1 A 1 A	49.3 40.2	(8) (13)	4.4 *	40.8	(10)	1.2	9-18	0	-6	9-30	0	-7	2.1	2.2
	AMCOR	11	1.4	41.8	(17)	-0.6	38.8 42.3	(15) (17)	0.0	9-23 9-29	10	-3	10-2	11	-3 4	2.7	2.5
	BEESON 80	II	1C	38.1	(17)	-4.3 *	39.2	(19)	-2.6	9-27	8	2	10-9	10	3	1.9	2.8
	BSR 201	II	1B	47.4	(14)	1.3	42.2	(12)	0.3	9-26	8	1	10-8	11	2	2.6	2.9
	CENTURY	II	1 A	44.2	(18)	1.4	42.3	(20)	0.8	9-29	10	3	10-9	10	3	1.8	2.0
	CENTURY 84	II	1K	42.1	(9)	-0.5	41.4	(9)	1.4	9-29	9	2	10-10	12	3	1.5	1.6
	CORSOY	II	NONE	41.4	(26)	0.7	39.4	(29)	0.3	9-24	5	- 1	10-2	6	0	2.3	2.2
	CORSOY 79 ELGIN	II	1C NONE	42.7	(24) (15)	1.0	43.4 43.8	(30)	2.2 *	9-25	6	0	10-5	7	0	2.5	2.5
	HACK	II	1A	45.3	(10)	1.4	41.7	(16) (10)	2.7 *	9-25 9-28	6	- 1	10-5	6	- 1	2.1	2.0
	HOYT	II	14	48.1	(7)	2.4	39.6	(8)	-0.1	9-27	9	4	10-8 10-9	10	2	1.4	1.6
	KELLER	II	1C,3	39.5	(8)	-2.1	40.0	(8)	-0.4	9-29	8	1	10-10	11	2	2.2	2.2
	MIAMI	II	1C,3	38.7	(9)	-3.9 *	38.5	(9)	-1.6	9-24	4	-3	10-6	7	- 1	1.8	1.9
	NEBSOY	II	1 A	41.8	(18)	-1.1	40.6	(20)	-1.0	9-24	5	- 1	10-6	7	0	1.6	1.7
	PRESTON	II	NONE	47.0	(6)	1.6	38.5	(7)	0.0	9-28	10	4	10-9	1 1	3	2.5	2.3
	VICKERY WELLS II	II	1C 1C	42.6	(18) (20)	-0.2	42.1	(21)	0.9	9-24	5	- 2	10-4	6	- 1	2.9	2.7
	CUMBERLAND	III	NONE	40.7 36.8	(13)	-2.1 * -3.2	40.2	(22)	-0.7	9-24	13	- 2 7	, 10-4	5	- 1	1.6	1.5
	GNOME 85	III	1K	47.8	(10)	-0.3		_	-	9-25	10	4			_	2.5 1.4	_
	HOBBIT	III	NONE	40.0	(15)	0.8		_	-	9-30	12	5		_	_	1.3	
	PELLA	III	1 A	40.2	(13)	0.3	43.4	(13)	2.2	10-1	11	4	10-9	11	4	1.7	1.8
	SPRITE	III	NONE	39.9	(16)	-0.1		-	-	10-1	13	7		_	_	1.7	-
	WILLIAMS 82	III	1K	39.0	(10)	-1.6		-	-	10-5	14	8		-	-	2.8	-
	WINCHESTER ZANE	III	1B,3	38.9 41.5	(7) (7)	-2.2	20 5	(7)	-	10-6	14	6		-	-	2.9	-
RIPRO	ZAINE	111	IAOIAE	41.5	(/)	0.4	39.5	(7)	0.6	10-2	10	3	10-11	12	4	2.1	2.0
	AP200	II	1 A	42.6	(16)	-0.3	43.4	(18)	1.1 H	9-23	2	-4	10-2	4	-3	2.2	2.2
	AP240	II	1 A	41.0	(15)	0.2	42.0	(8)	-1.3	9-27	8	1	10-6	6	0	1.7	1.9
	AP2190	II	1 A	40.9	(7)	-0.2 H	40.0	(7)	1.0	9-30	8	O	10-8	9	1	2.1	1.6
	AP3023	III	1A	41.1	(3)	0.7		-	-	10-3	1 1	5		-	-	2.5	-
	AP3132 HP20-20	III	NONE	40.8	(3)	0.4		-	-	10-2	10	4		-	-	1.9	-
	HP2530	II	1A 1A	43.4	(11)	-1.1	40.6	(8)	-2.9	9-23	3	- 4	10-4	5	-3	2.2	1.9
	EX 2021	II	1A	44.0	(14)	1.4	44.5 38.4	(9) (4)	1.6	9-28	7	1	10-8	7	2	2.1	2.4
GROW							50.4	(4)	1.7		-	-	10-8	6	- 1	-	2.1
	A0949	0	1C		_	-	32.9	(5)	-2.5		_	_	10-3	1	-6		1.6
	A 1525	I	1A		-	-	37.0	(9)	-0.9		-	_	10-1	1	-6	_	1.3
	A 1937	1	1 A	42.6	(16)	1.5	44.7	(19)	3.4 *	9-21	2	- 4	10-1	3	-4	2.0	2.0
	A2187	II	1A	40.9	(7)	-0.2	41.2	(4)	0.8	9-26	3	-4	10-6	5	-4	1.6	1.2
	A2522	II	NONE	41.7	(11)	0.8 H	44.1	(6)	2.3 *	9-29	8	1	10-8	7	2	2.5	2.6
LLAHAN	A2943 N	II	1A	43.8	(11)	2.9 *	42.5	(3)	-0.1	10-4	12	5	10-15	13	3	1.6	2.2
	1250 BRAND	II	NONE	41.0	(13)	1.1	44.1	(11)	2.9	9-30	11	4	10-11	12	6	2.0	4.6
	5300 BRAND	III	NONE	43.2	(7)	2.1	1	(11)	2.9	10-6	14	6	10-11	13	5	2.0	1.8
	5350 BRAND	III	NONE	42.6	(11)	1.7	42.1	(3)	-0.5	10-4	12	5	10-14	13	3	2.8	2.9
	6180X BRAND	I	NONE			_	42.0	(8)	3.1		_	-	10-2	2	-6	-	1.4
	6220X BRAND 6262X BRAND	II	1A	44.4	(=)	-	41.4	(7)	2.5 *		-	-	10-10	12	3	-	1.7
	7244X BRAND	II	1A NONE	41.4 43.9	(7) (3)	0.3	42.2	(7)	3.3 *	10-1	9		:10-11	12	3	1.8	1.8
	7260X BRAND	II	NONE	43.9	(3)	3.5 3.1	39.8 40.4	(4) (4)	3.0 3.7 *H	10-1 9-29	9	3	10-12 10-12	10	3	1.9	1.9
	7272X BRAND	II	NONE	43.3	(3)	2.9 H	37.2	(4)	0.4	10-1	9	3	10-12	10	3	1.1	1.7
JNTRYM					,	,,		(4)	0.7	.0	3	3	10-12	10	3	2.1	2.0
	FFR 112	II	NONE	40.2	(3)	-0.2	35.7	(4)	-1.0	9-28	6	0	10-10	9	2	1.4	1.6
	FFR 226	II	NONE	35.4	(5)	-2.6 *	33.5	(4)	-3.2	9-27	10	4	10-13	12	4	1.9	2.0
DVI 44	FFR 241	II	NONE	40.0	(3)	-0.4	37.0	(4)	0.3	9-30	8	2	10-12	10	3	1.8	1.6
RYLAN			NONE					(0-1									
	DSR-120 DSR-128	I	NONE 1C		_		41.7	(20)	-0.1 L		-	-	9-26	-2	-9	-	1.7
	DSR-128	I	1A		-	-	39.8	(8)	1.0		_	-	9-29	- 1	-9	-	1.2
	DSR-171	ī	NONE	42.8	(18)	0.9	43.1	(10)	0.0 1.3 H	9-23	4	-2	9-30	0	-8	2 4	1.7
	DSR-212	ΙÎ	NONE	39.2	(15)	-1.6	41.9	(12)	-1.0	9-23	6	0	10-3 10-7	5 7	-2	2.1 1.6	2.2
	DSR-255	II	1C	37.9	(7)	-3.2 *	35.4	(7)	-3.5 *	9-29	7	- 1	10-8	9	1	1.9	1.4
	DSR-287	II	NONE	42.3	(7)	1.2		-	_	10-4	12	4		-		1.9	1.7
	DSR-297	II	1C	40.4	(7)	-0.7		-	-	10-5	13	6		_	_	2.0	-
	DSR-317	III	NONE	40.5	(7)	-0.6		-	-	10-6	14	7		-	-	2.7	-
	DST-1103	I	NONE		-	-	37.0	(5)	1.6		-	-	10-1	- 1	-7	-	2.1
	DST-1207 DST-2203	I	1C NONE	27 6	(2)	-0.0.	35.9	(5)	0.4	40.0	-	-	10-4	2	-5	-	2.2
	DST-2203	II	NONE	37.6	(3)	-2.8 L	33.2	(4)	-3.5 L	10-2	10	4	10-12	11	4	1.4	1.5
	UUI 22U4	A A	HOME	33.3	(3)	-7.1	32.4	(4)	-4.3	10-2	10	4	10-13	12	4	1.4	1.7

