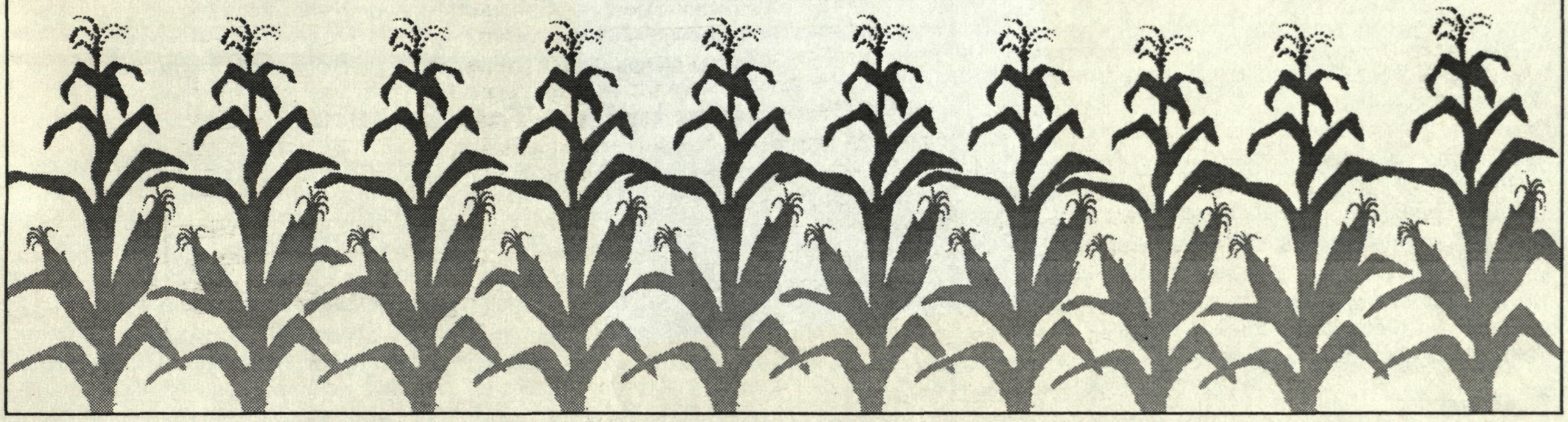
Michigan Corn Production Hybrids Compared
Michigan State University Extension Service
Keith Dysinger, Mervin Chamberlain, R.H. Leep, Dale D. Harpstead, Jim Lempke, Michael Allan, Crop and Soil Science, David Main, Animal Science
Issued January 1995
16 pages

Extension Bulletin E-431 January 1995

CORN HYBRIDS COMPARED
in the 1994 season

By:
Keith Dysinger, Dale D. Harpstead, James Lempke,
and
Michael Allen, and David Main



Hybrid corn trials are conducted each year by the Department of Crop and Soil Sciences, Michigan Agricultural Experiment Station, in cooperation with MSU Extension, seed corn companies, and farmers.

Many hybrids are offered for sale in Michigan. They differ in yield capacity, maturity, lodging resistance, and other characteristics. Choosing corn hybrids that most nearly match the management practices and local environment is an important part of profitable corn production. By planting the hybrids best suited to the individual farm location, a grower can obtain superior yields with little or no increase in overall production costs. Seed of hybrids with the best performance records in Michigan will generally cost no more than seed of hybrids with lower performance ratings.

The highest yielding hybrids in the 1994 trials produced 35 bushels more per acre than the average of 444 hybrids tested (Table A) and 89 bushels more than the lowest yielding hybrids. Eleven trial locations containing 20 tests were harvested for grain yield. Average yield of all hybrids grown in Zone 1 was 198, Zone 2 was 187, Zone 3 was 170, and Zone 4 was 161. The average moisture for the early maturity hybrid group was 4 percent less than the late hybrids in Zone 1 and Zone 3 and 5 percent in Zone 2. Stalk breakage averaged 8 percent for the hybrids with the highest amount of stalk lodging, 2 percent for the average and 0 percent for the lowest (Table A).

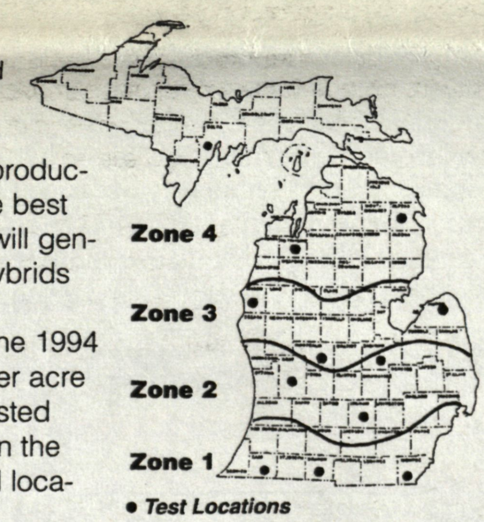


Table A

Average, Highest and Lowest Grain Yield, Moisture Content, Test Weight and Stalk Lodging at 11 Locations in 1994

County - Location	No. of Hybrids	Bushels per Acre			Percent Moisture			Test Weight			Percent Lodging		
		Ave.	High	Low	Ave.	High	Low	Ave.	High	Low	Ave.	High	Low
Monroe - Early	73	196	244	148	19	23	16	59	63	55	1	5	0
Late	75	212	251	147	22	28	20	58	62	55	1	2	0
Branch - Early	73	196	220	156	21	25	17	55	59	52	1	3	0
Late	75	204	236	165	25	29	22	55	59	53	1	2	0
Cass - Early	73	181	213	137	20	26	15	56	60	52	1	7	0
Late	74	197	233	157	24	31	20	54	58	52	1	2	0
Early		**191**	**226**	**147**	**20**	**25**	**16**	**57**	**61**	**53**	**1**	**5**	**0**
- Late Averages	**Zone 1**	**204**	**240**	**156**	**24**	**29**	**21**	**56**	**60**	**53**	**1**	**2**	**0**
Kent - Early	70	202	234	155	20	25	16	58	62	54	2	7	0
Late	70	212	247	170	25	30	22	55	58	53	2	5	0
Ingham - Early	70	148	185	106	22	27	18	53	56	50	3	9	0
Late	70	153	195	114	27	35	21	52	55	49	2	6	0
Saginaw - Early	70	196	219	150	21	27	17	57	61	55	1	4	0
Late	70	209	241	168	25	33	21	55	58	52	1	3	0
Early		**182**	**213**	**137**	**21**	**26**	**17**	**56**	**60**	**53**	**2**	**7**	**0**
- Late Averages	**Zone 2**	**191**	**228**	**151**	**26**	**33**	**21**	**54**	**57**	**51**	**2**	**5**	**0**
Huron - Early	66	126	149	100	17	21	15	57	61	53	3	10	0
Late	43	139	160	106	19	25	17	55	57	52	3	8	0
Montcalm - Early	66	207	242	94	23	31	19	54	59	53	1	5	0
Late	43	214	258	136	28	35	24	55	58	53	1	3	0
Mason - Early	66	168	208	97	20	25	16	57	60	54	2	6	0
Late	43	172	228	115	24	30	20	55	58	53	2	5	0
Early		**167**	**200**	**97**	**20**	**26**	**17**	**56**	**60**	**53**	**2**	**7**	**0**
- Late Averages	**Zone 3**	**175**	**215**	**119**	**24**	**30**	**20**	**55**	**58**	**53**	**2**	**5**	**0**
Alpena	47	170	217	58	20	25	17	57	61	52	4	50	0
Grand Traverse	47	152	189	109	31	38	25	54	57	52	4	8	1
Average Zone 4		**161**	**203**	**84**	**26**	**31**	**21**	**55**	**59**	**52**	**4**	**29**	**1**
Average-All Zones		**183**	**218**	**129**	**23**	**28**	**19**	**56**	**59**	**53**	**2**	**8**	**0**

Entries

All seed companies are invited to enter hybrids in the trials each year. A fee is charged to cover some of the direct expenses.

Table 7 presents a list of all hybrids planted in the 1994 trials. At the 13 locations, 297 hybrids from 37 seed companies were tested for either grain or silage as 1463 entries. Company names used in association with hybrid numbers refer to the brand. The numbers are the companies' designations.

Methods

Three locations have been identified in each of four maturity zones. These zones are based on growing degree days established from long-term weather records. Hybrids to be tested in each zone are entered in all locations representing that zone. Hybrids tested at each location are assembled into an early and late group according to maturity ratings provided by the seed companies.

Two-row plots are used. Plots are 22 feet long with a 30-inch row spacing. At most locations planting rates are set at 28,300 seeds per acre and thinned to a uniform stand at each location. High yielding, irrigated plots in Cass and Montcalm counties were planted at 31,000. The remaining trials in Mason County and all Zone 4 trials are planted at 26,400 plants per acre. Thinning was completed at the 12–18 inch stage of plant height.

The field research layout is a four-replication randomized complete block design. This means that each hybrid entry is measured in four separate locations in each field. The hybrids performance from the four plots is averaged together to report the values shown.

All hybrids were grown under similar conditions at each location. They are grown in farmers' fields with equal fertilizer, population, date of planting, and other management practices. Trials in Cass, Montcalm, and Mason counties were irrigated.

From seed packaging through harvest and data processing, each hybrid is identified only by a code number to assure that an unbiased estimate is made of each hybrid's potential. The code is deciphered after the data have been processed.

Stands are counted and thinned in June and July prior to tasseling.

Revised 1:95-TCM-IG-Price 50 cents, single copy free to Michigan residents.

File 22.13 (Field Crops-Corn)

Lodging measurements are made at harvest counting all plants broken below the ear. Plots are harvested mechanically for both grain and silage. Moisture content and field weight were determined from shelled grain samples collected in automated test equipment mounted on a plot picker– sheller. In 1994 the data collection equipment was automated, further making it possible to measure test weight on each plot. Test weights are reported at harvest moisture. Grain yields are reported at a standard 15.5 percent moisture. Silage yield estimates are based on an air–dried sample. Further evaluation by means of an in–vitro silage digestibility analysis was conducted by the Department of Animal Science.

Growing Conditions

All yield trials were planted between April 23 and May 13. Planting was timely. The monthly weather data for each test location is shown in Table B. The 1994 growing season was very favorable for corn grain production. Growing degree day patterns were superior to those recorded in 1993 and significantly warmer than the disastrous 1992 season.

The most apparent weather related problems in this year's corn production was an extended dry period in July in southeast Michigan and excess rainfall in August and September in the Thumb area.

In general fall weather conditions were excellent for the maturity of adapted corn hybrids. Dry–down in the field progressed normally and greatly facilitated harvest. Under most conditions the grain moisture at harvest was lower than normally would be expected.

Harvest was completed between October 11 and November 11. In 1994 Michigan farmers grew an estimated 2,150,000 acres of corn for grain with a state average of 117 bushels, an all–time record yield for Michigan. The previous record of 115 bushels per acre was set in 1990. Total corn production is estimated at more than 250 million bushels, up 6 percent from 1993. Silage acreage was estimated at 300,000 acres with yields averaging about 8 tons per acre.

Silage

Six locations containing nine tests were harvested for silage. The 47 hybrids entered in Zone 4 were only harvested as silage in Delta county.

Trials conducted in Kent, Ingham, and Huron counties contain two maturity groups with yield data presented in Table 5. Additional silage trials were conducted in Alpena and Missaukee counties in 1994 (Table 6). The results obtained from the 1994 silage digestibility trials are also presented in these same tables. This is the fourth year that digestibility analyses have been made.

Chopped silage (fodder plus grain) samples were weighed. A representative sample collected for use in determining moisture content (air dried) was finely ground with sub samples taken for in–vitro analyses.

Results of four analyses are presented. They are:

1. **DMD=Dry matter digestibility**. This is a measure of energy available from the corn forage. The higher the DMD, the greater the energy content. It is determined by a laboratory method which incubates a sample of the corn forage with microbes from the rumen of a cow. Thirty hours is used to represent the average retention time of feed in the rumen. Differences among hybrids in DMD are approximately equal to difference in total digestible nutrients of TDN. A high DMD is desirable.
2. **FD=Fiber digestibility.** This is a measure of the degree of fermentation of fiber by ruminant animals. It is determined as the disappearance of neutral detergent fiber during an in–vitro rument fermentation. High fiber digestibility has been found to increase intake of ruminants as it decreases the filling effect of the feed and provides energy to microbes in the rumen and increasing microbial protein production. A high FD is desirable.
3. **NDF=Neutral detergent fiber.** This is a measure of the fiber content of the corn forage. Fiber must be fermented by microbes in the gastrointestinal tract to be utilized by ruminants. It is much less digestible than non–fiber constituents of the forage. Forages with high levels of NDF have lower energy. It is also a measure of the gut filling properties of the forage and high NDF decreases forage intake. A low NDF content is desirable.
4. **CP=Crude protein.** Forages are generally supplemented with high protein concentrates such as soybean meal to increase the protein content of ruminant diets. Corn hybrids with high protein require less supplementation and therefore lowered feed costs. A high protein content is desirable.

All analyses were determined by wet–chemical methods.

How to Use This Bulletin

One–, two–, and three–year averages are presented for all hybrids tested during 1994, 1993, and 1992 wherever the data are available. One–year results are less reliable than two– or three–year averages and should be interpreted with more caution. Confidence in corn performance data increases with the number of years and locations of testing.

The yield, harvest moisture, and test weight results from the four maturity zones are presented as individual tables. The average hybrid performance over three locations is shown as the first section in each table. Individual location values are shown in adjoining sections of each table. This is the first year that individual hybrid test weight values have been available.

The tables report the following information about the hybrids tested:

1. Average moisture content at harvest.
2. Test weight at harvest moisture.
3. Average yield (in bushels) of shelled corn at 15.5 percent moisture.
4. Average percent of stalk lodging (plants broken below the ear at harvest).
5. Recent stand of target population.

Stalk breakage can be caused by corn borers and/or stalk rot diseases.

Hybrids are recorded in the tables in order of their approximate maturity in the current growing season (early to late), based on grain moisture at harvest.

Two or more plots of the same hybrid in the same field may produce somewhat different results because of uncontrolled variability in the soil and other environmental factors. Replication and randomization of the entries are two methods used to reduce these errors. Because these methods do not eliminate all of these variables, the magnitude of difference necessary for statistical significance has been calculated for yield and moisture content. The value calculated as the "least significant difference" or "LSD" is the amount that an individual hybrid would have to differ from the experiment average to be significantly different from that average.

Hybrids with yields significantly better than the average grain yield at each location are marked with an asterisk (*) in each table. Other agronomic information relative to each trial is given at the bottom of the table. Fertilizer amounts are shown as total pounds per acre of nitrogen, P_2O_5 and K_2O applied during the season.

How to Choose a Hybrid

Adaptation

The map on page 1 shows the locations of the trials, and it divides Michigan into four generalized maturity zones. Local variations in weather, soil type and fertility, time of planting, and other conditions all affect adaptation. Corn hybrids are often adapted to more than one zone.