STATISTICALLY SIGNIFICANT DEVIATION (P<.05)

H VARIETY EXHIBITS HIGHER THAN AVERAGE RESPONSE TO HIGHLY PRODUCTIVE ENVIRONMENTS. L VARIETY EXHIBITS LOWER THAN AVERAGE RESPONSE TO HIGHLY PRODUCTIVE ENVIRONMENTS.

TABLE 3. (Continued) Performance Summary for Varieties Entered in the Michigan Trials in 1986. Phytophthora Resistance Designations Denote the Following: Type 1A Resistant to Races 1, 2, and 10; Type 1B Resistant to Races 1 and 3-9; Type 1C Resistant to Races 1-3 and 6-10; Type 1K Resistant to Races 1-10; Type 3 Resistant to Races 1-5, 8, and 9; Type 6 Resistant to Races 1-4 and 10.

				YIELD	(BU/A)	) WITH D	EVIATIO	N FROM	MEAN				IVE TO				
			PHYT.	S	OUTHERN	V		CENTRAI			THERN			NFRA		LODGIN	G SCORE
BRAND	ENTRY	MG	RES. TYPE	YIELD	(N)	DEV.	YIELD		DEV.	DATE							CENTRA
		====	========					=====				===:		====	====	=======	
EKALB-	PFIZER CX174	I	NONE		_	-	39.4	(13)	0.5		-	-	10-5	7	0	-	1.7
	CX265	II	1C	40.7	(5)	0.2	38.6	(5)	-0.2	10-6	9	1	10-11	12	3	2.1	1.9
	CX283	II	NONE	42.3	(11)	1.4	45.4	(3)	2.8 L	10-1 10-5	10	3 7	10-13	12	2	1.7	2.3
DIEHL F	CX326	III	1C	38.4	(3)	-2.0		-		10-3	13	,					
JIEHL F.	EXP 101	I		45.6	(3)	5.2	42.2	(4)	5.4 L	9-25	3	- 3	10-6	4	-3	1.6	1.5
FUNK								( )		40.0	_	- 2	10-4	5	- 2	1.9	2.0
	G3145 BLEND	I	1A NONE	42.2	(3)	-0.0	40.6 38.8	(13)	1.8 *	10-8	5	- 2	10-2	2	-6	-	2.1
	G3180 G3232	II	NONE	42.7	(3)	2.3		-	-	10-3	11	5		-	-	2.6	-
	G3239 BLEND	II	NONE	42.3	(8)	0.8	42.3	(6)	0.6	10-4	12	4	10-9	8	3	2.4	2.0
	12283	1	NONE		-	-	35.2	(5)	-0.2		-	-	10-4	2	-5	-	1.6
GOLDEN			NONE	42.6	(5)	2.1	41.5	(7)	2.6 *	10-4	7	- 1	10-7	9	0	2.1	1.8
	H-1233 BRAND H-1265 BRAND	II	1B	42.0	-	-	37.3	(4)	0.6		-	_	10-12	10	3	-	2.1
	H-1285 BRAND	II	NONE	41.5	(5)	0.9	42.4	(7)	3.5	10-8	1 1	4	10-12	13	4	2.1	1.9
GREAT L	AKES HYBRIDS (				_	2	22.0	(0)	-4.1 *		_	_	10-2	2	-5		1.7
	GL 1434 BRAND GL 1900 BRAND	I	1 A 1 A		-	-	33.8 37.6	(9)	-0.3		_	-	10-8	7	o	-	1.7
	GL 1900 BRAND	I	1A	41.5	(3)	-0.7	41.4	(16)	1.0	10-5	2	-4	10-3	5	-2	2.2	2.0
	GL2634 BRAND	II	NONE	45.5	(16)	4.0 *	44.6	(13)	3.3 *H		10	4	10-7	9	2	2.0	2.0
	GL2908 BRAND	II	NONE	43.0	(11)	2.0	41.3	(3)	1.6	10-4	13	6	10-15	14	0	2.4	2.3
	XP1909 XP2206	II	1 A 1 A		_		40.4	(4)	3.7		_	_	10-13	12	4	-	2.0
	XP2478 BRAND	II	NONE	42.9	(3)	2.6	39.0	(4)	2.3	9-30	8	2	10-11	10	2	3.0	2.1
	XP2633 BRAND	II	NONE				35.4	(4)	-1.4	10-1	-	3	10-14	13	6	1.6	2.2
	XP2737 BRAND	II	NONE	42.4	(3)	2.0	36.7	(4)	0.0	10-1	9	3	10-12	10	3	1.0	2.2
JACQUES	J-201	II	1A	41.6	(3)	1.3	38.8	(4)	2.1 H	9-25	3	-3	10-6	5	-2	1.3	1.7
	J-231	II	1A	43.8	(11)	2.9 *	46.9	(3)	4.3	9-29	8	1	10-12	11	1	2.0	2.4
	E85092	I	1A		5 -	-	35.3	(5)	-0.1		-	-	10-2	0	-7	-	1.8
KING GR	KG60	0	1.4	39.3	(3)	-2.9	36.2	(13)	-2.6	9-27	-6	- 13	9-25	-4	- 11	1.2	1.7
	KG70	I	1A	43.2	(5)	-0.1	39.0	(18)	-1.8	9-27	- 1	-6	9-29	1	-6	1.7	1.7
	KG80	II	1 A		-	-	38.7	(7)	-0.2		_	_	10-5	6	-2 -3	-	2.3 1.7
	KG81	II	1C	44.9	(3)	2.3	40.1	(4)	3.4	10-9	8	- 2	10-6 10-7	8	1	2.2	2.2
LAKESID	KG90 E STATES	II	1.4	44.9	(3)	2.3	42.4	(11)	2.4	10 3	0	-					
LAKESIO	MILLLER BRAND	III	NONE	43.3	(7)	2.2		-	-	10-6	13	6		-	-	2.4	1.8
	15 BRAND	I	NONE		(-)	-	39.0	(5)	3.6	10-3	11	5	10-5	12	-4	1.8	1.6
	21 BRAND	II	NONE 1A	42.5	(3)	2.1	39.9	(4)	1.2	10-3	'-	_	10-12	10	3	-	2.0
	22 BRAND 24 BRAND	II	1A		-	-	40.0	(4)	2.8 H		-	-	10-11	10	2	-	1.8
	30 BRAND	III	NONE	37.5	(3)	-2.9		-	-	10-4	12	6		-	-	3.0	_
	36 BRAND	III	4.4	38.5	(3)	-1.8	35.0	(4)	-1.7	10-5	13	7	10-12	11	3	1.5	2.4
	106 BRAND 116	II	1 A 1 A		-	_	38.3	(5)	2.9 *		-	-	10-9	7	O	-	1.6
	125	Ī	1A	41.5	(3)	1.1		-	_	9-29	7	1		-	-	1.8	-
MAUMEE	VALLEY										_				_	2.5	_
	CALIBER	I	1.4	41.5	(11)	0.6		-		9-27 10-2	10	- 1 3		_	_	2.1	_
	ENTERPRISE KODIAK	II	NONE	39.2	(7) (7)	-1.9 0.1		-	-	10-5	13	5		-	-	2.9	-
	MV-2E1	II	1A	41.9	(11)	1.0		-	-	10-2	11	4		-	- 1	2.1	-
	WARRIOR	ΙI	1A	41.7	(7)	0.6		-	-	10-3	11	4		_	_	2.2 3.0	2
	WASHINGTON V	III	1A	40.6	(11)	-0.4		-	-	10-2	10	3				3.0	
NORTHRU	JP KING (NK) S15-50	I	1C		-	-	37.9	(9)	0.0		-	-	10-2	2	-6	-	1.7
	\$18-84	I	1B,3	43.0	(10)	2.6 *	44.1	(18)	3.4 *	9-24	3	-3	10-3		-2	1.6	1.8
	523-03	II	NONE	41.6	(11)	0.6	40.9	(8)	1.2	9-27 9-28	5	- 2	10-6 10-9		- 1	1.2	1.3
	523-12	II	NONE	47.1 45.6	(3)	6.7 1.7 *	40.1	(4) (8)	3.4	9-28	7	1	10-9			1.8	1.7
	\$2596 \$27-10	II	1 A 1 C	38.9	(7)	-2.2	38.7	(4)	-1.8	10-1	9	1	10-11		1	2.0	1.5
PIONEER													10-5		-2	-	1.7
	1981	I	1A			-	39.4	(9) (4)	1.5		-	-	10-5				1.3
	9251	II	1A NONE	43.2	(11)	2.3 *	39.2 44.2	(6)	2.4	9-29	8	0	10-7			1.5	1.6
	9271 9292	II	NONE	42.8	(11)	1.8	44.5	(6)	2.7	9-27	6	- 1	10-6			1.2	1.5
PRIDE								/					0.20	1	-6	_	1.8
	B152	I	1C, NONE	42 9	(5)	-2.1	39.2 40.6	(9) (11)	1.4 0.1 H	9-26	0	-3	9-30			1.3	1.9
	B203 B242	II	1C NONE	42.9	(7)	2.8 *	40.6	(11)	<u>-</u> 1 H	10-1	11	4		_	-	1.7	-
RUPP	JA74	• •							. =			_	40.	_	_ 4	4 6	4 7
	RS2300	II	1A	43.3	(18)	0.5	43.6	(17)	1.6	9-23	10	- 2 3	10-4	10		1.6	1.7
	RS2460P RS2544	III	NONE	44.7	(11)	3.8 *	41.1	(11)	1.1 H	10-2	14	7	10-9	-	-	2.4	
			INDINE	76.2	111				_	10-3		5		_		1.7	-

(CONT'D)

STATISTICALLY SIGNIFICANT DEVIATION (P<.05)
VARIETY EXHIBITS HIGHER THAN AVERAGE RESPONSE TO HIGHLY PRODUCTIVE ENVIRONMENTS.
VARIETY EXHIBITS LOWER THAN AVERAGE RESPONSE TO HIGHLY PRODUCTIVE ENVIRONMENTS.

TABLE 3. (Continued) Performance Summary for Varieties Entered in the Michigan Trials in 1986. Phytophthora Resistance Designations Denote the Following: Type 1A Resistant to Races 1, 2, and 10; Type 1B Resistant to Races 1 and 3-9; Type 1C Resistant to Races 1-3 and 6-10; Type 1K Resistant to Races 1-10; Type 3 Resistant to Races 1-5, 8, and 9; Type 6 Resistant to Races 1-4 and 10.

				YIELD	(BU/A	) WITH	DEVIATIO	N FROM	MEAN	MATUR	ITY	RELA	TIVE TO	CHE	CKS		
			PHYT. RES.	S	OUTHER	N		CENTRA	L	sou	THER	N	CE	NTRA	L	LODGI	NG SCORE
BRAND	ENTRY	MG	TYPE	YIELD	(N)	DEV.	YIELD	(N)	DEV.	DATE	H78	C79	DATE	H78	C79	SOUTH.	CENTRAL
SCOTT F	ARM					======				======	====	====		====	=====	=======	
	L 1808	I	1A		-	-	32.9	(5)	-2.5		_	_	10-6	4	-3		2.0
STINE	L2456	II	6	43.1	(7)	2.0		-	-10	10-1	9	1		-	-	2.7	-
	2510 BRAND	II	1.4	42.1	(11)	1.2	43.2	(3)	0.6	9-29	8	1	10-11	10	0	2.2	1.9
	2530 BRAND	II	1 A	42.1	(7)	1.0		-	-	10-4	12	5		-	_	2.2	-
	2710E BRAND	II	1A		-	-	40.8	(4)	4.1 *		-	-	10-12	10	3	-	1.9
TERRA	2820 BRAND	11	NONE		-	-	40.0	(4)	2.8		-	-	10-7	6	-2	-	2.1
	HURDLE BRAND	II	1 A		-	-	37.5	(4)	0.8		_	_	10-10	9	2	_	1.5
	OLYMPIAN BRAND	ΙI	NONE	39.7	(3)	-0.7		-	-	10-1	9	3		_	_	1.7	1.5
	RUNNER BRAND	I	1 A		-	-	33.4	(5)	-2.0		-	_	10-9	7	0	-	1.8
	SPRINT BRAND	II	NONE	41.7	(3)	1.3		_	-	10-3	11	5		_	_	1.7	-
VORIS																	
	V207	II	1 A	44.3	(15)	0.8	44.8	(19)	2.5 *	9-23	3	-3	10-4	5	-2	2.0	2.0
	V235	II	1 A	39.0	(3)	-1.4	35.6	(4)	-1.2	10-2	10	4	10-12	11	4	1.8	1.7
	V311	III	NONE	42.2	(11)	1.3	41.8	(8)	2.1	10-3	11	4	10-13	15	6	2.8	2.6

TABLE 4. Southern Michigan.