In the selection of a hybrid there is no real substitute for observing individual characteristics while plants are growing. The best time to compare plants is usually in late August or early September as they approach maturity but before a killing frost has occurred. Each year, at a limited number of locations, demonstration plantings

Table B

Temperature, Precipitation, and Growing Degree day Summary
1994 Growing Season

		MAY			JUNE			JULY			AUGUST			SEPTEMBER			SEASON		
COUNTY		OBS.	NORM	DEV.	OBS.	NORM	DEV.	OBS.	NORM	DEV.	OBS.	NORM	DEV.	OBS.	NORM	DEV.	OBS.	NORM	DEV.
ZONE 1	TEMP	57.2	58.3	-1.1	71.3	67.8	+3.5	72.9	71.7	+1.2	67.7	69.9	-2.2	64.4	62.6	+1.8	66.7	66.1	+.6
MONROE	PPT	1.11	3.04	-1.93	3.56	3.30	+.26	2.16	3.73	-1.57	3.05	3.20	-.15	.93	2.62	-1.69	10.81	15.89	-5.08
	GDD	339	353	-14	622	542	+80	708	658	+50	562	616	-54	460	432	+28	2691	2601	+90
	TEMP	55.5	57.8	-2.3	69.5	67.2	+2.3	70.7	70.8	-.1	65.7	69.2	-3.5	63.4	62.4	+1.0	65.0	65.5	-.5
BRANCH	PPT	.82	3.03	-2.21	6.60	3.73	+2.87	1.57	4.01	-2.44	4.86	3.40	+1.46	1.74	3.03	-1.29	15.59	17.20	-1.61
	GDD	310	342	-32	586	535	+51	641	646	-5	501	602	-101	432	427	+5	2470	2552	-82
	TEMP	55.1	59.2	-4.1	68.9	68.4	+.5	70.8	71.9	-1.1	65.9	70.1	-4.2	63.0	63.3	-.3	64.7	66.6	-1.9
CASS	PPT	1.17	3.12	-1.95	6.23	3.95	+2.28	6.24	3.79	+2.45	5.29	3.16	+2.13	2.40	3.01	-.61	21.33	17.03	+4.30
	GDD	319	381	-62	576	564	+12	645	670	-25	507	628	-121	424	454	-30	2471	2697	-226
ZONE 2	TEMP	56.6	57.4	-.8	69.2	67.1	+2.1	71.3	71.2	+.1	67.2	69.5	-2.3	64.0	61.9	+2.1	65.7	65.4	-.3
KENT	PPT	2.63	2.86	-.23	7.33	3.68	+3.65	8.06	2.95	+5.11	7.32	3.14	+4.18	1.09	3.24	-2.15	26.43	15.87	+10.56
	GDD	329	335	-6	581	530	+51	665	654	+11	542	610	-68	447	412	+35	2564	2541	+23
	TEMP	55.4	57.5	-2.1	67.6	67.0	+.6	69.9	70.7	-.8	65.1	69.0	-3.9	62.1	62.0	+.1	64.0	65.2	-1.2
INGHAM	PPT	1.22	2.73	-1.51	7.33	3.54	+3.79	3.91	3.02	+.89	6.62	3.12	+3.50	6.15	2.50	+3.65	25.23	14.91	+10.32
	GDD	310	338	-28	547	530	+17	620	640	-20	490	598	-108	412	418	-6	2379	2524	-145
	TEMP	55.5	57.8	-2.3	66.4	67.4	-1.0	69.7	71.4	-1.7	65.7	69.4	-3.7	62.3	61.9	+.4	63.9	65.6	-1.7
SAGINAW	PPT	1.76	2.47	-.71	7.08	2.94	+4.14	3.52	2.56	+.96	4.31	3.30	+1.01	2.26	2.83	-.57	18.93	14.10	+4.83
	GDD	301	340	-39	506	538	-32	615	660	-45	505	608	-103	415	411	+4	2342	2557	-215
ZONE 3	TEMP	53.0	55.2	-2.2	65.6	64.9	+.7	68.9	69.3	-.4	64.6	67.8	-3.2	61.9	61.0	+.9	62.8	63.6	-.8
HURON	PPT	2.59	2.58	+.01	5.53	2.88	+2.65	5.94	2.93	+3.01	3.69	3.01	+.68	2.36	2.67	-.31	20.11	14.07	+6.04
	GDD	259	298	-39	487	479	+8	591	602	-11	467	569	-102	396	387	+9	2200	2335	-135
	TEMP	54.5	57.7	-3.2	66.4	67.1	-.7	69.5	71.0	-1.5	64.6	69.3	-4.7	60.8	61.6	-.8	63.2	65.3	-2.1
MONTCALM	PPT	2.05	2.88	-.83	5.47	3.43	+2.04	7.89	2.50	+5.39	7.91	3.84	+4.07	2.07	3.12	-1.05	25.39	15.77	+9.62
	GDD	313	351	-38	514	536	-22	600	646	-46	480	603	-123	387	414	-27	2294	2550	-256
	TEMP	52.1	54.4	-2.3	65.9	63.6	+2.3	68.9	68.5	+.4	64.9	67.2	-2.3	62.8	60.2	+2.6	62.9	62.8	+.1
MASON	PPT	1.09	2.48	-1.39	2.42	2.93	-.51	6.34	2.18	+4.16	4.48	3.79	+.69	2.53	3.25	-.72	16.86	14.63	+2.23
	GDD	218	273	-55	505	450	+55	592	587	+5	480	552	-72	425	365	+60	2220	2227	-7
ZONE 4	TEMP	53.5	52.0	+1.5	64.5	61.7	+2.8	67.2	66.6	+.6	64.6	64.9	-.3	60.2	57.2	+3.0	62.0	60.5	+1.5
ALPENA	PPT	1.47	2.78	-1.31	3.23	3.12	+.11	5.53	3.11	+2.42	6.19	3.23	+2.96	1.58	3.08	-1.50	18.00	15.32	+2.68
	GDD	276	251	+25	468	413	+55	552	534	+18	474	496	-22	368	317	+51	2138	2011	+127
	TEMP	54.6	53.5	+1.1	65.5	63.7	+1.8	69.1	68.8	+.3	65.8	67.3	-1.5	63.4	59.3	+4.1	63.7	62.5	+1.2
GRAND TRAVERSE	PPT	1.44	2.48	-1.04	2.10	3.15	-1.05	4.15	2.88	+1.27	4.52	2.93	+1.59	1.87	3.60	-1.73	14.08	15.04	-.96
	GDD	299	273	+26	495	454	+41	607	587	+20	507	552	-45	422	348	+74	2330	2214	+116
	TEMP	52.5	53.6	-1.1	63.3	62.7	+.6	65.4	67.4	-2.0	62.3	65.5	-3.2	59.7	57.0	+2.7	60.6	61.2	-.6
DELTA	PPT	1.38	3.57	-2.19	2.80	3.72	-.92	2.62	3.63	-1.01	5.06	3.86	+1.20	3.74	3.60	+.14	15.60	18.38	-2.78
	GDD	261	285	-24	441	438	+3	503	559	-56	406	513	-107	346	319	+27	1957	2114	-157

TEMP = Temperature(°F)
PPT = Precipitation (inches)
GDD = Growing Degree Days calculated at base 50°F, with 50°F and 86°F cutoffs
OBS = Totals observed in 1994
NORM = Normals calculated over 30 year period (1951-1980)
DEV = Deviation of observed from normal

Data provided by: MSU-AGRICULTURAL WEATHER METEOROLOGY OFFICE
Jeff Andresen and Tom Cate

1994 GROWING SEASON WEATHER SUMMARY

During late April and early May, seasonable conditions allowed planting to proceed at near normal rates. By mid-May, however, upper air "jet stream" steering currents took on a northwest to southeast configuration across the Great Lakes region, bringing a series of cool, dry Canadian-origin air masses into Michigan. Precipitation with this pattern was much below normal while solar radiation levels were abnormally high. The dry air and mostly fair skies characteristic of these air masses allowed nighttime temperatures to drop into the 30s, with scattered frost reported at many locations. This upper air pattern continued through mid-June, resulting in abnormally dry soils (upper levels), moisture stress for shallow-rooted crops, and generally slow growth rates. The prolonged early dryness caused serious problems for moisture-activated herbicides incorporated at or before planting.

The jet stream shifted to a southwest to northeast average configuration by late June, with warm, tropical-origin air transported into the region on southerly winds. A series of thunderstorms resulted, bringing torrential rains and flooding to central sections of Lower Michigan and generally beneficial rains elsewhere. During a 3-week period ending in mid-July, more than 15 inches of rain fell in spots from west central Lower Michigan eastward to Saginaw Bay and the Thumb (this is the near the entire normal May-September total for these areas). One contrasting exception was the southeastern and south central Lower Peninsula, where a few spots remained abnormally dry for much of the remainder of the growing season.

Following near average conditions in August, a warmer and drier than normal pattern developed in September and generally continued into November. In addition, the first killing freeze of the fall did not occur at many locations until early November, extending the growing season 1-3 weeks beyond its normal termination. Mean temperatures for the August-November autumn period were among the warmest 10% of years since 1985 while precipitation totals were ranked historically in the lowest 1/3. The mild, dry fall was among the most favorable for agricultural activities in recent memory, allowing crops set back by previous heavy rain to catch up phenologically and leading to rapid grain drydown rates following maturation.

Mean temperatures and growing degree day totals for the season (May through September) were generally near to below normal statewide, with greatest departures from normal in the central Lower Peninsula. Rainfall totals ranged from below normal in the extreme north and south to much above normal in central sections.

Jeff Andresen
Extension Specialist
Michigan State University

Corn Hybrids Compared...

Continued from Page 1

of each hybrid are planted at the front of the test field. At or shortly after pollination each hybrid is identified and labeled. The public is invited to observe these plots and to examine the plant and ear characteristics important in their production operations. In 1994 these demonstration plantings were grown at five locations. No yield results are taken from the demonstration planting or included in the data reported.

Planting Rate

The number of seeds sown per acre in Michigan has increased steadily over the past several years. Increased planting rates are not a guarantee of increased yields. High plant populations (28,000 or more per acre) should be considered only for fields consistently producing more than 125 bushels per acre. With high plant populations, rainfall deficiencies and other growing season stresses frequently result in no increase in yield and may actually result in decreased yield compared with a more modest plant population of approximately 24,000 plants per acre. Lodging an harvest losses are often greater at higher populations.

Maturity

Hybrids are listed in the tables in order of maturity (early to late), based on moisture content of the grain at harvest. This is usually a reasonably accurate measure of relative maturity in most years in Michigan. Early–maturing hybrids are generally lower in moisture content than later maturing hybrids. Differences among hybrids in rate of drying in the field also affect moisture content at harvest but usually do not greatly disturb the relative maturity ratings as determined by moisture content.

One percent more moisture at harvest reflects a delay in maturity of about two days. One estimate of corn maturity is when a black layer of cells forms at the base of the kernel. At this time, kernel moisture will be between 32 and 35 percent.

For Grain

It is better to choose an early hybrid (below average moisture content) than a late hybrid for grain. Data in the tables show that good yields do not totally depend on later maturity. On the average early maturing hybrids in 1994 produced about ten bushels per acre less than the later maturing group. The late maturing groups averaged 4–5 percent high harvest moistures. Even the 10 bushel yield advantage of the late maturing group only provided a break–even return per acre when drying costs were assessed against two dollar corn. Advantages of early–maturing hybrids are:

- They usually mature before killing frosts.
- Adapted early hybrids generally yield as much or more than late hybrids in most areas of Michigan.
- Early hybrids with lower moisture content at harvest reduce drying costs and market discounts for moisture.
- Mature, dry corn makes better livestock feed.
- Harvest can take place earlier in the fall when weather conditions are most favorable. Early harvest may reduce corn losses resulting from broken stalks and dropped ears.
- Fall tillage of corn stubble may be possible with early hybrids on land not subject to erosion.

For Silage

A good rule of thumb for selecting a superior silage hybrid is to choose one that also has the potential for high grain production. High dry–weight production per acre is a better reason for choosing hybrids for silage than tons of green weight.

Corn for silage should reach the early dent stage well before frost in an average year. The early dent stage (when most of the kernels have dented) is the best time to begin silage harvest. Dry matter production continues to increase until maturity.

Other Considerations

Choose early hybrids for late plantings, low soil fertility, sandy and muck soils, and for corn that it is to be followed by a winter grain or cover crop. Experience has shown that when corn is grown under no–till operations a significant advantage results from the use of earlier maturity hybrids. This probably relates to the slower spring soil warm–up encountered under no–till operations.

Some degree of "crop insurance" can be obtained by choosing two or three hybrids that differ slightly in their maturity. If one hybrid encounters unfavorable weather at a critical growth stage, another may be less affected and produce a good crop.

Even though you have been growing a hybrid that has given good results, you may be able to improve your average corn production by trying one or more hybrids with better records in these trials. Well tested new hybrids are worth consideration. It may be advisable to try a new hybrid in a strip in the same field with your present hybrid.

Ways to Reduce Stalk Lodging

Several stalk–rotting fungi may cause broken stalks at harvest and create a major problem in corn production. Stalk rot occurs when fungi increase rapidly after the plant has matured or when the plant dies prematurely. The highest incidence of stalk rot occurs in years when corn matures early and harvest is delayed. Infection and disease development are favored by warm, humid weather and abundant rainfall during the latter part of the growing season.

Hybrid resistance to stalk rot is only one of several factors that determine the extent of stalk breakage. There are no clear–cut cases of specific hybrids that can consistently be depended upon to resist stalk rot under all conditions of soil fertility, plant population, plant stress, and maturity. A major part of the difference in resistance to lodging appears to be mechanical: stiffer stalks do not break as soon when disease attacks.

The most effective practice to reduce losses from stalk rot is to harvest as soon as possible after maturity. Stalk breakage continues to increase rapidly when harvest is delayed. Early hybrids that mature in September will have more stalk breakage than late–maturing hybrids if harvest occurs in November and December. There may be little or no advantage to planting the early–maturing hybrids if harvest is delayed.

To avoid problems, choose high–yielding, early–maturing hybrids, plant early and harvest early.

Ways to Avoid Moldy Corn in 1995

- Plant early.
- Plant early– to medium–maturing hybrids.
- Harvest early—during October. Weather problems and harvest losses increase with later harvest.
- Plan for adequate artificial drying. Drying in the field or in the crib is slow and undependable in Michigan. Ready access to drying facilities will permit more timely harvest and prevent high pre–harvest loss, a major factor in reduced corn profits.

Most corn seed production operations did not experience unusual production problems in 1994. Seed quality can be expected to be good for most hybrid combinations. A higher than normal demand is expected to continue for early and mid–season maturity hybrids. Fortunately, seed yields were generally high and adequate seed supplies are anticipated for 1995 planting.

CORN MATURITY AND GROWING DEGREE DAY UNITS

Agronomists have long known that the rate of corn growth and development is highly dependent on temperature. Seasonal accumulation of growing degree day units (GDD), a temperature-derived index, is a simple way to quantify the amount of heat needed for a given corn hybrid to reach maturity. In general, the higher the yield potential of a corn hybrid, the greater the number of accumulation GDDs in a given season. Therefore, in order to help maximize potential yields, growers must choose a hybrid for their location which has an acceptable chance of reaching maturity before the end of the growing season. In addition, an equally important factor is grain moisture at harvest. Because the highest yielding hybrids generally take the longest to mature, they may also have the highest grain moisture content at harvest, thus costing the grower extra money for drying costs.

GDDs are calculated according to the seed industry standard, i.e. the difference of the daily mean temperature and the base temperature of 50F. Remember that prior to taking the difference, the maximum temperature needs to be set down to 86F if it is above 86F and the minimum temperature set up to 50F if it is below 50F. GDDs are normally summed on a daily basis from the day of planting through physiological maturity, defined as black layer formation. Most seed companies rate the maturity of their own hybrids by GDD accumulations as well as relative maturity units.

A recent Michigan State University bulletin (E-2471), "Using Climatological Information for Corn Hybrid Selection in Michigan," provides corn growers with background climatological information that may help in making hybrid selections (most hybrids have listed GDD ratings for maturity ... ask your seed dealer or representative). The bulletin provides the total number of GDDs accumulated from 5 hypothetical spring planting dates (at 10 day intervals from April 20 through June 1) through the date of normal first killing fall freeze. The dates are based on data from 20 climatological stations across Michigan for the period 1961-1990. Results from the study indicate that seasonal GDD accumulations in Michigan are highest in the southwest and southeast corners of the Lower Peninsula, with a rapid dropoff north of an east-west line from Muskegon to Bay City. In addition, the climatological importance of early planting in Michigan cannot be overemphasized as the month of May was found to account for 12-16% of the total growing season GDD accumulation (approx. 300-400 GDDs) across the state. Late planted crops (especially full season hybrids) are thus much more likely to have problems reaching physiological maturity (or drying down to acceptable moisture levels) prior to harvest.

If you are uncertain about the length of your own growing season and the number of GDDS normally accumulated, I strongly urge you to obtain a copy of MSU Extension Bulletin E-2471 from your local extension office. With some help from your seed dealer and the numbers given in this bulletin, you should be able to make realistic hybrid selections with the climatological risk of your own choosing.

TEST WEIGHT AS A MEASURE OF CORN QUALITY

Test weight has been used since the early 1900s as an index of quality in corn. It is a measure of the weight per bushel at 15.5% moisture content. Kernel moisture has a direct effect on test weight. High moisture causes a kernel to expand and occupy a greater volume of space. As a mature kernel dries, it becomes more compact and has more weight per unit of volume, hence a higher test weight. It is important to recognize that an immature kernel may not shrink uniformly upon drying. When this happens, a dry but misshapened kernel may not achieve the higher density or weight per unit of volume. Aside from the effect of moisture, test weight is decreased by damage from frost, mold, weathering, or almost any other factor that interrupts normal kernel development and delays harvest or damages the grain.

Test weight is also used as a first indicator of grain quality for corn to be used in dry milling operations. It is considered to be a reasonable indicator of grain with relatively smooth uniform kernels. High test weight also indicates kernels contain a high percentage of hard flint-like starch or endosperm and a correspondingly reduced amount of the soft, floury starch fraction. The hard, flinty portion of the kernel is the most valuable fraction in a dry milling operation.

In the 1994 crop, test weights, on the average, are relatively high. This is to be expected in a season where most corn hybrids reached physiological maturity and enjoyed an extended fall season. The 1994 season is in contrast to the 1992 season in which neither of these conditions prevailed.