									LD	(BU/A)							A T U	H	L O D S
			ENTIR	E SOU EGION			OUTHE				DUTHWE			HTL			R	I	G C
			K	EGION		(LE	NAWEE	CU.	)	(ST.	JOSEPH	co.)	(11)	NGHA	M CO	1.)	I	G	I O
RAND		TRY	1986	AVG.	(N)	1986	AVG	(	N)	1006	AVG.	(N)	1000			(11)	T	H	NR
	=====				======	=====			====	1900	AVG.	=====	1986	D A	VG:.	(N)	Y	====	GE
UBLIC	RS	R 101 (I)	42 2*	46 4	(11)	40.0			( - \										
JBLIC		RDIN	41.5*			49.2			(6) (7)		* 42.6			6 * 4		(2)	- 1	30	1.5
JBLIC		DGSON 78	36.1	40 3	(26)	46.3		2 (		36.1				2 * 4		(3)		31	2.3
JBLIC	SI	BLEY	43.3*			49.1			(6)	31.6	31.7	(7)		5 4		(4)		30	1.6
JBLIC	WE	BER 84	37.5			37.6			(8)	31.6	33.8			3 * 3 * 4		(3)	-5 -4	29 32	2.1
JBLIC		COR (II)	39.2	41.8	(17)	46.2	50.	8 (	(7)	33.1	30.8	(4)	38.	A . A	0.9	(3)	4	26	
BLIC		ESON 80	26.3	38.1	(17)	30.3			7)	28.1			20.		6.6	(3)	5	38 27	3.6
BLIC		R 201	41.5*			47.6			9)		* 39.7		38.		6.0	(2)	3	31	2.2
BLIC		NTURY	40.2			53.4	* 52.	2 (	(8)	35.7	34.8		31.		1.4	(3)	4	34	1.9
BLIC	CE	NTURY 84	40.3	42.1	(9)	50.3	48.	6 (	4)	33.8	35.7		36.		0.5	(2)	3	32	1.4
BLIC		RSOY			(26)	44.7	47.	4 (1	11)	35.0	33.1	(6)	39 '	7 * 4	1 7	(5)	- 1	33	3.1
BLIC		RSOY 79	38.5			46.7		1 (1		31.4	30.3		37.3		3.5		9-28	34	3.1
BLIC		GIN	41.4*			51.3	51.	0 (	7)	35.5	39.2		37.3	-	2.3	(3)	2	27	1.7
BLIC	HA		42.7*			51.0	50.	8 (	5)	41.2	43.0		36.0			(2)	2	30	1.1
BLIC	HO	/T	40.6	48.1	(7)	52.5	53.	5 (	5)	39.6		-	29.6			-	4	22	1.2
BLIC		LER	38.5	39.5		49.3	45.		3)	32.5	32.4	(2)	33.7	7 4	1.4	(2)	1	31	1.8
BLIC	MI		36.7		(9)	46.7			4)	32.1	29.5		31.4		9.0	(2)	- 1	31	1.7
BLIC		BSOY	38.7			46.1			8)	30.9	31.8	(4)	39.2	* 4	7.0	(3)	-0	30	1.4
BLIC BLIC		STON	42.0*			50.6			4)	35.9		-	39.6	*		_	5	34	2.4
BLIC	VIC	CKERY	39.5	42.6	(18)	48.8	51.	5 (	8)	34.2	31.3	(4)	35.4	4	0.7	(3)	0	35	3.3
BLIC	WEL	LS II	37.4	40.7	(20)	44.8	46.	7 (	8)	30.8	32.5	(5)	36.7			(0)			
BLIC	CUM	BERLAND (III)			(13)	47.9	48.		4)	29.8	27.8		23.2		8.0	(3)	- 1	33	2.0
BLIC		ME 85	37.4			45.7	49.	- ,	9)	33.9	27.8	(4)	23.2		4.7	(3)	6	33	2.4
BLIC	HOE	BEIT	38.6			46.9	49.		5)	33.3	30.4	(5)	35.6		4.8	(3)	6	21	0.9
BLIC	PEL	LA	38.7			52.2	50.		4)	30.7	30.4		33.2		5.0	(3)	4	34	1.0
BLIC	SPR	ITE	40.3	39.9	(16)	51.5	51.	1 (	6)	30.9	28.9	(5)	38.5		1.9	(3)	7	26	4.6
BLIC	WIL	LIAMS 82	35.1	39.0	(10)	51.8			3)	31.6	34.7		21.9		1.3	(2)	8	36	1.8
								. ,				,		_	-	,	•	30	(CONT
				****	=====	=====		====	====	=====				====	===		=====		=====
	LSD	(.05)	6.22			6.79				4.22			8.9				2.3	2 6	0 90

STATISTICALLY SIGNIFICANT DEVIATION (P<.05) VARIETY EXHIBITS HIGHER THAN AVERAGE RESPONSE TO HIGHLY PRODUCTIVE ENVIRONMENTS. VARIETY EXHIBITS LOWER THAN AVERAGE RESPONSE TO HIGHLY PRODUCTIVE ENVIRONMENTS.

CHECK VARIETY USED TO CALCULATE DEVIATION FROM STANDARD MATURITY. NOT SIGNIFICANTLY DIFFERENT FROM HIGHEST YIELD WITHIN THAT COLUMN.

TABLE 4. (Continued) Southern Michigan.