The Federal Grain Standards allow minimum test weight values in grades 1, 2, 3, 4, and 5 of 56.0, 54.0, 52.0, 49.0, and 46.0, respectively. Corn with test weights below those for No. 2 are often discounted at the elevator. Although discounts may vary among elevators and from year to year, recent discount schedules for corn under the Agricultural Stabilization and Conservation Service storage program compared to those from local elevators are given below:

Test Weight	Discounts—Cents per Bushel **ASCS Programs**	**Elevator**
53.5 or 53.0 lbs	1	1
52.5 or 52.0 lbs	2	2
51.5 or 51.0 lbs	4	4
50.5 or 50.0 lbs	6	6
49.5 or 49.0 lbs	9	8
48.5 or 48.0 lbs	12	10
etc., etc.		

L.O. Copeland and D.D. Harpstead
Extension Specialist
Michigan State University

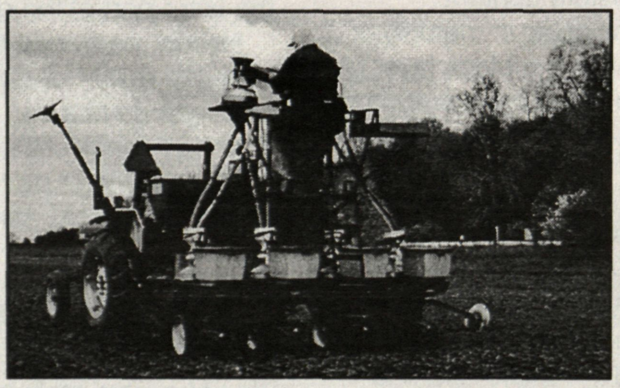
Plots Require Specialized Equipment

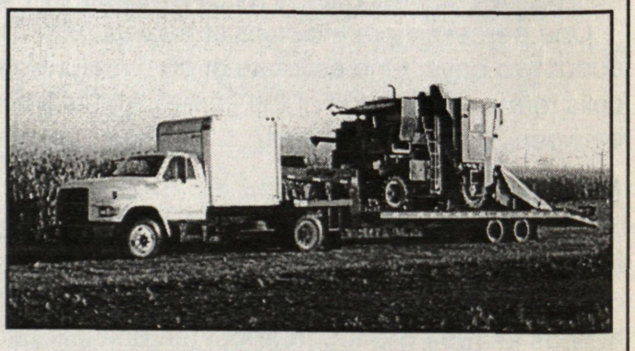
Specialized equipment makes the testing of large numbers of hybrids possible. From planting to harvest, specially constructed machines are used in this program.

Prior to planting, seed is packaged up in accordance with a computer generated field plan. This field plan becomes the permanent record for all field activities during a season. In the field the hybrids being planted change every 25 feet. As the planter moves across the field, two rows of two different hybrids are being planted simultaneously.

Grain harvesting is done with a two-row combine designed for plot harvest. Twenty two feet of row are taken for yield. Field weights are recorded at the end of each plot. The forward motion of the combine is stopped briefly to allow the grain handling system to clear before proceeding. This clearing operation is critical to the accuracy of the data collection system. Harvest normally proceeds at two- to two-and-a-half plots per minute. The data from this operation is recorded both on a computer chip for storage and on hard copy as backup. From the chip the data can be transferred directly into a computer for analysis and printed out in table format.

Portability is another key factor in the corn testing program. All operations are done at the 12 locations with one set of equipment. It is essential to be able to move from one location to another in a safe and efficient manner.





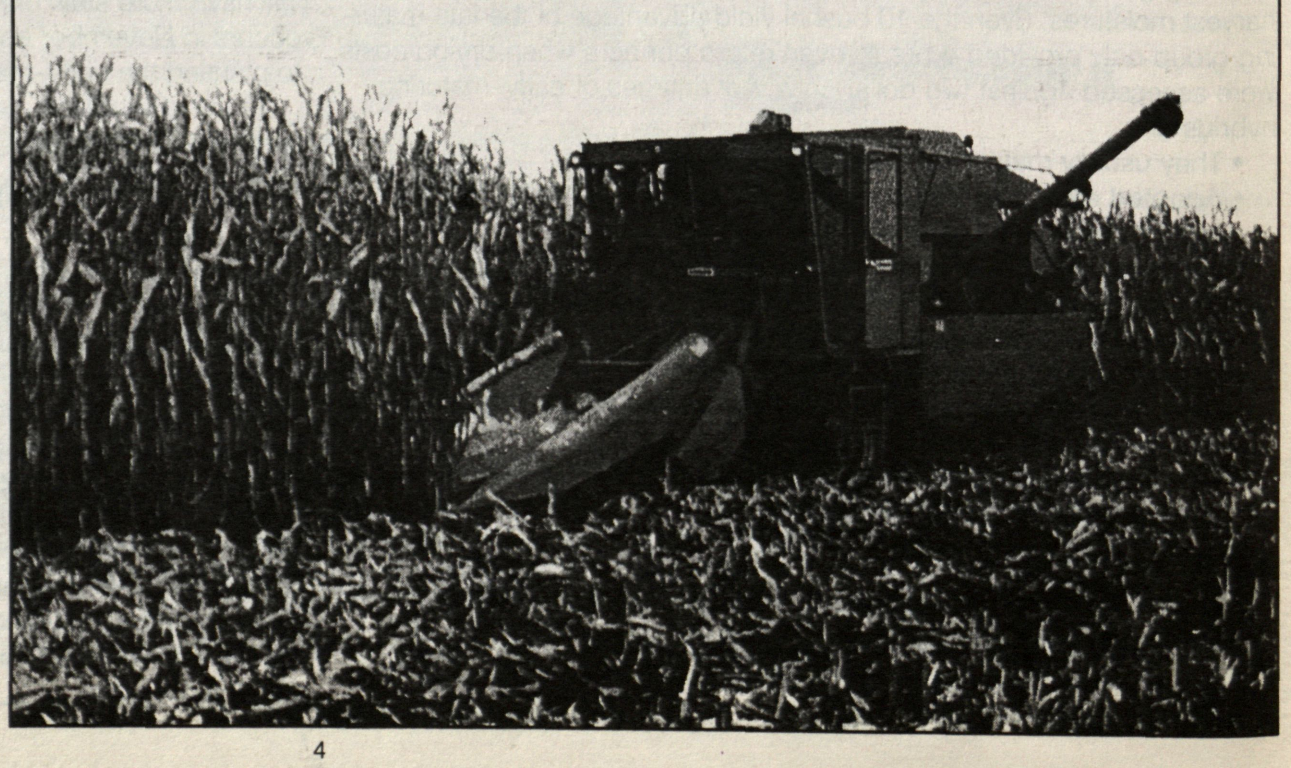


Table 1E	SOUTHERN MICHIGAN	ZONE 1

Average of Monroe, Branch & Cass County EARLY trials
One, two, three year averages — 1994, 1993, 1992

EARLY TRIAL (106 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

HYBRID (Brand-Variety)		% MOISTURE 1994	2 Yr	3 Yr	TEST WGT 1994	BUSHELS PER ACRE 1994	2 Yr	3 Yr	% STALK LODG 1994	2 Yr	3 Yr	MONROE COUNTY % H2O	TEST WT	B/A	% SL	% STD	BRANCH COUNTY % H2O	TEST WT	B/A	% SL	% STD	CASS COUNTY % H2O	TEST WT	B/A	% SL	% STD
CARGILL	3777	16.6	--	--	60.7	159.5	---	---	2.4	--	--	17	63	168	2	98	18	59	166	1	100	15	60	145	4	100
PIONEER	3723	16.7	17	19	58.1	186.4	180	184	1.1	2	2	16	61	189	1	99	17	56	192	1	97	17	58	179	1	100
CALLAHAN	C7435	16.9	17	--	56.0	197.3	185	---	0.9	3	--	17	59	208	1	94	18	53	193	1	84	16	57	191	1	88
DEKALB	DK471	17.0	--	--	56.9	192.1	---	---	1.2	--	--	17	59	*219	0	99	18	54	196	2	92	16	58	161	2	88
CROW'S	180	17.1	--	--	55.8	173.7	---	---	3.8	--	--	17	58	181	4	100	18	54	175	3	93	16	55	166	5	100
*DEKALB	DK493	17.1	--	--	57.3	212.6	---	---	1.4	--	--	17	58	*225	1	100	18	55	*216	2	97	16	58	*197	1	97
GOLDEN HARVEST	H-2331	17.3	18	--	56.5	196.3	181	---	1.5	2	--	16	59	201	1	98	19	55	189	3	98	17	56	*199	1	100
NORTHRUP KING	N4242	17.4	17	19	59.1	189.8	182	186	1.2	1	1	18	61	197	3	99	19	58	205	0	100	16	59	167	0	98
PAYCO	614	17.7	--	--	58.3	175.1	---	---	2.1	--	--	18	62	181	4	98	18	56	186	1	93	17	58	157	2	87
GOLDEN HARVEST	H-2349	17.8	18	--	56.5	189.2	180	---	0.7	1	--	17	59	182	1	100	19	55	199	0	99	17	56	187	1	100
PIONEER	3752	17.9	18	--	59.3	190.1	174	---	1.8	2	--	18	61	192	2	100	19	57	202	2	99	17	59	177	2	99
*DEKALB	DK512	18.0	--	--	55.4	203.8	---	---	0.9	--	--	18	59	*214	1	100	19	53	*211	0	98	18	55	186	1	96
GOLDEN HARVEST	Ex702	18.3	--	--	58.4	165.5	---	---	0.9	--	--	18	61	172	2	100	19	56	174	1	99	18	59	151	0	91
DEKALB	DK485	18.4	--	--	55.7	195.3	---	---	1.7	--	--	18	59	201	3	95	19	53	196	1	97	18	55	189	1	92
STINE	1033	18.4	--	--	58.3	178.0	---	---	0.7	--	--	18	61	186	1	99	19	55	184	1	100	18	59	164	0	99
GOLDEN HARVEST	H-2390	18.5	19	21	57.0	188.0	169	175	0.9	2	2	18	60	195	0	100	19	56	190	1	100	18	56	178	1	99
RENK	RK617	18.5	18	--	56.9	194.3	179	---	1.3	1	--	17	61	186	2	100	20	54	*209	0	100	18	56	188	2	100
PAYCO	531	18.6	18	20	57.4	195.6	183	189	0.8	1	1	18	59	200	1	100	20	56	*211	1	97	18	57	177	1	98
TOP FARM	TFsx1097A	18.6	--	--	57.0	171.2	---	---	0.3	--	--	17	60	179	0	100	20	53	163	1	98	18	58	172	0	97
STINE	92-70X	18.8	--	--	56.9	171.1	---	---	0.5	--	--	18	59	178	0	92	19	55	180	1	100	19	56	155	1	89
CALLAHAN	C7337	18.9	18	--	57.3	190.2	185	---	1.4	1	--	18	61	193	3	100	20	56	195	1	100	19	56	182	0	100
DAIRYLAND	STEALTH-1198	19.1	--	--	56.9	195.5	---	---	2.0	--	--	18	59	197	3	96	21	55	201	2	99	19	57	189	1	93
RENK	RK646PT	19.2	--	--	58.4	172.7	---	---	1.9	--	--	18	60	183	2	97	21	56	187	1	94	19	59	148	2	95
COUNTRYMARK	432	19.3	--	--	56.1	189.2	---	---	2.1	--	--	19	58	178	4	100	20	54	196	0	96	20	56	*194	2	100
DAIRYLAND	STEALTH-1203	19.3	19	21	55.2	171.5	170	177	2.4	2	3	19	58	174	3	100	20	54	166	3	94	19	54	175	2	98
CROW'S	204	19.4	--	--	57.4	188.1	---	---	0.7	--	--	18	60	184	1	94	21	56	191	0	96	19	57	189	1	99
HYPERFORMER	HY9385	19.4	20	--	56.0	193.4	174	---	1.3	3	--	19	58	199	2	100	20	54	199	1	100	19	56	183	1	99
*PIONEER	3525	19.4	21	22	57.2	219.8	206	210	0.6	1	1	19	60	*239	1	100	20	56	*212	1	99	20	56	*209	0	100
*PIONEER	3573	19.4	19	21	56.3	210.3	197	199	1.8	2	2	19	58	*219	1	98	20	54	*209	2	99	20	57	*203	2	99
TERRA	TR1050	19.5	20	21	57.3	190.2	178	176	2.5	3	4	18	60	208	3	98	21	55	200	3	99	19	57	163	2	99
AMCORN	5230	19.6	--	--	56.5	195.7	---	---	3.2	--	--	19	58	175	5	95	20	55	*209	3	96	20	56	*203	1	99
RUPP	XR1623	19.6	20	--	57.4	182.2	178	---	1.8	1	--	19	61	180	1	99	20	55	194	2	93	20	57	172	3	90
AMCORN	LG 2522	19.7	--	--	58.2	179.9	---	---	0.9	--	--	19	61	174	1	88	20	57	186	1	90	20	57	179	1	91
GOLDEN HARVEST	Ex692	19.7	--	--	57.4	168.4	---	---	0.6	--	--	19	60	177	1	100	21	56	174	0	100	20	57	153	1	100
CARGILL	4277	19.9	20	--	57.1	195.8	191	---	1.2	1	--	21	58	161	1	100	20	56	*214	1	100	20	57	*213	1	100
TERRA	TR1031	19.9	20	--	55.1	175.9	169	---	2.5	3	--	18	58	181	2	100	22	52	180	1	95	20	55	167	4	93
PAYCO	734	20.1	21	--	54.8	201.7	191	---	0.6	1	--	19	57	200	0	96	21	54	*216	1	90	20	54	188	1	86
CALLAHAN	C7249	20.2	21	23	56.5	193.2	178	182	1.0	1	1	20	58	180	1	99	21	56	202	1	97	21	56	*197	1	97
DAIRYLAND	STEALTH-1405	20.2	--	--	55.9	195.2	---	---	3.0	--	--	20	58	197	1	98	21	55	208	1	100	20	55	181	7	97
STINE	1059	20.2	--	--	57.9	163.3	---	---	1.2	--	--	18	60	190	0	100	21	56	156	1	100	21	58	144	2	99
TRELAY	7200	20.2	--	--	54.7	203.1	---	---	1.5	--	--	19	57	203	1	98	21	53	*211	3	98	21	54	*195	1	97
*DAIRYLAND	STEALTH-1407	20.3	--	--	54.8	208.4	---	---	1.4	--	--	18	58	198	2	95	21	54	*220	2	96	22	52	*207	1	93
*DEKALB	DK569	20.3	--	--	54.8	222.3	---	---	1.2	--	--	20	57	*244	1	100	21	53	*214	1	98	20	55	*209	1	95
LEADER	X3654	20.3	--	--	57.5	170.8	---	---	1.3	--	--	19	60	200	0	94	21	55	176	2	88	21	58	137	2	64
*NORTHRUP KING	N5220	20.3	--	--	57.6	212.4	---	---	1.3	--	--	20	60	*234	1	99	21	56	200	2	96	20	57	*203	0	98
PAYCO	711	20.3	21	23	55.9	188.3	186	191	2.1	2	2	20	57	168	1	98	21	55	201	2	99	20	55	*197	3	91
TOP FARM	TFsx2103	20.3	--	--	56.7	193.1	---	---	1.3	--	--	20	60	201	1	100	21	56	204	1	97	20	55	175	2	100
CALLAHAN	C7245	20.4	20	22	55.7	186.7	176	176	1.4	1	1	20	57	192	2	100	22	54	195	1	100	19	56	173	1	100
LEADER	SX499	20.4	--	--	56.4	192.6	---	---	0.4	--	--	21	57	158	0	99	20	55	*217	0	99	20	57	*202	1	100
TRELAY	6002	20.4	--	--	55.8	201.6	---	---	0.6	--	--	20	58	*210	0	100	22	54	*212	1	100	20	55	183	1	100
TOP FARM	TFsx2104	20.6	21	--	55.8	192.8	173	---	0.8	1	--	19	58	198	0	100	23	54	192	1	98	20	56	188	1	100
BECK'S	5070	20.7	--	--	56.4	178.0	---	---	1.0	--	--	19	59	205	0	100	21	55	176	2	84	22	55	153	1	69
CALLAHAN	C7446X	20.7	20	--	55.4	185.1	175	---	0.3	1	--	22	57	175	1	100	21	54	189	0	97	19	55	191	0	100
MYCOGEN	5480	20.7	--	--	56.6	185.3	---	---	2.8	--	--	20	59	209	1	100	22	54	182	2	99	20	57	165	6	93
*VIGORO	V1055	20.7	--	--	56.7	213.5	---	---	0.7	--	--	21	58	*225	1	99	22	55	207	1	100	19	58	*209	0	99
DEKALB	DK560	20.8	--	--	56.3	193.7	---	---	1.3	--	--	20	59	203	1	100	22	54	200	2	99	20	56	179	1	99
RENK	RK696	21.0	--	--	54.9	185.8	---	---	2.6	--	--	20	59	198	3	100	22	52	187	2	95	21	54	173	3	99
CARGILL	5547	21.1	--	--	57.0	185.3	---	---	1.2	--	--	21	59	148	1	100	22	56	*209	1	96	21	56	*199	2	98
PIONEER	3463W	21.2	--	--	57.1	190.9	---	---	0.4	--	--	21	58	*220	0	99	23	56	184	0	95	20	57	168	0	100
ANDERSONS	PSX300	21.3	--	--	56.6	197.4	---	---	1.6	--	--	19	59	195	2	98	22	55	207	0	99	23	56	191	2	100
ASGROW	RX623	21.3	21	24	56.3	189.6	184	187	1.0	2	1	21	60	203	1	98	22	55	186	0	99	21	54	180	2	98
*BECK'S	5101	21.3	--	--	56.5	206.5	---	---	0.8	--	--	19	59	*212	0	99	23	55	*212	1	98	22	55	*195	2	100
RUPP	XR1704	21.4	--	--	56.4	188.2	---	---	1.2	--	--	19	60	*211	1	100	23	55	186	2	100	22	55	167	1	90
GRIES	GSF-5208	21.8	--	--	56.8	173.5	---	---	0.8	--	--	20	60	189	1	89	23	54	164	1	72	23	56	168	1	77
RUPP	XR1688	22.0	--	--	56.7	197.3	---	---	1.3	--	--	20	60	206	2	91	23	55	197	1	90	24	55	188	1	92
CALLAHAN	C7348	22.4	23	24	57.2	202.1	181	188	0.9	2	1	21	60	208	1	100	23	56	204	1	99	24	55	*194	1	100
DAIRYLAND	STEALTH-1205	22.4	21	--	56.5	201.2	192	---	1.4	1	--	22	58	203	2	99	24	56	*212	1	98	22	56	188	1	98
LEADER	X4154	22.4	--	--	53.6	193.1	---	---	0.7	--	--	23	55	194	1	98	23	53	192	1	94	21	53	*193	1	98
*GEN-TECH	1064	22.8	--	--	56.1	211.0	---	---	0.9	--	--	21	59	*211	1	99	24	55	*215	0	99	23	55	*207	1	99
BECK'S	5202	23.6	--	--	55.6	199.0	---	---	0.8	--	--	22	57	201	0	96	24	55	200	0	98	25	54	*196	2	93
GEN-TECH	1074	23.6	--	--	55.0	202.3	---	---	0.9	--	--	22	58	*213	1	94	24	54	207	1	95	25	54	187	0	98
*RUPP	XR1677	23.8	25	27	54.4	210.6	194	196	0.7	1	1	20	57	*235	0	100	25	54	*209	1	93	25	52	187	1	96
RUPP	XR1727	23.9	--	--	56.0	193.1	---	---	0.6	--	--	21	58	*222	0	100	25	55	190	1	99	25	55	168	0	95
Average		19.9	20	22	56.6	191.1	182	187	1.3	2	2	19	59	196	1	98	21	55	196	1	97	20	56	181	1	96
Range		16.6 to 23.9	17 to 25	19 to 27	53.6 to 60.7	159.5 to 222.3	169 to 206	175 to 210	0.3 to 3.8	1 to 3	1 to 4	16 to 23	55 to 63	148 to 244	0 to 5	88 to 100	17 to 25	52 to 59	156 to 220	0 to 3	72 to 100	15 to 26	52 to 60	137 to 213	0 to 7	64 to 100
Least Significant Difference		.9			.9	12.7						1	1	14			1	1	13			1	1	12		
Coefficient of Variance		4.6			1.6	7.0						5	2	9			5	3	8			6	3	8		

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	MONROE	BRANCH
PLANTED	May 5	May 4
HARVESTED	October 24	October 25
SOIL TYPE	Pewamo Clay Loam	Locke Fine Sandy Loam
PREVIOUS CROP	Alfalfa	Corn
PERFECT STAND	29,300	28,500
AVERAGE POPULATION	28,650	27,300
ROW WIDTH	30"	30"
FERTILIZER	154-64-152	161-38-120 + 2 Ton Lime
SOIL TEST: pH	7.1	5.6
P	166 (very high)	85 (high)
K	455 (very high)	160 (medium)

FARM COOPERATORS: John Stanger, Dundee; Neil Carpenter, Quincy
COUNTY EXTENSION DIRECTOR: Dale Brose, Monroe; Marie Ruemenapp, Coldwater
EXTENSION AGR'L AGENTS: Paul Marks, Monroe; Natalie Rector, Marshall, Calhoun County
COUNTY AG & NAT RES AGENT: Ned Birkey, Monroe

	CASS
PLANTED	April 23
HARVESTED	October 18
SOIL TYPE	Oshtemo Sandy Loam
PREVIOUS CROP	Corn
PERFECT STAND	30,100
AVERAGE POPULATION	28,570
ROW WIDTH	30"
FERTILIZER	212-40-130+zinc
SOIL TEST: pH	6.0
P	151 (very high)
K	328 (very high)
IRRIGATION	2 inches

FARM COOPERATORS: Dave and Melvin Cripe, Cassopolis
COUNTY EXTENSION DIRECTOR: Dan Rajzer, Cassopolis

Average of Monroe, Branch & Cass County LATE trials
One, two, three year averages — 1994, 1993, 1992

LATE TRIAL (107 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

HYBRID (Brand-Variety)		% MOISTURE 1994	2 Yr	3 Yr	TEST WGT 1994	BUSHELS PER ACRE 1994	2 Yr	3 Yr	% STALK LODG 1994	2 Yr	3 Yr	MONROE COUNTY % H2O	TEST WT	B/A	% SL	% STD	BRANCH COUNTY % H2O	TEST WT	B/A	% SL	% STD	CASS COUNTY % H2O	TEST WT	B/A	% SL	% STD
VIGORO	V1084	20.8	--	--	55.3	190.5	---	---	0.9	--	--	20	57	205	1	96	22	55	197	1	90	21	54	170	1	88
RENK	RK714	20.9	22	--	57.4	188.1	178	---	1.3	1	--	20	60	189	1	100	22	55	193	1	100	21	57	183	1	100
AMCORN	Ex 537	21.0	--	--	57.4	168.8	---	---	0.4	--	--	20	60	165	0	96	22	57	174	1	83	21	56	168	0	82
MYCOGEN	6060	21.0	--	--	57.6	178.1	---	---	0.1	--	--	20	60	190	0	95	23	56	172	0	84	20	57	173	0	75
ICI SEEDS	8570	21.5	--	--	55.9	192.8	---	---	0.7	--	--	22	57	198	1	100	22	54	196	0	95	20	57	185	1	93
*DEKALB	DK580	21.7	--	--	56.0	215.8	---	---	0.8	--	--	22	58	223	1	98	23	54	211	1	99	20	57	*214	1	100
HYPERFORMER	HY9424	21.8	22	--	56.8	200.3	191	---	0.4	1	--	20	59	204	0	98	23	56	198	0	98	23	56	199	0	96
*CARGILL	5677	21.9	22	--	56.1	220.0	199	---	0.8	1	--	21	58	222	1	99	23	54	*220	1	90	22	56	*219	1	89
*CIBA	4394	22.0	--	--	55.5	226.0	---	---	0.1	--	--	21	58	221	0	96	23	55	*233	0	98	23	54	*224	0	99
CROW'S	435	22.1	--	--	54.5	197.4	---	---	0.9	--	--	21	57	191	2	98	24	54	213	0	99	21	53	189	0	100
RENK	RK802PT	22.1	--	--	55.5	185.8	---	---	0.5	--	--	21	57	192	1	99	23	56	189	0	95	23	53	177	1	99
CARGILL	SX269	22.2	24	27	56.4	184.5	181	183	1.1	1	1	21	59	177	0	98	23	55	187	1	99	23	54	189	2	98
HYPERFORMER	HS9408	22.2	--	--	55.9	214.5	---	---	0.7	--	--	22	58	217	1	98	23	56	*236	1	100	22	54	191	0	95
ICI SEEDS	N8541	22.2	--	--	56.1	200.8	---	---	0.0	--	--	21	58	198	0	93	23	56	212	0	95	23	55	192	0	88
NORTHRUP KING	X6133	22.2	--	--	57.3	204.9	---	---	0.6	--	--	22	60	217	0	97	23	56	200	0	96	22	56	197	1	93
*PIONEER	3394	22.2	23	26	56.5	227.7	208	206	0.0	--	--	21	58	*227	0	100	22	56	*233	0	100	23	55	*224	0	96
STINE	1076	22.2	--	--	54.9	195.5	---	---	0.9	--	--	22	57	217	1	100	24	53	185	0	98	21	54	185	1	100
CARGILL	6303	22.3	--	--	55.2	200.3	---	---	0.5	--	--	21	57	198	0	99	25	54	198	1	97	21	55	206	0	100
*BECK'S	5305	22.5	--	--	55.7	221.3	---	---	0.4	--	--	21	58	*233	0	91	23	54	211	1	98	24	55	*220	0	97
ASGROW	RX699	22.7	--	--	57.2	210.8	---	---	0.3	--	--	22	60	216	0	100	23	56	213	0	100	23	56	204	0	98
*CIBA	4225X	22.7	--	--	58.8	223.7	---	---	0.1	--	--	22	62	*244	0	100	24	59	211	0	96	23	56	*216	0	99
*CIBA	4494	22.7	--	--	56.8	215.2	---	---	0.6	--	--	21	60	*239	1	100	24	56	199	0	90	24	55	*208	0	98
RENK	RK835	22.7	--	--	56.0	206.4	---	---	0.7	--	--	21	59	214	1	97	24	55	202	0	95	23	54	203	1	99
*DAIRYLAND	STEALTH-1209	22.8	--	--	55.6	220.7	---	---	0.4	--	--	20	58	*227	1	99	24	55	217	0	97	25	54	*219	0	97
HYPERFORMER	HX45101	22.9	--	--	54.1	197.2	---	---	0.3	--	--	23	55	203	0	97	23	54	202	1	84	22	53	187	0	89
*CALLAHAN	C7252	23.1	--	--	55.2	217.0	---	---	0.6	--	--	22	56	220	1	99	24	55	*235	0	99	24	54	196	1	98
NORTHRUP KING	N5901	23.1	--	--	57.0	191.0	---	---	0.1	--	--	21	59	202	0	99	25	56	192	0	98	24	56	179	0	87
RENK	RK812	23.1	25	28	54.1	211.6	189	192	0.7	1	1	21	57	213	1	95	25	53	211	0	97	24	53	*211	0	100
*AMCORN	Ex 583	23.2	--	--	55.1	223.8	---	---	0.4	--	--	21	56	*235	0	100	25	55	*222	0	96	23	55	*214	1	99
PAYCO	814	23.2	24	--	55.7	212.0	191	---	0.5	1	--	22	58	*229	0	100	25	54	208	1	99	23	55	199	0	100
*AMCORN	5930	23.3	--	--	54.5	215.8	---	---	0.6	--	--	21	57	224	1	99	25	53	*219	0	95	24	53	204	1	98
AMCORN	5830	23.4	--	--	56.0	202.0	---	---	0.4	--	--	22	58	212	0	93	23	56	200	0	95	25	54	194	0	92
*DEKALB	DK591	23.4	--	--	54.0	217.1	---	---	1.0	--	--	24	55	221	2	100	24	54	*220	1	100	23	53	*211	0	96
GUTWEIN	2434	23.4	--	--	55.2	205.7	---	---	0.6	--	--	22	57	199	1	100	24	54	209	1	98	24	55	*209	0	95
*HYPERFORMER	HY9487	23.4	26	--	54.6	215.5	197	---	0.7	1	--	20	57	225	2	100	26	53	217	0	96	24	54	204	0	98
VIGORO	V1105	23.4	--	--	55.2	185.9	---	---	0.7	--	--	20	58	210	1	96	25	54	175	0	90	25	54	172	1	85
CROW'S	401	23.6	25	28	54.0	214.6	197	199	0.7	1	1	21	57	*230	1	100	25	53	203	1	97	25	52	*212	0	99
*CROW'S	445	23.6	25	--	56.0	215.6	200	---	0.8	1	--	22	59	*229	1	100	24	55	*221	0	98	25	54	196	2	98
*CARGILL	6327	23.7	--	--	54.8	216.1	---	---	0.4	--	--	22	57	*237	0	100	26	54	208	0	100	24	54	203	0	100
VINEYARD	V414W	23.7	--	--	57.3	185.7	---	---	0.9	--	--	23	58	188	1	100	24	56	186	2	100	24	58	183	0	100
*TRI STATE	572	23.7	--	--	55.2	220.6	---	---	0.7	--	--	21	57	217	1	100	26	55	*231	0	100	not planted				
TRI STATE	633	23.7	--	--	55.5	197.2	---	---	0.3	--	--	24	56	186	0	98	25	55	203	0	100	23	55	202	0	100
*GUTWEIN	2474	23.8	26	28	54.2	220.0	194	194	0.7	1	1	22	58	*231	1	100	26	53	214	1	100	24	52	*215	1	98
MYCOGEN	6220	23.8	--	--	55.0	211.1	---	---	0.5	--	--	22	58	*228	0	100	26	54	196	0	92	24	53	*210	1	100
TRI STATE	574	23.8	25	--	54.8	205.2	197	---	0.6	1	--	22	56	189	1	99	24	54	*220	0	100	25	54	206	0	97
MYCOGEN	6970	23.9	--	--	55.3	210.0	---	---	0.9	--	--	23	57	*235	1	100	25	54	197	1	96	24	55	198	1	98
PAYCO	754	23.9	--	--	54.1	195.0	---	---	0.5	--	--	24	56	211	0	96	26	53	179	1	98	22	54	195	0	100
*PAYCO	834	23.9	--	--	55.3	226.0	---	---	0.6	--	--	21	58	*234	1	98	25	54	*227	0	97	26	54	*217	1	94
TOP FARM	TFsx2108	24.0	--	--	54.4	195.2	---	---	0.3	--	--	22	58	206	1	100	25	53	209	0	97	26	53	171	0	83
HYPERFORMER	HY9490	24.2	--	--	56.1	198.3	---	---	0.4	--	--	24	57	189	0	99	24	57	217	0	98	24	55	189	1	99
TERRA	TR1070	24.2	--	--	55.5	195.2	---	---	1.2	--	--	24	58	213	1	100	25	54	181	0	98	23	55	192	2	99
TERRA	TR1091	24.2	--	--	55.0	206.4	---	---	0.8	--	--	23	58	219	2	97	25	55	218	1	98	24	53	183	0	99
RENK	RK886	24.3	26	28	56.1	210.5	184	187	0.6	1	1	22	58	217	0	94	26	55	210	1	98	26	55	205	1	100
VINYARD	V417W	24.4	--	--	54.9	161.3	---	---	0.4	--	--	24	55	161	0	100	25	55	165	0	100	24	55	159	1	99
GUTWEIN	2494	24.5	--	--	54.6	194.7	---	---	0.5	--	--	22	57	212	1	85	26	54	192	1	79	26	53	180	0	80
*PIONEER	3293	24.5	26	28	55.3	224.5	200	203	0.6	1	--	23	57	*251	1	97	25	55	199	0	89	25	53	*224	0	90
RUPP	XR1739	24.5	--	--	55.1	176.9	---	---	0.4	--	--	23	57	198	1	96	26	55	170	0	68	25	54	163	0	66
TRI STATE	628	24.7	--	--	55.1	185.6	---	---	1.1	--	--	22	57	187	1	100	27	55	189	1	96	25	54	181	1	99
ANDERSONS	PSX370	24.9	--	--	54.7	212.0	---	---	0.7	--	--	25	56	216	1	97	25	54	209	0	87	25	54	*211	1	94
*ASGROW	RX707	24.9	26	29	54.4	219.7	200	196	0.6	2	2	23	56	*232	1	99	26	55	210	0	97	25	52	*217	0	97
LEADER	X5154	24.9	--	--	54.0	203.2	---	---	0.7	--	--	23	57	215	1	93	27	53	198	2	94	26	53	197	0	90
BECK'S	EX1485	25.0	--	--	55.5	194.1	---	---	0.6	--	--	23	58	217	0	86	25	55	196	1	80	28	53	170	1	75
*BECK'S	5405	25.1	--	--	54.0	220.6	---	---	0.4	--	--	25	56	199	1	99	27	53	*230	0	97	24	53	*233	0	96
*TRI STATE	685	25.1	--	--	55.2	218.6	---	---	0.4	--	--	22	58	*233	1	90	25	54	213	0	88	28	54	*210	0	84
ICI SEEDS	8513	25.3	26	28	55.0	213.4	197	195	0.4	1	1	23	58	*231	0	100	28	54	214	0	99	25	53	196	0	97
*CARGILL	7777	25.5	--	--	56.5	215.2	---	---	1.0	--	--	24	58	*231	2	100	26	56	195	1	99	26	55	*220	0	100
ICI SEEDS	8481	25.6	--	--	56.8	182.4	---	---	0.1	--	--	24	58	191	0	97	27	56	173	0	97	26	56	183	0	98
TRI STATE	750	25.6	26	--	53.8	213.2	201	---	0.1	1	--	23	56	219	0	99	27	54	211	0	95	27	52	*210	0	92
ICI SEEDS	8400	25.9	--	--	55.3	201.0	---	---	0.5	--	--	24	57	212	1	97	27	54	187	0	97	27	55	204	0	92
MYCOGEN	7460	26.5	--	--	55.6	209.6	---	---	0.1	--	--	24	58	219	0	99	27	55	212	0	93	29	54	198	0	98
PAYCO	903	26.6	--	--	55.2	212.4	---	---	0.3	--	--	24	57	213	0	99	28	55	204	0	99	28	54	*220	0	100
TRI STATE	770	27.9	--	--	54.9	184.3	---	---	0.6	--	--	26	57	192	0	91	28	55	200	1	88	30	53	161	0	80
VINYARD	V438W	28.4	--	--	55.4	159.2	---	---	0.0	--	--	27	58	147	0	96	29	55	175	0	99	29	54	157	0	94
MYCOGEN	7660	28.5	--	--	55.2	195.1	---	---	0.1	--	--	27	57	203	0	98	28	55	212	0	96	30	53	171	0	95
CROW'S	490	29.0	--	--	54.3	211.1	---	---	0.4	--	--	28	57	218	1	99	29	54	210	0	99	31	52	205	0	98
Average		23.8	25	28	55.4	204.2	194	195	0.6	1	1	22	58	212	1	98	25	55	204	1	95	24	54	197	1	94
Range		20.8 to 29.0	22 to 26	26 to 29	53.8 to 58.8	159.2 to 227.7	178 to 208	183 to 206	0.0 to 1.3	1 to 2	1 to 2	20 to 28	55 to 62	147 to 251	0 to 2	85 to 100	22 to 29	53 to 59	165 to 236	0 to 2	68 to 100	20 to 31	52 to 58	157 to 233	0 to 2	66 to 100
Least Significant Difference		1.1			1.2	10.8						1	1	14			1	1	15			1	1	11		
Coefficient of Variance		4.7			2.2	5.5						5	3	8			6	3	9			6	3	7		