			YIELD			M A T H U E	L 0 D S
		ENTIRE SOUTHERN REGION	SOUTHEAST (LENAWEE CO.)	SOUTHWEST (ST. JOSEPH CO.)	SOUTH CENTRAL (INGHAM CO.)	R I I G T H	G C I O N R
BRAND	ENTRY	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	Y T	GE
PUBLIC	WINCHESTER	34.9 38.9 (7)	46.2 47.8 (2)	31.4 31.9 (2)	27.0 39.4 (2)	7 34	2.6
PUBLIC	ZANE	39.9 41.5 (7)	50.8 49.7 (2)	37.2* 39.3 (2)	31.7 37.1 (2)	4 32	1.7
AGRIPRO	AP240	40.0 41.0 (15)	48.3 48.7 (5)	35.3 35.7 (4)	36.3 42.4 (3)	4 30	1.1
AGRIPRO	AP2190	39.8 40.9 (7)	52.4 52.2 (2)	33.8 35.8 (2)	33.3 42.7 (2)	1 29	1.7
AGRIPRO	AP3023	41.1*	57.6*	37.9*	27.7	5 35	2.5
AGRIPRO	AP3132	40.8	52.2	35.9	34.2	4 32	1.9
AGRIPRO	HP20-20	40.0 43.4 (11)	48.5 50.8 (5)	36.0 35.9 (2)	35.6 38.4 (2)	-2 32	2.0
AGRIPRO	HP2530	41.6* 44.0 (14)	49.8 50.7 (5)	34.5 36.1 (3)	40.6* 47.7 (3)	1 30	1.9
ASGROW	A1937	39.4 42.6 (16)	48.3 51.0 (6)	35.8 35.1 (4)	34.1 43.4 (3)	-4 33	2.1
ASGROW	A2187	40.8 40.9 (7)	49.3 46.9 (2)	38.1* 38.2 (2)	35.1 41.0 (2)	-3 31	1.4
ASGROW	A2522	41.8* 41.7 (11)	54.3* 52.7 (3)	33.4 35.5 (3)	37.8 45.2 (3)	2 34	2.3
ASGROW	A2943	41.2* 43.8 (11)	53.2* 52.0 (3)	36.6 40.4 (3)	33.9 42.5 (3)	7 34	1.3
CALLAHAN	1250	41.1* 41.0 (13)	54.8* 49.4 (4)	33.0 33.5 (4)	35.6 44.9 (3)	4 34	2.1
CALLAHAN CALLAHAN CALLAHAN CALLAHAN CALLAHAN	5300 5350 6262X 7244X 7260X	41.6* 43.2 (7) 38.8 42.6 (11) 38.7 41.4 (7) 43.9* 43.5*	59.6* 56.6 (2) 55.4* 54.9 (3) 49.5 51.1 (2) 54.0*	36.2 38.4 (2) 29.9 36.2 (3) 31.0 34.0 (2) 35.9 35.3	29.0 38.8 (2) 31.0 42.1 (3) 35.6 43.8 (2) 41.8*	7 33 6 36 4 33 3 33 1 27	2.5 2.9 1.8 1.9
CALLAHAN	7272X	43.3*	56.1*	36.0	37.8	3 30	2.1
COUNTRYMARK	FFR 112	40.2	48.9		35.4	0 32	1.4
COUNTRYMARK	FFR 226	38.4 35.4 (5)	47.8 44.6 (2)		34.2	5 36	2.3
COUNTRYMARK	FFR 241	40.0	50.8		34.8	2 34	1.8
DAIRYLAND	DSR-171	38.1 42.8 (18)	42.7 49.8 (8)		34.4 40.6 (3)	-2 33	2.3
DAIRYLAND	DSR-212	38.0 39.2 (15)	52.6 46.6 (5)	38.4* 35.1 (4)	23.1 38.0 (3)	2 29	1.3
DAIRYLAND	DSR-255	39.3 37.9 (7)	50.0 44.0 (2)	34.5 34.4 (2)	33.3 38.8 (2)	0 33	1.5
DAIRYLAND	DSR-287	39.7 42.3 (7)	50.3 48.8 (2)	32.9 39.4 (2)	36.0 42.9 (2)	6 32	1.5
DAIRYLAND	DSR-297	39.9 40.4 (7)	52.3 49.9 (2)	32.3 34.0 (2)	35.1 40.8 (2)	6 36	1.6
DAIRYLAND	DSR-317	36.9 40.5 (7)	51.3 52.4 (2)	36.9 39.9 (2)	22.6 30.2 (2)	8 39	2.3
DAIRYLAND DAIRYLAND DEKALB-PFIZER DEKALB-PFIZER DIEHL FIELDS	DST-2203 DST-2204 CX283 CX326 EXP 101	37.6 33.3 43.0* 42.3 (11) 38.4 45.6*	43.1 44.8 52.6 51.3 (3) 51.7 57.2*	34.6 32.4 35.8 35.4 (3) 34.7 37.2*	35.0 22.6 40.5* 45.4 (3) 28.7 42.4*	4 31 4 29 3 33 7 33 -3 30	1.4 1.4 2.7 1.7
FUNK	G3232	42.7*	53.8*	36.8 33.8 38.1 (2) 34.5 34.9 (4) 35.2 37.5 (3) 35.8	37.5	5 34	2.6
FUNK	G3239	41.9* 42.3 (8)	54.6* 49.4 (2)		37.4 43.3 (3)	5 34	2.3
GLH	GL2634	44.6* 45.5 (16)	57.9* 53.8 (6)		41.5* 46.0 (3)	4 33	1.8
GLH	GL2908	41.3* 43.0 (11)	54.8* 55.5 (3)		33.8 41.3 (3)	7 35	2.5
GLH	XP2478	42.9*	50.5		42.5*	2 32	3.0
GLH	XP2737	42.4*	52.5	35.5	39.2*	3 30	1.6
JACQUES	U-201	41.6*	51.1	36.3	37.5	-3 30	1.3
JACQUES	U-231	43.9* 43.8 (11)	54.5* 54.0 (3)	36.7 37.5 (3)	40.5* 46.9 (3)	3 32	1.5
LAKESIDE	21	42.5*	54.2*	38.8*	34.4	5 33	1.8
LAKESIDE	30	37.5	49.4	27.2	35.9	6 35	3.0
LAKESIDE		38.5	51.7	32.8	31.1	7 37	1.5
LAKESIDE		41.5*	50.4	30.5	43.5*	1 35	1.8
LAKESIDE		39.0 43.3 (7)	49.5 51.2 (2)	39.8* 44.5 (2)	27.6 37.2 (2)	7 33	2.3
MAUMEE VALLEY		41.3* 41.5 (11)	47.9 48.4 (3)	36.8 38.3 (3)	39.2* 44.8 (3)	-1 35	2.7
MAUMEE VALLEY		39.7 39.2 (7)	53.4* 48.9 (2)	35.3 35.5 (2)	30.5 34.8 (2)	3 32	1.6
MAUMEE VALLEY MAUMEE VALLEY MAUMEE VALLEY NK	MV-2E1 WARRIOR	38.2 41.2 (7) 39.8 41.9 (11) 40.0 41.7 (7) 33.2 40.6 (11) 41.9* 41.6 (11)	49.0 49.4 (2) 49.7 50.0 (3) 51.6 51.0 (2) 45.5 51.8 (3) 51.4 49.4 (3)	30.3 34.8 (2) 34.6 37.6 (3) 32.1 34.7 (2) 31.5 37.7 (3) 39.9* 40.8 (3)	35.3 42.2 (2) 35.0 42.7 (3) 36.4 42.0 (2) 22.6 36.8 (3) 34.5 40.3 (3)	5 36 4 33 5 33 6 36 -1 32	2.8 2.1 2.0 2.9 1.9
NK NK NK PIONEER PIONEER	\$23-12 \$2596 \$27-10 9271 9292	47.1* 41.3* 45.6 (16) 37.5 38.9 (7) 44.5* 43.2 (11) 41.0* 42.8 (11)	54.0* 51.8 53.3 (7) 46.0 46.2 (2) 53.4* 52.9 (3) 50.3 51.7 (3)	39.8* 37.4* 38.8 (3) 33.6 36.2 (2) 38.7* 39.7 (3) 32.1 38.3 (3)	47.5* 34.7 41.7 (3) 32.9 40.2 (2) 41.4* 46.5 (3) 40.6* 46.7 (3)	3 29 2 30 2 29 2 29	1.6 1.7 1.0 0.9
PRIDE	B242	42.4* 43.4 (7)	52.5 53.9 (2)	35.3 36.9 (2)	39.4* 44.4 (2)	5 35	1.7
RUPP	RS2300	38.9 43.3 (18)	47.6 51.6 (8)	33.5 33.1 (4)	35.6 44.1 (3)	-1 32	1.5
RUPP	RS2460P	42.8* 44.7 (11)	54.2* 55.7 (3)	38.0* 41.1 (3)	36.2 44.7 (3)	4 32	2.5
RUPP	RS2544	39.3 42.2 (7)	51.0 47.8 (2)	37.9* 43.1 (2)	29.1 36.2 (2)	7 37	2.1
RUPP	EX 26905	43.3*	53.5*	36.2	40.3*	5 34	1.7
	=======================================						(CONT'D
	100/ 051	6.22	6 70	4 22	8.90	2.3 2.	0.00

TABLE 4. (Continued) Southern Michigan.

						M A L
			YIELD	(BU/A)		T H O
						U E DS
		ENTIRE SOUTHERN	SOUTHEAST	SOUTHWEST	SOUTH CENTRAL	R I GC
		REGION	(LENAWEE CO.)	(ST. JOSEPH CO.)	(INGHAM CO.)	I G I O
						T H NR
BRAND	ENTRY	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	Y T GE
					.===========	
SCOTT	L2456	42.7* 43.1 (7)	50.7 49.2 (2)	35.0 36.1 (2)	42.5* 48.8 (2)	3 32 2.5
STINE	2510	39.6 42.1 (11)	51.1 53.2 (3)	31.6 37.3 (3)	36.1 43.2 (3)	2 26 1.7
STINE	2530	39.3 42.1 (7)	51.9 52.6 (2)	32.3 35.5 (2)	33.6 41.1 (2)	5 34 1.8
TERRA	OLYMPIAN	39.7	53.2*	35.8	30.1	3 30 1.7
TERRA	SPRINT	41.7*	52.2	37.7*	35.2	5 33 1.7
			02.2	37.7	33.2	5 33 1.7
VORIS	V207	41.5* 44.3 (15)	45.8 49.5 (7)	34.2 32.9 (3)	44.5* 48.4 (3)	-2 36 2.1
VORIS	V235	39.0	46.6	33.2	37.1	4 32 1.8
VORIS	V311	39.0 42.2 (11)	54.6* 51.3 (3)	29.4 36.0 (3)	33.0 43.4 (3)	5 34 2.5
=======================================					=======================================	
	LSD(.05)	6.22	6.79	4.22	8.90	2.3 2.6 0.80
	TEST MEAN	40.0	50.3	34.6	35.2	2.8 32.1 1.94
					00.2	2.0 32.1 1.94
	CV	9.7	7.9	7.1	14.5	5.1 25.7

TABLE 5. Central Michigan.

BRAND	ENTRY	ENTIRE CENTRAL REGION	SOUTH CENTRAL (INGHAM CO.)	YIELD (BU/A)  CENTRAL (SAGINAW CO.)  1986 AVG. (N)	EAST CENTRAL (SANILAC CO.)	EAST CENTRAL (ST. CLAIR CO.)	U R I	L H O S I G C G I O H N R T G E
			=======================================			THE STREET STREET		
PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC	DASSEL (O) DAWSON EVANS BSR 101 (I) HARDIN	28.2 36.3 (7) 36.3 40.5 (19) 31.6 36.8 (31) 39.1* 41.4 (13) 38.2* 45.2 (22)	39.6* 44.0 (2) 40.2* 42.7 (3)	31.5 43.4 (2) 30.6 39.3 (7) 29.5 37.5 (14) 31.4 43.0 (6) 39.1 48.7 (9)	26.7 26.4 (2) 38.5* 41.5 (5) 32.0 36.2 (9) 41.3* 40.1 (3) 37.8 44.8 (7)	26.2 26.4 (2) 39.7 41.5 (5) 33.2 36.2 (9) 44.2* 40.1 (3) 35.6 44.8 (7)	-8 -7 1	25 1.2 28 1.8 27 1.6 32 1.8 32 2.2
PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC	HODGSON 78 SIBLEY WEBER 84 AMCOR (II) BEESON 80	29.4 41.3 (33) 36.5 40.8 (10) 37.3 38.8 (15) 38.4* 42.3 (17) 29.1 39.2 (19)	30.5 41.9 (4) 47.3* 43.3* 44.1 (3) 38.4 40.9 (3) 20.4 36.6 (3)	28.0 41.3 (15) 28.3 43.0 (6) 27.3 39.9 (6) 32.3 42.5 (8) 32.3 43.3 (9)	28.9 41.9 (10) 36.3 35.2 (2) 39.5* 36.3 (4) 40.0* 42.9 (6) 31.1 35.2 (7)	30.1 41.9 (10) 34.2 35.2 (2) 39.0 36.3 (4) 43.0* 42.9 (6) 32.4 35.2 (7)	-8 -5 4	29 2.0 30 2.1 33 2.4 36 2.7 28 1.7
PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC +	BSR 201 CENTURY CENTURY 84 CORSOY CORSOY 79	35.4 42.2 (12) 36.1 42.3 (20) 39.0* 41.4 (9) 36.2 39.4 (29) 36.3 43.4 (30)	38.2 46.0 (2) 31.5 41.4 (3) 36.7 40.5 (2) 39.7* 41.7 (5) 37.3 43.5 (4)	22.2 42.1 (7) 29.9 43.3 (10) 36.6 42.2 (4) 26.0 40.2 (14) 29.0 43.9 (14)	39.6* 39.9 (3) 39.2* 41.3 (7) 42.3* 41.1 (3) 39.3* 36.6 (8) 34.5 44.7 (9)	41.5 39.9 (3) 43.9* 41.3 (7) 40.3 41.1 (3) 39.9 36.6 (8) 44.2* 44.7 (9)	4 - 1	32 2.5 32 1.7 32 1.5 34 2.5 35 2.4
PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC	ELGIN HACK HOYT KELLER MIAMI	37.3 43.8 (16) 39.2* 41.7 (10) 34.0 39.6 (8) 34.6 40.0 (8) 33.3 38.5 (9)	29.6 33.7 41.4 (2)	30.9 46.6 (8) 37.4 42.1 (5) 28.4 41.8 (5) 29.2 40.0 (3) 25.8 39.3 (4)	41.0* 42.2 (4) 44.5* 41.2 (3) 36.3 39.0 (2) 36.9 39.1 (3) 35.1 37.1 (3)	40.0 42.2 (4) 38.9 41.2 (3) 41.7 39.0 (2) 38.7 39.1 (3) 40.8 37.1 (3)	2 2 3	26 1.8 30 1.5 27 1.9 30 1.8 31 1.6
PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC	NEBSOY PRESTON VICKERY WELLS II PELLA (III)	36.6 40.6 (20) 36.4 38.5 (7) 36.2 42.1 (21) 33.9 40.2 (22) 37.4 43.4 (13)	39.6* 35.4 40.7 (3) 36.7 40.8 (3)	34.6 42.2 (10) 38.4 40.6 (4) 31.3 42.6 (11) 31.9 42.7 (11) 29.7 39.3 (5)	38.7* 35.6 (7) 38.4* 33.7 (2) 41.3* 41.8 (7) 34.1 36.4 (8) 40.6* 46.7 (5)	33.9 35.6 (7) 29.0 33.7 (2) 36.7 41.8 (7) 32.9 36.4 (8) 45.9* 46.7 (5)	4 0 -1	29 1.8 33 2.1 34 2.9 32 1.6 33 1.8

(CONT'D) 2.4 2.8 0.55 LSD(.05) 5.71 8.90 6.49 6.96 10.65 2.4

CHECK VARIETY USED TO CALCULATE DEVIATION FROM STANDARD MATURITY. NOT SIGNIFICANTLY DIFFERENT FROM HIGHEST YIELD WITHIN THAT COLUMN.

CHECK VARIETY USED TO CALCULATE DEVIATION FROM STANDARD MATURITY. NOT SIGNIFICANTLY DIFFERENT FROM HIGHEST YIELD IN THAT COLUMN.

TABLE 5. (Continued) Central Michigan.