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	MONROE	BRANCH
PLANTED	May 5	May 4
HARVESTED	October 24	October 25
SOIL TYPE	Pewamo Clay Loam	Locke Fine Sandy Loam
PREVIOUS CROP	Alfalfa	Corn
PERFECT STAND	29,300	28,500
AVERAGE POPULATION	28,650	27,300
ROW WIDTH	30"	30"
FERTILIZER	154-64-152	161-38-120 + 2 Ton Lime
SOIL TEST: pH	7.1	5.6
P	166 (very high)	85 (high)
K	455 (very high)	160 (medium)

	CASS
PLANTED	April 23
HARVESTED	October 18
SOIL TYPE	Oshtemo Sandy Loam
PREVIOUS CROP	Corn
PERFECT STAND	30,100
AVERAGE POPULATION	28,570
ROW WIDTH	30"
FERTILIZER	212-40-130+zinc
SOIL TEST: pH	6.0
P	151 (very high)
K	328 (very high)
IRRIGATION	2 inches

FARM COOPERATORS: John Stanger, Dundee; Neil Carpenter, Quincy
COUNTY EXTENSION DIRECTOR: Dale Brose, Monroe; Marie Ruemenapp, Coldwater
EXTENSION AGR'L AGENTS: Paul Marks, Monroe; Natalie Rector, Marshall, Calhoun County
COUNTY AG & NAT RES AGENT: Ned Birkey, Monroe

FARM COOPERATORS: Dave and Melvin Cripe, Cassopolis
COUNTY EXTENSION DIRECTOR: Dan Rajzer, Cassopolis

Average of Kent, Ingham & Saginaw County EARLY trials
One, two, three year averages — 1994, 1993, 1992

EARLY TRIAL (100 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

HYBRID		% MOISTURE			TEST WGT	BUSHELS PER ACRE			% STALK LODG			KENT COUNTY					INGHAM COUNTY					SAGINAW COUNTY				
(Brand-Variety)		1994	2 Yr	3 Yr	1994	1994	2 Yr	3 Yr	1994	2 Yr	3 Yr	% H2O	TEST WT	B/A	% SL	% STD	% H2O	TEST WT	B/A	% SL	% STD	% H2O	TEST WT	B/A	% SL	% STD
VIGORO	V875	17.0	--	--	58.6	161.9	---	---	1.3	--	--	16	61	173	2	100	18	56	138	2	97	17	59	175	0	100
DEKALB	DK401	17.9	--	--	57.0	166.3	---	---	3.5	--	--	16	59	181	6	99	20	55	136	4	95	18	57	182	1	99
CALLAHAN	C7525	18.1	--	--	58.0	163.3	---	---	4.9	--	--	17	60	176	7	88	20	55	137	6	83	18	59	176	2	94
CROW'S	165	18.1	--	--	58.4	154.0	---	---	1.7	--	--	17	61	176	3	100	19	55	121	2	92	18	59	166	0	100
PIONEER	3861	18.7	19	--	57.0	184.1	178	---	1.5	2	--	18	58	202	1	98	20	54	144	3	95	18	59	*206	0	100
GOLDEN HARVEST	H-2292	18.8	--	--	56.4	168.3	---	---	2.6	--	--	18	58	189	1	100	20	55	140	7	99	18	57	176	0	100
GRIES	GSF-Ex185	18.8	--	--	56.1	139.5	---	---	1.1	--	--	19	58	155	1	98	20	53	114	1	99	18	58	150	1	100
NORTHRUP KING	N2933	18.8	19	--	57.9	172.3	161	---	1.8	3	--	18	59	190	2	97	19	55	136	2	87	19	60	191	1	100
VIGORO	V925	18.9	--	--	57.3	167.0	---	---	2.3	--	--	18	59	186	2	97	20	55	126	2	90	19	58	189	3	100
PAYCO	Ex4241	19.0	--	--	59.1	171.2	---	---	1.7	--	--	18	61	188	3	96	20	56	145	1	88	19	61	181	1	100
*PIONEER	3723	19.0	21	22	56.3	193.8	188	182	0.6	1	1	19	58	*219	0	100	20	53	150	1	95	19	59	*213	1	100
CALLAHAN	C7634X	19.1	--	--	56.2	157.3	---	---	1.1	--	--	18	58	167	2	98	21	53	136	1	89	18	58	169	0	99
CARGILL	2497	19.1	--	--	57.3	155.9	---	---	4.1	--	--	18	60	172	3	100	21	54	128	8	98	19	59	167	2	100
ICI SEEDS	8746	19.1	--	--	56.5	177.6	---	---	2.1	--	--	19	57	202	2	100	18	56	121	4	93	20	57	*210	0	100
*CROW'S	170	19.4	--	--	57.7	192.0	---	---	2.1	--	--	20	58	*218	3	98	19	56	154	2	91	19	59	*203	2	98
NORTHRUP KING	N3030	19.6	--	--	55.7	177.9	---	---	3.6	--	--	18	59	198	4	95	21	51	138	6	91	20	57	198	1	98
PAYCO	444	19.6	--	--	55.9	173.1	---	---	5.1	--	--	19	57	205	4	98	20	53	130	8	93	20	57	184	4	100
PAYCO	413	19.7	20	--	55.3	178.8	173	---	3.2	3	--	19	55	194	3	99	20	52	*159	3	90	20	58	183	4	100
CARGILL	3777	19.8	21	--	59.2	184.9	179	---	3.2	3	--	19	62	*214	4	100	20	56	144	4	92	21	59	196	2	100
*DEKALB	DK474	19.8	--	--	56.0	198.4	---	---	1.8	--	--	19	59	*224	3	99	21	53	*172	2	95	20	57	200	0	97
BAYSIDE	1794	19.9	--	--	56.0	179.7	---	---	4.1	--	--	18	58	194	6	98	20	53	143	3	86	21	57	202	4	98
*NORTHRUP KING	N4242	20.0	21	21	56.5	191.8	185	178	1.4	1	2	19	58	*212	1	100	20	54	*161	2	96	21	58	*203	0	100
*CIBA	4214	20.1	--	--	57.3	202.7	---	---	1.6	--	--	19	59	*234	0	99	22	54	*171	2	93	20	58	*204	3	100
TERRA	E981	20.1	--	--	56.3	171.4	---	---	1.8	--	--	19	57	193	2	94	21	55	141	3	81	20	58	180	1	93
*ICI SEEDS	8751	20.2	--	--	57.1	193.3	---	---	1.9	--	--	19	59	*227	1	100	22	54	156	3	94	20	58	198	1	100
*MYCOGEN	AG3965	20.2	21	--	54.3	202.0	191	---	1.0	1	--	20	55	*227	1	99	20	52	*165	1	89	20	57	*214	1	100
*DAIRYLAND	STEALTH-1400	20.3	--	--	55.6	194.1	---	---	1.6	--	--	20	58	*214	2	98	21	52	157	3	94	20	57	*211	0	95
*CALLAHAN	C7435	20.4	21	--	54.8	192.5	188	---	1.5	2	--	19	57	211	3	91	23	51	*173	1	89	19	56	194	0	93
DEKALB	DK471	20.4	--	--	55.2	176.0	---	---	2.2	--	--	20	58	205	2	88	21	53	134	4	81	20	55	190	2	94
*GOLDEN HARVEST	H-2331	20.4	21	22	54.9	193.7	187	185	2.8	2	2	20	57	204	2	99	21	52	*162	6	97	20	56	*216	0	98
PAYCO	614	20.4	--	--	56.6	189.0	---	---	2.3	--	--	19	58	205	3	95	22	54	*159	3	89	20	58	*203	0	96
*DEKALB	DK493	20.5	--	--	55.3	199.7	---	---	1.2	--	--	20	59	*223	0	97	21	51	*161	1	94	20	56	*215	2	96
PIONEER	3751	20.6	21	22	54.6	180.0	178	170	1.1	1	3	21	55	199	1	99	21	52	133	2	82	20	57	*208	0	99
*PIONEER	3752	20.6	21	--	56.3	199.2	190	---	1.7	1	--	19	58	*219	2	99	22	53	*161	3	97	21	58	*218	0	98
CALLAHAN	C7537X	20.7	--	--	56.1	179.7	---	---	2.4	--	--	20	57	186	2	95	22	54	154	5	93	20	57	199	1	96
TRELAY	5202	20.7	--	--	55.5	176.4	---	---	2.1	--	--	20	56	194	2	93	22	54	137	3	94	20	57	198	1	96
VIGORO	V974	20.7	--	--	54.3	185.4	---	---	2.0	--	--	20	56	*213	2	97	22	51	152	3	87	21	56	191	2	96
AMCORN	LG 2465	20.8	--	--	56.3	167.3	---	---	1.5	--	--	21	58	186	1	77	21	54	123	3	65	21	57	193	1	92
ASGROW	XP4923	20.9	--	--	56.6	179.4	---	---	3.0	--	--	19	58	207	5	100	22	55	144	3	98	22	57	187	1	100
STINE	994	20.9	--	--	55.4	182.7	---	---	1.9	--	--	20	57	191	3	92	23	53	147	3	97	20	57	*210	0	98
HYPERFORMER	HY9262	21.0	--	--	56.1	155.7	---	---	2.4	--	--	20	58	179	3	85	22	53	134	3	82	21	58	154	2	85
MYCOGEN	4970	21.0	--	--	55.5	187.3	---	---	1.6	--	--	20	56	203	1	96	22	53	*166	2	96	21	57	193	1	99
MYCOGEN	5270	21.0	--	--	55.9	163.3	---	---	3.8	--	--	20	57	172	4	94	21	54	142	3	95	22	57	176	4	100
GRIES	GSF-4100	21.1	--	--	58.3	152.5	---	---	0.9	--	--	20	61	185	1	86	22	54	106	1	64	21	60	167	1	79
TOP FARM	TFsx1097A	21.1	22	22	55.1	187.9	174	168	1.0	1	2	20	58	203	1	100	22	52	*166	1	100	21	56	194	0	100
AMCORN	4747	21.2	22	--	54.9	181.5	172	---	1.1	1	--	21	57	205	1	97	22	52	141	1	98	21	56	199	1	95
*CIBA	4273	21.2	--	--	56.1	195.5	---	---	1.0	--	--	21	57	*226	0	100	21	54	*165	2	96	21	57	196	1	97
GOLDEN HARVEST	H-2349	21.2	22	--	55.1	178.4	183	---	2.9	2	--	20	56	192	4	100	23	52	146	5	98	21	57	198	0	100
ASGROW	RX502	21.3	--	--	56.2	175.5	---	---	3.3	--	--	20	58	192	1	99	23	54	141	9	96	21	57	194	0	100
CROW'S	180	21.3	--	--	53.2	189.1	---	---	3.2	--	--	20	55	*216	1	100	23	50	*160	5	99	21	55	192	4	100
*AMCORN	LG 2482	21.4	--	--	55.4	194.5	---	---	1.0	--	--	20	57	*212	3	99	23	53	*159	0	87	21	56	*213	0	100
ASGROW	RX444	21.4	--	--	53.8	186.3	---	---	2.8	--	--	21	56	201	4	98	23	51	155	3	84	21	55	*203	1	99
PIONEER	3769	21.4	22	--	54.8	179.5	178	---	1.3	1	--	20	56	204	2	99	24	51	139	1	92	20	57	196	1	100
COUNTRYMARK	432	21.5	--	--	55.1	184.0	---	---	1.9	--	--	19	57	*219	4	100	24	52	136	2	96	22	56	197	0	100
*DEKALB	DK485	21.5	--	--	54.3	196.9	---	---	1.8	--	--	20	56	*220	1	96	24	52	*175	4	91	21	55	196	0	98
*TRELAY	5200	21.5	21	22	54.5	204.5	196	189	1.5	3	3	20	58	*231	1	99	23	50	*175	3	96	22	56	*207	0	99
CALLAHAN	C7633X	21.6	--	--	55.5	183.3	---	---	1.3	--	--	20	57	202	1	91	22	53	135	2	78	23	56	*213	1	99
BLANEY	2100	21.8	--	--	55.2	187.2	---	---	1.4	--	--	20	57	*216	1	97	24	53	157	2	87	21	56	189	1	95
*GUTWEIN	2088	21.8	--	--	54.3	200.2	---	---	1.5	--	--	21	56	*220	1	98	23	51	*165	3	99	21	56	*216	0	100
*PAYCO	531	21.8	21	22	55.9	199.4	190	185	0.9	2	2	20	58	*224	0	98	24	52	*162	2	93	22	58	*212	0	99
*STINE	993	21.8	21	--	55.7	208.4	196	---	1.0	1	--	19	57	*221	2	94	24	54	*185	1	95	22	56	*219	0	100
AMCORN	4420	21.9	--	--	54.3	169.4	---	---	1.4	--	--	21	56	184	1	91	22	52	145	2	94	22	55	179	1	89
BAYSIDE	95	22.0	--	--	55.3	177.6	---	---	2.0	--	--	21	57	195	3	100	24	52	154	2	95	21	57	184	1	99
CALLAHAN	C7337	22.2	22	23	54.6	188.9	186	180	1.4	3	3	22	54	210	2	100	24	53	*160	1	99	21	57	196	1	99
DAIRYLAND	STEALTH-1200	22.3	--	--	55.0	186.5	---	---	1.0	--	--	21	57	*214	0	100	25	51	*163	2	98	21	57	182	0	100
PICKSEED	5993	22.5	23	--	53.6	172.5	180	---	0.4	1	--	20	55	191	0	82	25	51	140	1	78	22	55	187	0	95
*ANDERSONS	PSX300	25.3	--	--	55.4	192.6	---	---	1.5	--	--	24	57	*213	1	100	26	53	157	3	84	26	57	*208	0	97
*RUPP	Ex.4-239	25.5	--	--	53.4	194.6	---	---	1.6	--	--	24	54	207	2	100	27	51	*160	2	94	26	55	*216	1	100
*PIONEER	3463W	26.0	--	--	54.3	190.4	---	---	1.1	--	--	24	55	*212	1	98	27	52	*161	2	94	27	56	198	0	99
VINEYARD	V414W	26.2	--	--	57.7	175.5	---	---	1.9	--	--	25	59	197	3	100	27	55	135	2	82	26	59	195	1	99
Average		20.7	21	22	55.9	181.6	183	180	2.0	2	2	20	58	202	2	97	22	53	148	3	91	21	57	195	1	98
Range		17.0 to 26.2	19 to 23	21 to 23	53.2 to 59.2	139.5 to 208.4	161 to 196	168 to 189	0.4 to 5.1	1 to 3	1 to 3	16 to 25	54 to 62	155 to 234	0 to 7	77 to 100	18 to 27	50 to 56	106 to 185	0 to 9	64 to 100	17 to 27	55 to 61	150 to 219	0 to 4	79 to 100
Least Significant Difference		.8			.8	8.7						1	1	10			1	1	11			1	1	8		
Coefficient of Variance		4.0			1.6	5.0						5	3	6			7	3	9			5	2	5		