			YIELD (BU/A)		M A T	H E	L O D S
		ENTIRE CENTRAL REGION		T CENTRAL CLAIR CO.)	R	I G H	G C I O N R
BRAND	ENTRY	1986 AVG. (N)	1986 AVG. (N) 1986 AVG. (N) 1986 AVG. (N) 1986	AVG. (N)		T	G E
PUBLIC AGRIPRO AGRIPRO AGRIPRO ASGROW	ZANE AP200 AP2190 EX 2021 A0949	37.1 39.5 (7) 34.0 43.4 (18) 35.6 40.0 (7) 38.4* 34.0 32.9 (5)	31.7 37.1 (2) 34.6 40.4 (2) 41.6* 40.5 (3) 40.5 35.7 42.5 (3) 28.4 45.7 (9) 40.2* 40.3 (6) 31.5 33.3 42.7 (2) 33.3 38.0 (2) 42.1* 39.5 (3) 33.8 36.9 32.3 39.7* 42.2 (2) 44.7* 35.8 333.7 39.0* 33.2 (2) 27.4	40.5 (3) 40.3 (6) 39.5 (3) * 42.2 (2) 33.2 (2)	5 -4 1 -1	32 31 30 33 28	1.9 2.0 1.7 2.1
ASGROW ASGROW CALLAHAN CALLAHAN CALLAHAN	A1525 A1937 1250 6180X 6220X	36.4 37.0 (9) 37.1 44.7 (19) 41.5* 44.1 (11) 41.0* 42.0 (8) 39.1* 41.4 (7)	41.9* 42.4 (2) 37.8 44.4 (2) 36.9 40.9 (3) 47.4*	34.0 (3) 45.1 (6) * 43.9 (4) * 40.9 (3) * 40.1 (3)	-5 -4 5 -4 2	29 31 33 30 33	1.5 2.1 1.8 1.7
CALLAHAN CALLAHAN CALLAHAN CALLAHAN COUNTRYMARK	6262X 7244X 7260X 7272X FFR 112	39.3* 42.2 (7) 39.8* 40.4* 37.2 35.7	41.8* 29.3 40.4* 44.0 (2) 47.6* 40.1* 33.0 42.5* 44.3 (2) 46.1*	* 43.1 (3) * 44.0 (2) * 44.3 (2) * 40.6 (2) 37.8 (2)	5 3 3 2	31 32 29 33 29	1.9 1.7 2.0 1.6
COUNTRYMARK COUNTRYMARK DAIRYLAND DAIRYLAND DAIRYLAND	FFR 226 FFR 241 DSR-120 DSR-128 DSR-135	33.5 37.0 35.3 41.7 (20) 38.3* 39.8 (8) 34.4 37.1 (10)	34.2      -     25.6      -     39.6*     37.2     (2)     34.7       34.8      -     31.0      -     40.6*     41.2     (2)     41.7       35.3     43.0     (3)     28.9     42.6     (8)     37.6     41.1     (6)     39.4       37.5     42.7     (2)     33.9     36.6     (2)     41.7*     39.4     (3)     40.0       37.4     44.6     (2)     29.7     34.8     (2)     32.2     35.9     (3)     38.1	39.4 (3)	5 -7 -8 -6	36 34 28 28 28	2.0 1.7 2.1 1.3 2.0
DAIRYLAND DAIRYLAND DAIRYLAND DAIRYLAND DAIRYLAND	DSR-171 DSR-255 DST-1103 DST-1207 DST-2203	35.5 43.1 (21) 32.6 35.4 (7) 39.2* 37.0 (5) 37.2 35.9 (5) 33.2	34.4     40.6     (3)     33.2     45.3     (9)     36.1     43.4     (6)     38.2       33.3     38.8     (2)     25.4     30.8     (2)     39.3*     36.2     (3)     32.4       40.4*     -     -     28.4     -     -     39.0*     44.0     (2)     49.1*       41.6*     -     -     33.0     -     -     35.9     37.1     (2)     38.3       35.0     -     -     33.2     -     -     33.5     32.4     (2)     31.2	36.2 (3) * 44.0 (2) 37.1 (2)	- 1 1 - 7 - 5 4	34 31 29 28 28	2.0 1.8 2.2 2.2 1.5
DAIRYLAND DEKALB-PFIZER DEKALB-PFIZER DIEHL FIELDS FUNK	DST-2204 CX174 CX265 EXP 101 G3145	32.4 36.4 39.4 (13) 37.1 38.6 (5) 42.2* 38.0* 40.6 (13)	22.6      -     23.9      -     40.6*     41.6     (2)     42.5       35.1     42.5     (3)     37.7     41.1     (4)     36.7     36.6     (4)     36.2       35.1     39.8     (2)     36.2      -     34.8     38.6     (2)     42.4       42.4*      -     46.5*      -     42.7*     39.9     (2)     37.1       37.1     42.2     (3)     32.2     41.8     (4)     42.4*     39.7     (4)     40.2	38.6 (2) 39.9 (2)	5 0 4 -3 -2	29 30 33 31 30	1.7 1.6 1.7 1.5 2.2
FUNK FUNK GOLDEN HARVEST GOLDEN HARVEST GOLDEN HARVEST	H-1265	38.1* 38.8 (8) 35.9 35.2 (5) 39.4* 41.5 (7) 37.3 39.9* 42.4 (7)	38.4 37.2 34.7 34.0 (2) 33.4 41.7* 44.2 (2) 33.0 38.2 (2) 38.8* 41.9 (3) 44.1 36.9 30.6 35.9 40.8 (2) 45.8	* 39.0 (3) 34.0 (2) * 41.9 (3) * 40.8 (2) * 45.7 (3)	-5 -5 1 3	28 27 31 31 33	2.2 1.6 1.9 2.1 2.0
GLH GLH GLH GLH GLH	GL 1434 GL 1900 GL 1937 GL 2634 XP 1909	34.0 33.8 (9) 35.1 37.6 (9) 36.4 41.4 (16) 38.6* 44.6 (13) 38.3*		35.8 (3)		32 27 31 33 31	1.8 1.9 1.9 1.8 2.2
GLH GLH GLH JACQUES	XP2206 XP2478 XP2633 XP2737 J-201	40.4* 39.0* 35.4 36.7 38.8*	42.5* 28.5 40.5* 42.6 (2) 44.6 29.9 30.9 41.4* 40.3 (2) 39.2 39.2* 28.5 34.8 40.0 (2) 44.3	* 44.8 (2) * 42.6 (2) 40.3 (2) * 40.0 (2) * 44.0 (2)	4 2 6 3 -3	37 33 34 31 32	2.1 2.1 2.2 2.2 1.7
JACQUES KING GRAIN KING GRAIN KING GRAIN KING GRAIN	E85092 KG60 KG70 KG80 KG81	36.8 35.3 (5) 36.8 36.2 (13) 35.5 39.0 (18) 38.2* 38.7 (7) 40.1*		34.7 (4)	-8	31 26 33 33 30	1.9 1.7 2.4 2.3
KING GRAIN LAKESIDE LAKESIDE LAKESIDE LAKESIDE	KG90 15 21 22 24	38.7* 42.4 (11) 40.7* 39.0 (5) 39.9* 38.0* 39.6*	42.2* 39.0 43.5* 40.8 (2) 38.1 34.4 28.8 43.3* 48.2 (2) 53.2 30.8 33.5 36.9 43.8 (2) 50.2	* 40.7 (4) 40.8 (2) * 48.2 (2) * 43.8 (2) * 44.1 (2)	1 -3 4 3 2	35 31 32 33 31	1.9 1.6 1.6 2.1 1.8
LAKESIDE LAKESIDE NK NK NK	106 116 S15-50 S18-84 S23-03	35.0 39.5* 38.3 (5) 38.8* 37.9 (9) 36.8 44.1 (18) 38.6* 40.9 (8)	37.3 33.6 42.2* 43.5 (2) 44.8 40.6* 43.2 (2) 37.1 36.4 (2) 39.9* 37.9 (3) 37.4 41.2* 42.8 (3) 33.3 45.2 (6) 35.4 44.8 (6) 37.3	36.8 (2) * 43.5 (2) 37.9 (3) 44.8 (6) * 42.9 (3)	-2	32 32 33 30 33	2.4 1.4 2.0 1.8 1.8
NK PIONEER PIONEER PRIDE PRIDE	S23-12 1981 9251 B152 B203	40.1* 37.9* 39.4 (9) 39.2* 38.1* 39.2 (9) 34.4 40.6 (11)	39.6* 44.8 (2) 34.5 38.2 (2) 38.5* 39.8 (3) 39.1 35.3 42.3* 43.6 (2) 35.1 41.7 (3) 33.3 36.3 (3) 38.6	* 43.9 (2)		33 31 29 27 27	1.3 1.7 1.3 1.4
RUPP RUPP	RS2300 RS2460P	37.0 43.6 (17) 37.6* 41.1 (11)		41.4 (6) * 37.4 (4)		34 32	1.8

(CONT'D) \* NOT SIGNIFICANTLY DIFFERENT FROM HIGHEST YIELD IN THAT COLUMN.

TABLE 5. (Continued) Central Michigan.