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	KENT	INGHAM
PLANTED	May 4	April 25
HARVESTED	October 26	October 20
SOIL TYPE	Spinks Loamy Sand	Capac Loam
PREVIOUS CROP	Alfalfa Sod	Soybeans
PERFECT STAND	28,500	27,700
AVERAGE POPULATION	27,600	25,680
ROW WIDTH	30"	30"
FERTILIZER	76-0-0	160-10-107
SOIL TEST: pH	5.8	5.9
P	132 (very high)	113 (very high)
K	320 (very high)	240 (high)

FARM COOPERATORS: Gerald Kayser, Pleasant Acres Farm, Caledonia; Michigan State University, East Lansing
COUNTY EXTENSION DIRECTOR: William Harrison, Grand Rapids; Joseph Lessard, Mason
EXTENSION AGR'L AGENTS: William Steenwyk, Grand Rapids; John Knorek and Laura Rhodes, Mason

	SAGINAW
PLANTED	May 3
HARVESTED	October 28
SOIL TYPE	Charity Clay
PREVIOUS CROP	Dry Beans
PERFECT STAND	28,500
AVERAGE POPULATION	27,940
ROW WIDTH	30"
FERTILIZER	160-0-0
SOIL TEST: pH	7.7
P	132 (very high)
K	528 (very high)

FARM COOPERATORS: Paul Horny, Saginaw Beet & Bean Research Farm, Saginaw
COUNTY EXTENSION DIRECTOR: James Thews, Saginaw
EXTENSION AGR'L AGENT: Steven Poindexter, Saginaw

Average of Kent, Ingham & Saginaw County LATE trials
One, two, three year averages — 1994, 1993, 1992

LATE TRIAL (101 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

HYBRID (Brand-Variety)		% MOISTURE 1994	2 Yr	3 Yr	TEST WGT 1994	BUSHELS PER ACRE 1994	2 Yr	3 Yr	% STALK LODG 1994	2 Yr	3 Yr	KENT COUNTY % H2O	TEST WT	B/A	% SL	% STD	INGHAM COUNTY % H2O	TEST WT	B/A	% SL	% STD	SAGINAW COUNTY % H2O	TEST WT	B/A	% SL	% STD
ICI SEEDS	8700	22.1	23	23	55.6	185.7	176	172	1.4	3	4	22	57	222	2	98	23	52	132	2	96	22	58	203	0	100
GOLDEN HARVEST	Ex702	22.2	--	--	56.1	172.3	---	---	1.9	--	--	22	57	188	3	95	23	54	134	2	92	22	57	195	0	100
NORTHRUP KING	X4263	22.2	--	--	54.8	176.6	---	---	0.8	--	--	24	55	191	0	100	21	54	147	2	92	21	56	192	0	100
CIBA	4282	22.3	--	--	54.1	164.7	---	---	2.2	--	--	22	56	195	3	97	23	52	126	3	85	22	55	173	1	93
HYPERFORMER	HS9330	22.9	--	--	54.2	178.1	---	---	0.7	--	--	22	56	184	0	98	23	51	144	1	96	24	56	207	1	99
*PIONEER	3573	23.0	24	24	54.1	204.8	201	196	1.5	2	2	23	55	223	2	97	23	52	163	2	94	23	55	*229	0	100
RENK	RK617	23.3	--	--	54.3	193.6	---	---	2.8	--	--	22	54	209	5	99	25	53	164	3	95	23	55	209	1	100
GOLDEN HARVEST	H-2390	23.5	--	--	54.7	169.0	---	---	1.3	--	--	24	55	172	3	100	23	53	151	1	100	23	56	184	0	100
*PIONEER	3525	23.6	25	27	55.2	215.2	204	193	0.9	1	1	23	57	*239	0	99	24	52	*174	1	100	23	56	*233	1	100
DEKALB	DK512	23.8	--	--	53.4	201.3	---	---	1.3	--	--	25	53	*229	1	99	24	52	166	2	99	22	55	209	1	100
MYCOGEN	5150cb	23.9	--	--	53.9	170.1	---	---	1.6	--	--	24	55	180	1	90	25	52	137	3	82	23	55	193	1	87
CROW'S	204	24.0	--	--	55.1	184.1	---	---	2.1	--	--	24	56	207	4	95	25	54	147	2	93	23	56	199	1	96
DAIRYLAND	STEALTH-1203	24.1	--	--	52.9	188.4	---	---	3.2	--	--	25	54	206	5	100	23	51	*179	2	98	25	53	181	3	100
RENK	RK646PT	24.1	--	--	55.5	168.7	---	---	1.1	--	--	24	56	179	2	98	25	54	148	1	98	23	57	179	0	98
DAIRYLAND	STEALTH-1198	24.2	--	--	54.2	192.0	---	---	1.8	--	--	23	56	220	3	97	26	51	145	2	94	24	55	212	0	100
STINE	92-70X	24.2	--	--	53.3	165.8	---	---	0.6	--	--	24	54	170	1	91	25	51	140	1	92	23	55	188	0	99
AMCORN	Ex 537	24.3	--	--	54.8	178.6	---	---	0.8	--	--	24	56	196	2	90	24	52	141	0	93	25	56	199	0	91
CIBA	4372	24.3	--	--	54.4	194.0	---	---	3.0	--	--	24	56	212	5	98	25	53	159	3	94	23	55	211	1	99
TERRA	TR1031	24.3	25	--	53.7	169.8	167	---	2.4	5	--	24	54	184	5	96	26	52	141	1	99	23	55	184	1	100
GOLDEN HARVEST	Ex692	24.4	--	--	54.5	164.6	---	---	0.7	--	--	25	56	180	1	100	25	52	134	1	100	23	56	180	0	100
AMCORN	LG 2522	24.5	--	--	54.7	191.2	---	---	1.3	--	--	24	56	203	2	93	25	52	158	2	92	24	56	213	0	93
HYPERFORMER	HY9355	24.6	--	--	54.8	186.4	---	---	0.8	--	--	23	57	197	1	99	26	53	156	1	98	25	55	207	0	100
*PAYCO	734	24.7	26	--	53.4	205.9	198	---	1.0	1	--	25	54	*224	2	91	26	52	160	2	98	24	54	*234	0	96
*CALLAHAN	C7548X	24.9	--	--	53.0	211.7	---	---	1.5	--	--	24	55	*237	2	100	27	50	161	3	100	24	54	*237	0	100
LEADER	X3654	25.0	--	--	54.8	179.5	---	---	0.7	--	--	24	56	199	0	92	27	53	147	2	86	25	56	192	0	94
*CARGILL	4277	25.1	--	--	54.3	209.3	---	---	0.9	--	--	24	55	222	1	100	26	54	*175	1	88	25	54	*232	0	99
NORTHRUP KING	N5220	25.1	26	--	54.9	200.5	184	---	0.8	1	--	25	56	220	1	99	26	53	*167	1	92	25	56	215	0	99
*DAIRYLAND	STEALTH-1407	25.2	--	--	53.0	220.9	---	---	2.1	--	--	24	54	*241	4	95	26	52	*181	2	89	25	54	*241	1	99
DAIRYLAND	STEALTH-1405	25.3	--	--	53.6	184.4	---	---	1.3	--	--	25	54	196	3	100	25	52	160	1	95	26	54	197	0	100
*GUTWEIN	Ex333	25.3	--	--	52.7	208.4	---	---	2.0	--	--	24	54	*234	5	99	27	51	156	1	98	25	54	*235	0	99
HYPERFORMER	HY9385	25.4	26	--	52.5	190.5	182	---	1.8	2	--	24	55	214	3	97	27	50	151	2	100	25	53	206	0	100
TERRA	TR1050	25.4	26	26	54.7	178.9	173	168	1.8	3	3	25	56	210	3	97	27	54	142	1	91	25	55	185	1	95
TOP FARM	TFsx2103	25.4	--	--	54.1	187.4	---	---	2.9	--	--	25	56	204	3	100	27	51	145	6	98	25	56	214	1	100
TOP FARM	TFsx2104	25.4	26	--	52.9	184.4	174	---	1.5	2	--	25	54	202	2	99	27	51	154	2	99	24	54	197	1	100
*CARGILL	4327	25.5	26	28	54.4	208.5	198	188	1.9	2	1	25	55	*237	0	100	25	52	158	4	92	26	56	*231	1	99
DEKALB	DK569	25.5	--	--	52.8	200.2	---	---	2.5	--	--	27	54	*229	3	94	26	51	163	2	93	24	53	209	3	100
RUPP	Ex.4-223	25.5	--	--	55.1	188.4	---	---	0.7	--	--	25	56	206	1	97	27	52	154	1	97	25	57	206	0	97
RENK	RK696	25.7	--	--	52.6	175.6	---	---	2.0	--	--	25	54	196	3	100	28	50	141	2	100	24	54	189	1	100
RUPP	XR1623	25.7	--	--	55.0	199.2	---	---	1.8	--	--	25	57	*225	1	91	27	52	*167	3	92	25	56	206	2	91
AMCORN	5230	25.8	--	--	53.5	185.6	---	---	2.3	--	--	24	55	192	2	97	28	51	162	3	92	25	54	203	1	98
LEADER	SX499	25.9	--	--	54.4	200.2	---	---	1.0	--	--	26	55	222	2	100	27	53	165	1	95	25	55	214	0	100
CALLAHAN	C7245	26.0	27	27	53.6	179.5	170	167	2.1	3	3	25	55	210	3	100	27	52	139	3	92	25	55	189	0	99
PIONEER	3394	26.0	29	30	54.9	201.0	195	185	0.7	1	1	26	57	216	0	98	28	52	*171	1	97	25	56	217	1	98
CALLAHAN	C7249	26.3	28	29	54.2	195.4	184	176	1.6	1	1	25	55	220	3	97	29	51	154	2	91	26	56	213	1	98
CARGILL	5677	26.3	28	--	54.2	201.2	199	---	1.9	2	--	27	56	*234	3	100	25	51	158	2	80	27	56	212	1	95
CROW'S	375	26.3	27	--	54.1	182.3	180	---	2.2	2	--	25	55	198	3	92	29	52	154	2	98	26	55	196	2	100
*STINE	1076	26.5	--	--	52.8	204.2	---	---	1.1	--	--	27	54	217	2	100	26	51	*167	1	100	27	54	*229	0	100
CARGILL	SX269	26.7	28	30	54.0	191.7	189	180	1.3	1	1	26	56	*225	1	99	28	52	148	0	91	26	55	202	3	100
CARGILL	5547	26.7	--	--	54.4	196.9	---	---	0.8	--	--	28	56	206	1	97	26	52	*180	1	99	26	55	205	1	100
CALLAHAN	C7446X	26.8	27	--	53.3	201.5	190	---	1.6	2	--	27	54	*226	2	98	27	51	150	2	98	27	55	*229	0	100
CROW'S	435	26.9	--	--	53.0	201.5	---	---	1.8	--	--	27	54	221	3	99	27	51	*168	2	94	27	54	215	0	100
HYPERFORMER	HY9424	26.9	28	--	56.0	185.2	184	---	1.1	1	--	26	58	204	2	100	29	53	136	1	93	26	57	215	0	100
*CIBA	4394	27.0	--	--	54.4	216.2	---	---	1.2	--	--	27	56	*237	2	99	28	52	*172	2	96	27	55	*239	0	99
ASGROW	RX623	27.1	28	28	53.7	180.8	183	183	1.1	2	2	26	56	212	1	99	30	50	131	2	98	25	55	200	0	99
*CROW'S	445	27.4	30	--	54.0	218.7	199	---	0.5	1	--	28	55	*233	0	100	28	52	*195	1	92	26	55	*229	0	100
BAYSIDE	102	27.5	--	--	52.1	175.4	---	---	2.1	--	--	27	53	183	4	100	30	49	137	2	99	26	54	206	1	100
DAIRYLAND	STEALTH-1205	27.5	28	30	53.0	193.3	184	178	1.0	1	1	27	54	210	1	99	28	51	149	2	99	28	54	*221	0	100
MYCOGEN	6970	27.8	--	--	53.3	188.5	---	---	1.7	--	--	26	55	220	1	99	31	52	136	1	90	28	53	210	3	100
*RUPP	XR1677	27.9	30	31	51.4	203.4	202	191	1.2	1	1	26	53	*228	1	100	31	49	*168	2	96	28	52	214	1	97
TOP FARM	TFsx2108	28.0	--	--	53.5	197.5	---	---	1.5	--	--	27	55	220	1	96	30	51	157	2	95	28	54	215	2	98
TERRA	TR1070	28.1	--	--	53.6	201.5	---	---	2.5	--	--	26	55	210	1	100	31	52	158	4	97	28	55	*237	3	100
PAYCO	754	28.3	--	--	52.1	197.9	---	---	1.3	--	--	29	53	222	1	100	28	50	151	2	87	29	53	*221	1	100
*MYCOGEN	6220	28.5	--	--	55.3	215.6	---	---	1.7	--	--	27	58	*247	1	100	31	51	*170	3	100	27	56	*230	1	100
*CARGILL	6327	28.6	--	--	53.4	211.9	---	---	1.2	--	--	28	56	*237	1	97	30	51	*171	2	95	27	54	*227	0	97
LEADER	X4154	29.1	--	--	53.4	195.3	---	---	0.8	--	--	29	54	218	1	93	30	52	140	1	96	29	55	*228	0	100
RENK	RK812	29.7	31	32	52.6	192.2	188	180	1.4	1	1	28	54	*224	3	99	33	51	131	1	98	28	53	*222	0	100
LEADER	X5154	29.9	--	--	53.6	193.3	---	---	1.6	--	--	27	55	*233	3	92	31	52	158	1	78	32	54	189	1	93
*CARGILL	6677	30.5	32	--	52.1	203.9	197	---	1.5	1	--	30	54	*240	1	99	34	51	144	3	93	28	52	*228	0	100
VINEYARD	V417W	32.0	--	--	56.1	152.1	---	---	1.1	--	--	29	57	175	1	96	35	55	114	2	99	33	57	168	0	100
Average		25.7	27	28	54.0	191.3	188	181	1.5	2	2	25	55	212	2	97	27	52	153	2	94	25	55	209	1	98
Range		22.1 to 32.0	23 to 32	23 to 32	51.4 to 56.1	152.1 to 220.9	167 to 204	167 to 196	0.5 to 3.2	2 to 5	2 to 4	22 to 30	53 to 58	170 to 247	0 to 5	90 to 100	21 to 35	49 to 55	114 to 195	0 to 6	78 to 100	21 to 33	52 to 58	168 to 214	0 to 3	87 to 100
Least Significant Difference		1.1			.8	10.4						1	1	12			2	2	14			1	1	11		
Coefficient of Variance		4.5			1.4	5.7						6	2	7			7	4	11			5	2	6		

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	KENT	INGHAM
PLANTED	May 4	April 25
HARVESTED	October 26	October 20
SOIL TYPE	Spinks Loamy Sand	Capac Loam
PREVIOUS CROP	Alfalfa Sod	Soybeans
PERFECT STAND	28,500	27,700
AVERAGE POPULATION	27,600	25,680
ROW WIDTH	30"	30"
FERTILIZER	76-0-0	160-10-107
SOIL TEST: pH	5.8	5.9
P	132 (very high)	113 (very high)
K	320 (very high)	240 (high)

	SAGINAW
PLANTED	May 3
HARVESTED	October 28
SOIL TYPE	Charity Clay
PREVIOUS CROP	Dry Beans
PERFECT STAND	28,500
AVERAGE POPULATION	27,940
ROW WIDTH	30"
FERTILIZER	160-0-0
SOIL TEST: pH	7.7
P	132 (very high)
K	528 (very high)

FARM COOPERATORS: Gerald Kayser, Pleasant Acres Farm, Caledonia; Michigan State University, East Lansing
COUNTY EXTENSION DIRECTOR: William Harrison, Grand Rapids; Joseph Lessard, Mason
EXTENSION AGR'L AGENTS: William Steenwyk, Grand Rapids; John Knorek and Laura Rhodes, Mason

FARM COOPERATORS: Paul Horny, Saginaw Beet & Bean Research Farm, Saginaw
COUNTY EXTENSION DIRECTOR: James Thews, Saginaw
EXTENSION AGR'L AGENT: Steven Poindexter, Saginaw

Average of Huron, Montcalm & Mason County EARLY trials
One, two, three year averages — 1994, 1993, 1992

EARLY TRIAL (98 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

HYBRID (Brand-Variety)		% MOISTURE 1994	2 Yr	3 Yr	TEST WGT 1994	BUSHELS PER ACRE 1994	2 Yr	3 Yr	% STALK LODG 1994	2 Yr	3 Yr	HURON COUNTY % H2O	TEST WT	B/A	% SL	% STD	MONTCALM COUNTY % H2O	TEST WT	B/A	% SL	% STD	MASON COUNTY % H2O	TEST WT	B/A	% SL	% STD
DEKALB	DK381	16.7	--	--	56.8	158.3	---	---	2.2	--	--	15	57	113	3	98	19	57	194	1	96	16	57	168	3	72
DEKALB	DK401	17.3	--	--	56.7	156.1	---	---	2.2	--	--	15	56	111	6	95	19	57	199	1	100	18	58	158	0	68
PAYCO	344	18.1	--	--	56.1	153.3	---	---	1.1	--	--	15	56	120	2	92	22	57	180	1	76	17	56	160	1	69
STINE	870	18.2	--	--	59.0	135.1	---	---	1.3	--	--	16	59	100	3	96	20	59	150	0	78	19	60	155	1	81
CROW'S	165	18.5	--	--	57.9	154.6	---	---	2.1	--	--	15	56	109	5	90	21	58	195	2	100	19	60	160	0	79
PAYCO	253	18.5	19	--	57.6	142.5	145	---	4.3	7	--	16	57	100	7	84	20	57	164	2	97	19	59	163	4	76
ANDERSONS	HSX44011	18.6	19	--	56.1	154.4	146	---	0.4	1	--	16	56	101	0	99	22	56	189	1	93	18	57	173	0	77
PAYCO	413	18.6	19	--	55.4	180.0	167	---	2.4	2	--	16	56	128	2	98	21	55	*217	1	100	18	55	*195	4	92
AMCORN	3030	18.7	--	--	57.5	160.8	---	---	1.6	--	--	16	58	125	2	89	21	58	203	1	100	19	57	155	1	69
TOP FARM	TFsx2194	18.7	--	--	59.0	164.6	---	---	2.4	--	--	17	60	119	5	98	21	58	204	0	100	18	59	171	2	84
CARGILL	2497	19.0	--	--	57.2	148.2	---	---	1.2	--	--	17	57	106	2	99	22	57	184	1	100	19	57	155	1	80
NORTHRUP KING	N2409	19.0	20	--	59.2	159.2	155	---	1.7	1	--	17	60	130	5	100	20	58	189	0	100	19	60	159	0	64
CIBA	4120	19.1	--	--	57.4	166.1	---	---	1.0	--	--	17	58	129	0	99	21	56	190	1	100	20	58	*180	2	82
DAIRYLAND	DST 9026	19.1	--	--	59.2	172.4	---	---	2.1	--	--	18	59	*139	1	100	21	59	*214	1	100	18	59	165	4	81
NORTHRUP KING	N2555	19.1	--	--	58.5	112.2	---	---	0.9	--	--	16	59	117	2	93	21	57	103	1	41	20	59	117	0	57
PAYCO	Ex4241	19.1	--	--	59.3	162.9	---	---	1.5	--	--	18	60	*140	3	95	22	58	184	0	86	18	60	165	1	78
TOP FARM	TFsx1193	19.2	20	--	56.1	122.5	131	---	2.6	2	--	17	57	116	4	94	23	55	132	4	68	18	56	119	0	61
AMCORN	Ex 410	19.3	--	--	58.8	165.9	---	---	2.1	--	--	18	60	*135	4	85	22	58	198	1	99	18	59	164	2	78
CIBA	4202	19.3	--	--	56.4	171.9	---	---	1.2	--	--	17	57	133	2	96	21	56	*217	1	98	20	57	165	0	73
PIONEER	3861	19.3	20	22	57.2	179.1	167	162	1.4	2	2	16	58	130	1	100	23	57	*220	2	100	19	57	*188	1	79
*CIBA	4214	19.4	--	--	57.9	183.9	---	---	2.2	--	--	17	58	130	4	96	22	57	*233	1	98	19	59	*189	1	78
GOLDEN HARVEST	H-2292	19.4	--	--	56.6	169.1	---	---	0.7	--	--	18	57	117	1	97	21	56	197	1	100	19	57	*193	0	99
HYPERFORMER	HY9207	19.4	--	--	58.7	147.9	---	---	4.5	--	--	17	59	126	10	98	22	58	158	2	66	19	59	160	2	61
PAYCO	444	19.4	--	--	55.5	169.9	---	---	6.5	--	--	17	57	130	10	92	21	56	*208	4	96	20	54	172	6	76
CIBA	4144	19.5	--	--	58.0	163.1	---	---	1.7	--	--	17	59	124	3	93	22	58	201	2	100	19	58	164	1	69
DEKALB	DK474	19.5	--	--	56.1	169.6	---	---	2.0	--	--	16	56	119	4	97	23	55	*219	1	98	20	57	171	1	70
RENK	RK424	19.6	--	--	55.6	173.5	---	---	2.0	--	--	17	56	130	4	97	23	55	193	1	100	19	57	*198	2	86
CARGILL	2927	19.7	20	23	56.5	178.4	166	160	3.1	3	3	17	57	123	3	91	21	57	*222	1	100	21	56	*191	5	77
RENK	RK555	19.8	22	25	54.2	167.6	157	154	1.5	1	1	17	55	112	3	100	23	54	194	1	100	20	54	*197	1	86
BAYSIDE	86	19.9	--	--	55.6	172.3	---	---	2.0	--	--	17	56	134	2	88	24	56	202	1	89	19	56	*181	3	86
BAYSIDE	1794	20.0	--	--	56.4	177.5	---	---	3.2	--	--	17	57	*144	4	98	24	56	*220	3	100	20	57	169	3	85
CROW'S	170	20.0	--	--	55.3	177.4	---	---	2.4	--	--	17	56	119	4	100	23	56	*211	0	100	21	55	*202	3	82
DEKALB	DK446	20.0	--	--	55.7	165.6	---	---	2.0	--	--	15	56	111	5	85	25	55	203	0	80	20	56	*183	1	62
MYCOGEN	3440	20.0	--	--	57.0	152.2	---	---	2.0	--	--	17	60	121	5	98	23	55	185	1	74	20	56	151	0	59
DAIRYLAND	STEALTH-1195	20.1	--	--	56.3	158.7	---	---	1.6	--	--	17	56	122	3	99	24	56	192	2	100	20	57	163	0	72
*GOLDEN HARVEST	H-2331	20.1	21	25	55.7	188.0	174	168	2.7	2	3	17	56	132	4	98	22	56	*228	3	100	21	55	*204	1	89
ICI SEEDS	8751	20.1	--	--	57.1	179.7	---	---	2.4	--	--	17	58	*137	4	95	24	56	*215	3	100	20	58	*188	1	80
NORTHRUP KING	N3030	20.1	--	--	56.5	145.1	---	---	1.9	--	--	18	57	119	0	90	23	56	154	1	66	20	57	163	5	66
NORTHRUP KING	N2879	20.3	21	--	57.1	152.0	146	---	3.1	2	--	17	57	115	4	93	24	57	192	5	99	20	57	149	0	68
*PAYCO	531	20.4	22	26	56.3	188.5	172	164	0.6	3	3	17	57	*139	2	91	23	56	*239	0	100	21	56	*188	0	83
*CARGILL	3777	20.6	--	--	59.4	190.5	---	---	1.4	--	--	19	61	*136	3	99	22	59	*238	1	100	21	58	*198	1	89
DEKALB	DK471	20.6	--	--	55.0	137.4	---	---	2.1	--	--	17	58	*149	3	94	24	54	121	2	40	20	54	143	2	60
*PIONEER	3769	20.6	21	--	56.4	187.2	180	---	2.0	2	--	18	57	*149	4	100	25	56	*232	0	100	19	57	*181	2	74
*AMCORN	LG 2482	20.8	--	--	55.7	185.4	---	---	0.5	--	--	18	57	*143	0	91	24	55	*225	1	100	21	55	*189	0	79
PICKSEED	4990	21.0	--	--	56.7	137.6	---	---	0.8	--	--	18	57	130	2	88	24	56	160	0	71	21	57	123	1	60
TERRA	E981	21.0	22	--	56.1	116.7	130	---	2.4	3	--	19	58	117	5	87	24	55	113	1	44	20	56	120	2	67
BLANEY	2100	21.1	--	--	55.8	169.9	---	---	1.9	--	--	17	55	123	2	98	24	57	*225	2	94	22	56	162	2	72
*PIONEER	3752	21.1	22	--	57.0	182.0	167	---	1.4	3	--	18	59	*141	2	94	25	57	*222	2	100	20	55	*183	0	79
STINE	951	21.1	21	--	54.5	125.0	138	---	1.7	1	--	16	55	125	3	84	27	53	110	0	51	21	55	140	3	59
PICKSEED	5990	21.2	22	25	57.1	167.6	160	153	3.0	4	3	19	58	124	5	100	24	56	*214	2	100	20	57	165	2	80
AMCORN	LG 2465	21.3	--	--	55.5	142.2	---	---	0.8	--	--	19	56	130	1	82	24	54	183	1	76	21	56	113	1	53
MYCOGEN	4440	21.3	--	--	53.7	171.3	---	---	1.6	--	--	18	53	*135	4	98	25	54	198	0	95	21	54	*181	1	77
PAYCO	614	21.3	--	--	55.4	144.1	---	---	2.0	--	--	17	56	112	5	98	26	54	157	0	54	21	56	164	1	60
*GOLDEN HARVEST	H-2349	21.5	22	--	56.4	182.0	172	---	3.0	2	--	17	57	116	6	100	24	55	*222	1	100	23	57	*208	1	82
*GUTWEIN	2088	21.5	--	--	55.1	190.9	---	---	2.3	--	--	18	56	*136	4	99	24	55	*242	2	100	23	54	*195	1	80
JUNG	2496	21.6	23	26	53.9	169.5	163	160	2.4	3	2	18	54	129	5	100	25	53	194	1	100	21	54	*186	2	86
PIONEER	3751	21.7	22	25	55.9	177.1	169	165	1.5	2	2	18	57	*146	2	96	27	56	*205	2	100	20	55	*180	1	74
KING AGRO	KGAG 18057	22.0	--	--	59.4	152.9	---	---	1.8	--	--	20	60	129	3	99	25	59	202	2	100	21	60	128	1	65
*ASGROW	RX502	22.1	--	--	56.2	186.0	---	---	2.3	--	--	21	56	126	6	100	24	56	*229	1	100	22	57	*203	0	94
ASGROW	XP4923	22.1	--	--	56.3	159.4	---	---	3.3	--	--	19	56	117	3	100	27	56	195	2	100	21	56	167	6	91
MYCOGEN	4770	22.2	--	--	54.6	157.8	---	---	2.8	--	--	18	55	102	2	94	25	55	192	2	72	24	54	*179	4	71
ASGROW	RX444	22.6	--	--	54.2	175.2	---	---	1.8	--	--	19	55	*138	2	89	26	54	*206	2	98	23	54	*182	1	77
BAYSIDE	95	22.9	--	--	56.1	173.7	---	---	1.4	--	--	20	56	*138	3	99	27	55	200	0	100	23	57	*183	1	89
HYPERFORMER	HY9262	23.0	--	--	56.2	110.4	---	---	1.7	--	--	18	59	*136	3	92	30	55	99	0	45	22	55	97	2	35
TOP FARM	TFsx2195	23.1	--	--	55.9	109.8	---	---	1.9	--	--	18	58	122	3	91	30	54	94	2	36	21	56	113	1	51
RUPP	Ex.4-239	25.5	--	--	54.1	172.9	---	---	1.8	--	--	21	54	*145	4	100	31	54	*207	1	100	25	54	167	1	77
Average		20.2	21	25	56.5	161.7	158	161	2.0	2	2	17	57	126	3	95	23	56	192	1	89	20	57	168	2	74
Range		16.7 to 25.5	19 to 23	22 to 26	53.7 to 59.4	109.8 to 190.9	130 to 180	153 to 168	0.4 to 6.5	1 to 7	1 to 3	15 to 21	53 to 61	100 to 149	0 to 10	82 to 100	19 to 31	53 to 59	94 to 242	0 to 5	36 to 100	16 to 25	54 to 60	97 to 208	0 to 6	35 to 99
Least Significant Difference		1.1			.8	18.7						1	1	9			1	1	13			1	1	11		
Coefficient of Variance		5.8			1.5	12.2						3	3	9			7	2	8			4	2	8		

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	HURON	MONTCALM
PLANTED	May 10	April 27
HARVESTED	November 11	November 3
SOIL TYPE	Kilmanagh Loam	Montcalm-McBride Sandy Loam
PREVIOUS CROP	Corn	Potatoes
PERFECT STAND	28,500	29,700
AVERAGE POPULATION	27,360	27,070
ROW WIDTH	30"	30"
FERTILIZER	150-120-9	137-0-120
SOIL TEST: pH	6.8	5.5
P	73 (high)	534 (very high)
K	216 (high)	248 (high)
IRRIGATION		4.25 inches

FARM COOPERATORS: William, Ron and Ed McCrea, Wil-le Farms, Bad Axe; Richard Crawford, Montcalm Research Farm, Entrican
COUNTY EXTENSION DIRECTOR: Robert Johnson, Bad Axe; Donald Smucker, Stanton
EXTENSION AGR'L AGENTS: James LeCureux, Bad Axe; George Atkeson, Stanton

	MASON
PLANTED	May 6
HARVESTED	November 2
SOIL TYPE	Ogemaw Sandy Loam
PREVIOUS CROP	Snap Beans-rye cover
PERFECT STAND	24,500
AVERAGE POPULATION	18,300
ROW WIDTH	30"
FERTILIZER	130-4-60
SOIL TEST: pH	6.5
P	311 (very high)
K	528 (very high)
IRRIGATION	None

FARM COOPERATORS: Robert and August Oshe, Scottville
COUNTY EXTENSION DIRECTOR: David Peterson, Scottville

Average of Huron, Montcalm & Mason County LATE trials
One, two, three year averages — 1994, 1993, 1992