							M	
							A	L
				YIELD (BU/A)			T H C	0
							UEC	DS
		ENTIRE CENTRAL	SOUTH CENTRAL	CENTRAL	EAST CENTRAL	EAST CENTRAL	RIG	GC
		REGION	(INGHAM CO.)	(SAGINAW CO.)	(SANILAC CO.)	(ST. CLAIR CO.)	I G J	I O
							TH	NR
BRAND	ENTRY	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	1986 AVG. (N)	YTC	GE
SCOTT	L 1808	34.0 32.9 (5)	31.5	20.0	20 6. 25 6 (2)			
				30.9	39.6* 36.8 (2)	33.9 36.8 (2)		2.1
STINE	2710E	1010	40.7*	35.4	44.5* 43.6 (2)	42.7* 43.6 (2)		1.9
STINE	2820	39.6*	43.0*	35.2	37.6 40.0 (2)	42.4 40.0 (2)	-2 34 2	2.1
TERRA	HURDLE	37.5*	37.6	36.0	39.6* 38.2 (2)	36.8 38.2 (2)	2 31 1	1.5
TERRA	RUNNER	34.7 33.4 (5)	38.3	23.4	36.7 38.4 (2)	40.2 38.4 (2)		2.0
VORIS	V207	39.5* 44.8 (19)	44.5* 48.4 (3)	31.6 45.1 (9)	36.4 42.8 (7)	45.4* 42.8 (7)		1.7
VORIS					40.7* 37.0 (2)	33.2 37.0 (2)		1.7
	V235		37.1					2.5
VORIS	V311	37.5* 41.8 (8)	33.0 43.4 (3)	27.5 37.6 (2)	43.3* 43.0 (3)	46.2* 43.0 (3)	1 34 2	2.5
			============					
	LSD(.05)	5.71	8.90	6.49	6.96	10.65	2.4 2.8 0	0.55
	TEST MEAN	36.9	36.11	32.01	38.50	40.26	31.0 1	1 00
	ILSI MEMN	30.5	30,11	32.01	30.50	40.26	31.0	1.88
	CV	11.2	14.5	11.8	10.5	15.4	6.0 2	21.1

<sup>\*</sup> NOT SIGNIFICANTLY DIFFERENT FROM HIGHEST YIELD IN THAT COLUMN.

TABLE 6. Saginaw Bay Area (Huron Co.).

		١	/IELD		MATUR	ITY		
								LODGING
BRAND	ENTRY	1985	AVG.	(N)	DATE	DEV	HEIGHT	SCORE
					======			
PUBLIC	DASSEL	23.9	38.3	(3)	10-2	-3	24	1.6
PUBLIC	DAWSON	32.4	40.2	(5)	9-25	-10	31	2.2
PUBLIC	EVANS	29.0	35.0	(4)	9-27	-8	30	1.8
PUBLIC	OZZIE	28.0	34.9	(4)	9-26	-8	29	1.3
PUBLIC	SIMPSON	34.4	39.2	(4)	9-28	-7	28	1.6
	32			( , ,	0 20	•		
PUBLIC	BSR 101	29.4	36.2	(2)	10-7	3	30	1.8
PUBLIC	HARDIN	28.0	37.8	(3)	10-5	1	29	2.0
	+ HODGSON 78	24.8	39.5	(4)	10-5	10-5	27	1.9
PUBLIC	SIBLEY	31.9		-	10-5	0	34	2.5
PUBLIC	WEBER 84	28.2	32.4	(2)	10-6	1	38	2.2
FOBETO	WEBER 84	20.2	32.4	(2)	10-0		36	2.2
PUBLIC	CORSOY 79	30.6	37.2	(3)	10-9	4	38	2.3
PUBLIC	ELGIN	33.1	37.2	(3)	10-9	3	28	2.3
ASGROW	A0949	28.6		_	10-7	-3		
ASGROW	A 1525					_	36	1.2
ASGROW		30.8	35.0	(2)	10-5	1	31	1.6
ASGROW	A 1937	31.8	43.5	(3)	10-3	-2	29	2.1
DAIRYLAND	DSR-120	33.6	39.3	(3)	9-29	-6	30	1.9
DAIRYLAND	DSR-128	32.5	35.0	(3)	10-1	-4	29	0.8
DAIRYLAND	DSR-135	29.7	35.0	(3)	9-30	-5	33	2.0
DAIRYLAND	DSR-171	28.4	38.3	(3)	10-6	2	35	2.3
DAIRYLAND	DST-1103	28.3		_	9-30	-5	29	2.1
		25.0			0 00		20	2
DAIRYLAND	DST-1207	30.5		-	10-5	0	32	2.3
DEKALB-PFIZER	CX 174	31.4	36.7	(2)	10-7	3	31	1.5
FUNK	G3145	33.0	38.0	(2)	10-7	2	35	2.3
FUNK	G3180	32.3		-	10-4	0	30	2.0
FUNK	12283	32.5		_	10-6	1	28	1.7
		02.0						
GLH	GL 1434	28.0	30.6	(2)	10-5	1	35	2.3
GLH	GL 1900	31.4	34.5	(2)	10-8	3	27	2.0
GLH	GL 1937		38.5	(3)	10-6	1	29	2.0
JACQUES	E85092	29.3		-	10-1	-3	33	1.4
KING GRAIN	KG60	30.4	31.6	(2)	9-28	-6	24	1.3
		50.4	51.0	(=/	5 20	0	2-	1.0
								(CONT'D)
	LCD( OE)							
	LSD(.05)	NS				3.4	4.9	0.99
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<sup>+</sup> CHECK VARIETY USED TO CALCULATE DEVIATION FROM STANDARD MATURITY.

TABLE 6. (Continued) Saginaw Bay Area (Huron Co.).

BRAND	ENTRY	1985	YIELD AVG.	(N)	MATUR DATE	ITY DEV	HEIGHT	LODGING SCORE
KING GRAIN LAKESIDE LAKESIDE NK NK	KG7O 15 116 S15-50 S18-84	31.1 32.2 33.8 32.2 34.2	37.3  34.2 41.9	(3) - (2) (3)	10-4 10-4 10-8 10-6 10-7	- 1 - 1 3 1	36 37 35 35 34	2.3 2.7 2.5 1.7 2.7
PIONEER PRIDE SCOTT TERRA	1981 B152 L1808 RUNNER	27.8 31.5 28.7 28.4	34.6	(7) - - -	10-8 10-4 10-8	3 -1 -1 3	32 32 28 29	2.1 1.7 1.9 1.3
	LSD(.05) TEST MEAN CV	NS 30.35	,		10-3	3.4 -1.4 5.5	4.9 30.8 8.6	0.99 1.86 28.7
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<sup>+</sup> CHECK VARIETY USED TO CALCULATE DEVIATION FROM STANDARD MATURITY.

TABLE 7. Upper Peninsula (Alger County).

		Yield (Bu/A)					Lodging
Brand	Entry	1985	Avg.	(N)	Maturity	Height	Score
PUBLIC	BICENTENNIAL (00)	27.3*	28.7	(2)	+5	18	1.5
PUBLIC	CHICO (0)	11.5	_	_	+25	19	1.6
PUBLIC	CLAY (0)	15.8	17.0	(3)	+12	15	1.8
PUBLIC	MAPLE AMBER (00)	26.0*	31.0	(3)	-1	17	1.0
<b>PUBLIC</b>	MAPLE RIDGE (00)	22.3	22.9	(2)	-3	15	1.0
PUBLIC	MCCALL (00)	26.0*	27.0	(3)	0	16	1.1
	LSD (.05)	3.3					
	TEST MEAN	21.5					

<sup>\*</sup>Not significantly different from highest yield in that column.

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