LATE TRIAL (99 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

HYBRID (Brand-Variety)		% MOISTURE 1994	% MOISTURE 2 Yr	% MOISTURE 3 Yr	TEST WGT 1994	BUSHELS PER ACRE 1994	BUSHELS PER ACRE 2 Yr	BUSHELS PER ACRE 3 Yr	% STALK LODG 1994	% STALK LODG 2 Yr	% STALK LODG 3 Yr	HURON COUNTY % H2O	HURON COUNTY TEST WT	HURON COUNTY B/A	HURON COUNTY % SL	HURON COUNTY % STD	MONTCALM COUNTY % H2O	MONTCALM COUNTY TEST WT	MONTCALM COUNTY B/A	MONTCALM COUNTY % SL	MONTCALM COUNTY % STD	MASON COUNTY % H2O	MASON COUNTY TEST WT	MASON COUNTY B/A	MASON COUNTY % SL	MASON COUNTY % STD
PIONEER	3723	20.5	22	25	57.0	184.1	177	171	1.1	1	1	18	57	140	3	100	24	57	222	1	99	20	57	*190	0	84
DAIRYLAND	STEALTH-1400	20.7	--	--	55.7	149.2	---	---	1.5	--	--	17	55	122	3	100	25	56	160	1	64	21	56	165	1	70
DEKALB	DK493	20.8	--	--	56.3	188.4	---	---	2.1	--	--	17	57	*154	4	99	25	55	*233	1	99	21	57	179	1	74
STINE	993	20.8	22	--	55.7	181.3	173	---	1.4	1	--	17	56	128	0	96	24	55	221	1	99	22	56	*194	3	79
MYCOGEN	AG3965	20.9	21	--	55.7	181.1	170	---	2.2	2	--	17	55	147	2	96	25	56	224	1	100	20	57	173	3	75
ICI SEEDS	8746	21.4	--	--	55.6	175.1	---	---	2.5	--	--	17	56	129	4	98	24	55	222	1	99	23	56	174	3	59
RENK	RK657	21.4	23	26	54.9	165.5	156	151	1.6	1	2	18	54	106	1	100	25	55	214	1	100	22	56	177	3	91
COUNTRYMARK	432	21.5	--	--	55.9	179.4	---	---	0.7	--	--	17	55	122	1	100	25	56	*236	0	100	23	56	181	1	80
MYCOGEN	5270	21.5	--	--	56.0	164.2	---	---	4.3	--	--	19	56	118	8	95	25	56	200	3	99	21	57	175	3	75
RENK	RK617	21.6	23	26	55.9	176.5	164	157	1.9	2	3	17	56	129	1	100	25	56	223	1	100	23	56	178	4	79
STINE	994	21.6	--	--	55.3	159.6	---	---	1.7	--	--	17	56	132	1	97	26	54	172	2	68	21	56	175	2	70
JUNG	2648	21.7	23	25	54.7	167.8	159	156	1.8	2	2	18	54	130	3	100	25	55	210	1	100	22	55	163	2	79
RENK	RK602	21.8	24	26	53.1	181.7	163	158	3.0	2	2	19	52	135	4	100	25	53	215	2	99	22	54	*196	3	82
TOP FARM	TFsx1097A	21.8	--	--	54.9	162.6	---	---	1.1	--	--	18	55	142	1	100	26	54	201	1	97	22	55	145	1	74
CROW'S	180	21.9	--	--	53.7	172.5	---	---	3.1	--	--	19	54	134	5	100	25	53	217	1	100	21	54	167	3	72
CIBA	2130X	22.2	--	--	55.8	175.6	---	---	0.9	--	--	19	57	145	1	98	26	55	197	1	100	22	56	*185	1	87
NORTHRUP KING	N4242	22.5	22	26	56.1	182.1	170	161	1.3	1	1	17	57	*156	2	98	27	56	219	1	100	23	55	172	2	74
DEKALB	DK512	22.6	--	--	54.6	183.7	---	---	2.8	--	--	17	55	*160	6	100	28	54	221	1	99	23	54	171	2	75
GOLDEN HARVEST	Ex702	22.7	--	--	56.3	165.8	---	---	1.1	--	--	20	56	127	3	98	25	57	212	1	97	23	56	158	0	69
RUPP	XR1644	23.4	25	29	57.0	166.3	156	151	0.8	1	1	19	57	*158	2	97	27	56	188	0	89	24	58	153	0	72
DAIRYLAND	STEALTH-1200	23.5	--	--	56.2	160.1	---	---	1.6	--	--	19	55	130	1	100	29	56	192	2	100	23	57	159	2	83
PICKSEED	5993	23.6	25	27	53.8	126.4	143	150	0.9	1	1	19	54	128	2	89	28	54	136	0	50	24	53	115	1	68
HYPERFORMER	HY9355	23.9	--	--	55.0	155.2	---	---	1.9	--	--	20	56	*150	2	100	29	55	191	2	100	23	54	125	1	60
*PIONEER	3573	23.9	26	30	54.8	209.5	193	180	1.3	1	1	19	55	*156	2	99	28	55	*245	1	100	25	54	*228	1	81
*PIONEER	3525	24.0	27	31	55.1	197.5	183	173	1.0	1	1	21	54	142	2	99	27	55	*258	1	100	24	56	*192	1	75
TERRA	TR1031	24.0	25	--	54.2	174.0	164	---	2.7	2	--	20	53	141	5	99	29	54	202	2	100	23	56	179	2	84
*CROW'S	204	24.1	--	--	56.0	190.6	---	---	1.4	--	--	18	57	143	3	93	30	55	*234	1	98	24	57	*195	1	85
CROW'S	370	24.1	25	29	53.5	169.9	161	153	3.4	2	3	20	53	128	6	100	28	53	213	1	99	25	54	168	3	73
JUNG	2596	24.2	25	--	53.6	183.9	176	---	3.1	2	--	20	52	138	2	100	28	54	*229	2	100	25	54	*185	5	82
DAIRYLAND	STEALTH-1205	24.9	26	31	54.2	177.6	168	159	1.4	1	1	21	55	134	2	100	29	53	*232	2	99	25	55	167	1	74
DAIRYLAND	STEALTH-1203	25.1	25	29	53.0	177.5	167	159	1.5	1	1	20	52	134	3	100	30	53	223	2	99	26	54	176	0	78
PAYCO	734	25.4	27	--	53.2	184.4	175	---	0.5	1	--	21	53	*156	2	92	30	53	211	0	74	25	53	*186	0	70
CARGILL	4277	25.5	27	--	54.6	187.5	174	---	2.1	1	--	20	53	*151	5	98	31	55	*244	0	100	26	56	167	1	82
*CARGILL	4327	25.6	27	32	56.0	190.8	177	166	3.1	2	3	20	54	146	7	89	31	58	*239	2	99	27	55	*187	1	72
RUPP	XR1623	25.6	26	--	55.2	185.0	167	---	1.6	1	--	21	55	145	4	90	30	55	*234	1	95	26	55	176	0	70
JUNG	2672	25.8	--	--	54.2	164.0	---	---	1.6	--	--	21	54	*149	3	100	31	54	197	1	100	26	55	146	1	77
ASGROW	RX623	25.9	27	31	55.0	183.2	179	167	1.7	2	1	22	55	*153	1	99	29	56	223	1	99	27	54	174	3	70
*GUTWEIN	Ex333	25.9	--	--	53.4	193.8	---	---	1.1	--	--	20	53	*150	1	98	31	54	*237	1	99	26	53	*195	1	75
*PIONEER	3394	26.8	--	--	56.0	195.5	---	---	0.9	--	--	21	55	138	1	99	32	56	*243	0	99	27	57	*206	1	75
CARGILL	5547	27.0	--	--	54.5	187.3	---	---	1.7	--	--	22	54	*154	5	100	31	55	*236	0	100	28	55	172	0	76
CARGILL	5677	28.3	--	--	54.1	174.5	---	---	2.4	--	--	21	54	142	4	98	35	54	206	1	83	29	54	176	2	68
RUPP	XR1727	29.7	--	--	54.2	161.1	---	---	1.3	--	--	25	53	135	1	100	34	55	216	0	100	30	55	133	2	68
Average		23.6	25	28	55.0	175.2	169	161	1.8	1	2	19	55	139	3	98	28	55	214	1	94	24	55	172	2	74
Range		20.5 to 29.7	21 to 27	25 to 31	53.0 to 57.0	126.4 to 209.5	143 to 193	150 to 180	0.5 to 4.3	1 to 2	1 to 3	17 to 25	52 to 57	106 to 160	0 to 8	86 to 100	24 to 35	53 to 58	136 to 258	0 to 3	50 to 100	20 to 30	53 to 58	115 to 228	0 to 5	59 to 91
Least Significant Difference		1.1			1.2	14.8						1	1	9			2	1	12			1	2	12		
Coefficient of Variance		4.7			1.6	8.9						4	2	8			6	3	7			5	3	9		

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	HURON	MONTCALM
PLANTED	May 10	April 27
HARVESTED	November 11	November 3
SOIL TYPE	Kilmanagh Loam	Montcalm-McBride Sandy Loam
PREVIOUS CROP	Corn	Potatoes
PERFECT STAND	28,500	29,700
AVERAGE POPULATION	27,360	27,070
ROW WIDTH	30"	30"
FERTILIZER	150-120-9	137-0-120
SOIL TEST: pH	6.8	5.5
P	73 (high)	534 (very high)
K	216 (high)	248 (high)
IRRIGATION		4.25 inches

FARM COOPERATORS: William, Ron and Ed McCrea,Wil-le Farms Bad Axe; Richard Crawford, Montcalm Research Farm, Entrican

COUNTY EXTENSION DIRECTOR: Robert Johnson, Bad Axe; Donald Smucker, Stanton

EXTENSION AGR'L AGENTS: James LeCureux, Bad Axe; George Atkeson, Stanton

	MASON
PLANTED	May 6
HARVESTED	November 2
SOIL TYPE	Ogemaw Sandy Loam
PREVIOUS CROP	Snap Beans-rye cover
PERFECT STAND	24,500
AVERAGE POPULATION	18,300
ROW WIDTH	30"
FERTILIZER	130-4-60
SOIL TEST: pH	6.5
P	311 (very high)
K	528 (very high)
IRRIGATION	None

FARM COOPERATORS: Robert and August Oshe, Scottville

COUNTY EXTENSION DIRECTOR: David Peterson, Scottville

Average of Alpena, Grand Traverse & Delta County trials
One, two, three year averages — 1994, 1993, 1992

HYBRID (Brand-Variety)		% MOISTURE 1994	2 Yr	3 Yr	TEST WGT 1994	BUSHELS PER ACRE 1994	2 Yr	3 Yr	% STALK LODG 1994	2 Yr	3 Yr	ALPENA COUNTY % H2O	TEST WT	B/A	% SL	% STD	GRAND TRAVERSE COUNTY % H2O	TEST WT	B/A	% SL	% STD	DELTA COUNTY SILAGE %DM	TONS/ACRE G WT	TONS/ACRE D WT	% STD
DEKALB	DK306	21.9	--	--	55.9	141.1	---	---	1.9	--	--	19	57	135	3	100	25	55	148	1	100	36	15.6	5.6	84
DEKALB	DK352	21.9	--	--	55.1	159.2	---	---	5.0	--	--	17	58	167	4	100	27	52	152	6	100	31	21.3	6.6	84
DAIRYLAND	STEALTH-1174	22.1	--	--	58.4	123.5	---	---	5.7	--	--	19	61	138	5	99	26	56	109	7	100	34	14.2	4.8	71
PIONEER	3979	22.3	--	--	56.4	92.5	---	---	28.2	--	--	18	58	58	50	100	26	55	127	7	100	33	13.0	4.4	82
PAYCO	151	22.8	--	--	58.0	144.5	---	---	6.0	--	--	18	61	156	8	100	28	55	133	4	100	32	14.2	4.5	80
ANDERSONS	HSX2241	23.0	--	--	54.5	167.8	---	---	5.0	--	--	18	57	170	7	100	28	52	*166	3	100	31	15.4	4.8	71
*PIONEER	3905	23.6	--	--	56.7	174.3	---	---	3.2	--	--	19	59	*185	3	100	28	54	*163	4	100	34	18.2	6.2	80
MYCOGEN	1376	23.8	--	--	53.9	130.0	---	---	3.9	--	--	20	55	112	6	94	28	53	148	2	100	33	16.4	5.3	84
PIONEER	3907	23.9	26	--	55.7	170.2	143	---	1.6	1	--	19	58	*179	1	100	29	53	*161	2	100	33	19.2	6.3	79
CARGILL	1037	24.4	--	--	57.1	147.0	---	---	3.1	--	--	20	58	142	5	100	29	56	152	2	100	36	18.2	6.6	84
ICI SEEDS	8990	24.4	--	--	56.4	166.9	---	---	4.0	--	--	18	60	178	5	97	31	53	156	3	99	32	19.1	6.1	84
JUNG	2244	24.5	--	--	55.8	159.0	---	---	3.7	--	--	19	58	170	5	100	30	54	148	2	100	34	17.9	6.1	85
*PAYCO	344	24.5	--	--	54.4	182.9	---	---	2.4	--	--	18	56	*192	1	95	31	53	*174	4	100	27	26.5	*7.1	85
*DEKALB	DK401	24.6	--	--	54.5	193.0	---	---	2.8	--	--	18	57	*197	2	100	32	52	*189	4	100	27	24.6	*6.7	79
PAYCO	253	24.7	26	--	54.6	158.4	128	---	5.1	3	--	19	56	168	4	97	30	53	149	6	97	32	21.3	*6.8	90
NORTHRUP KING	N1500	24.9	--	--	56.7	163.5	---	---	3.0	--	--	20	58	176	2	100	30	55	151	4	100	32	18.9	6.0	84
DAIRYLAND	STEALTH-1285	25.2	26	--	55.1	146.9	121	---	2.0	2	--	21	57	154	2	100	29	53	139	2	100	31	19.0	5.8	84
*DEKALB	DK381	25.2	--	--	54.4	178.4	---	---	1.9	--	--	18	57	*183	3	100	33	52	*173	1	100	28	25.4	*7.1	82
PICKSEED	2620	25.2	27	27	57.1	166.4	132	125	2.7	2	2	19	60	173	3	100	32	54	*160	2	100	34	17.7	6.0	87
ICI SEEDS	8940	25.3	--	--	55.5	167.9	---	---	1.4	--	--	19	58	170	0	100	32	53	*166	2	100	30	19.6	5.8	80
WOLF RIVER VAL	WRV9383	25.3	--	--	54.6	168.1	---	---	3.9	--	--	20	56	171	7	94	31	53	*166	1	100	28	21.5	6.0	83
CIBA	4030	25.4	--	--	54.7	159.8	---	---	2.4	--	--	20	56	170	2	100	31	53	149	3	100	35	19.1	*6.7	86
*PIONEER	3893	25.4	--	--	54.0	199.1	---	---	1.6	--	--	21	55	*210	2	100	30	53	*188	1	100	34	19.6	6.6	77
MYCOGEN	4140	25.5	--	--	55.8	151.1	---	---	3.3	--	--	20	59	149	4	90	31	53	153	2	94	32	16.3	5.2	80
JUNG	2386	25.6	28	--	56.2	162.6	124	---	1.8	2	--	19	59	171	2	97	32	54	154	2	100	28	18.2	5.1	88
CARGILL	2497	25.7	29	--	54.7	168.5	136	---	5.3	3	--	20	56	177	3	91	31	53	*160	7	100	31	20.6	6.4	87
AMCORN	Ex 272	25.8	--	--	56.1	152.2	---	---	3.1	--	--	20	58	161	2	83	32	54	143	4	96	33	14.1	4.7	50
DAIRYLAND	STEALTH-1284	25.8	--	--	54.1	151.0	---	---	3.4	--	--	21	55	158	3	98	31	53	144	4	100	33	17.2	5.7	76
WOLF RIVER VAL	WRV9185	26.0	26	--	55.7	151.1	121	---	4.6	3	--	21	57	157	3	88	31	55	145	6	99	34	14.7	4.9	62
NORTHRUP KING	N2409	26.1	28	29	56.0	164.0	132	131	3.4	2	2	21	58	171	2	100	31	54	157	5	100	30	19.1	5.7	77
RUPP	Ex.4-240	26.6	--	--	54.3	158.2	---	---	5.0	--	--	22	55	*187	5	98	31	54	130	5	100	25	26.8	*6.7	83
TRELAY	1011	26.6	--	--	55.7	158.4	---	---	3.6	--	--	22	56	169	1	96	31	55	148	6	100	32	20.3	6.4	75
KING AGRO	KGAG 21050	26.7	--	--	55.5	161.2	---	---	4.9	--	--	22	56	*181	3	99	31	55	141	6	98	30	21.8	6.6	89
MYCOGEN	2440	26.7	--	--	55.3	159.8	---	---	4.4	--	--	21	56	166	3	96	32	55	154	6	99	31	21.3	6.5	88
AMCORN	3030	27.2	--	--	54.9	158.0	---	---	2.2	--	--	21	57	165	2	93	34	53	151	3	99	31	19.8	6.1	70
TERRA	TR910	27.2	--	--	54.1	172.2	---	---	6.6	--	--	20	55	*186	8	100	35	53	158	6	100	30	21.1	6.4	91
*AMCORM	LG 2388	27.2	--	--	54.4	175.7	---	---	2.0	--	--	20	56	*188	0	94	35	53	*164	4	100	28	24.4	*6.8	87
JUNG	2366	27.7	--	--	56.4	162.7	---	---	5.8	--	--	22	56	*179	4	96	34	57	146	8	100	27	22.8	6.1	79
RUPP	Ex.4-229	27.7	--	--	55.4	162.4	---	---	3.9	--	--	22	56	*182	1	94	34	54	143	7	99	28	25.6	*7.3	82
TRELAY	2004	27.9	--	--	54.9	167.8	---	---	4.6	--	--	22	56	*182	2	100	34	54	153	7	100	27	25.9	*6.9	86
AMCORN	LG 2409	28.2	--	--	53.3	168.3	---	---	1.6	--	--	20	55	*185	1	100	36	52	152	2	100	28	22.3	6.3	86
AMCORN	Ex 410	28.3	--	--	55.3	164.2	---	---	2.7	--	--	22	56	*180	0	98	35	54	149	5	100	28	25.3	*7.2	81
PICKSEED	4990	29.0	32	33	53.9	164.4	132	128	4.0	2	2	23	55	*184	1	91	35	52	145	7	99	28	24.3	*6.8	84
*DEKALB	DK446	30.0	--	--	54.8	179.5	---	---	2.4	--	--	23	55	*217	1	100	38	54	142	4	100	27	25.6	*6.8	85
RUPP	Ex.4-238	30.0	--	--	53.9	171.2	---	---	2.9	--	--	24	54	*192	1	100	36	54	150	5	100	28	24.5	*6.9	89
CARGILL	2927	30.2	35	35	54.4	169.2	131	126	3.9	3	3	23	55	*193	3	100	37	54	146	5	100	27	25.9	*6.9	99
JUNG	2496	31.2	37	37	51.8	161.4	131	127	2.7	2	2	25	52	172	3	99	38	52	151	2	100	28	23.1	6.4	90
Average		25.8	29	32	55.2	161.2	130	127	4.0	2	2	20	57	170	4	97	31	54	152	4	100	31	20.4	6.1	82
Range		21.9 to 31.2	26 to 37	27 to 37	51.8 to 58.4	92.5 to 199.1	121 to 143	125 to 131	1.4 to 28.2	1 to 3	2 to 3	17 to 25	52 to 61	58 to 217	0 to 50	83 to 100	25 to 38	52 to 57	109 to 189	1 to 8	94 to 100	25 to 36	13.0 to 26.8	4.4 to 7.3	50 to 99
Least Significant Difference		1.3			1.3	12.4						1	1	9			1	1	7			2		.6	
Coefficient of Variance		6.1			4.6	9.8						4	3	6			3	3	5			8		10.4	

* SIGNIFICANTLY BETTER THAN AVERAGE YIELD IN 1994

	ALPENA	GRAND TRAVERSE
PLANTED	May 9	May 6
HARVESTED	November 10	October 11
SOIL TYPE	Selkirk Loam	Karlin Sandy Loam
PREVIOUS CROP	Navy beans	Alfalfa Sod
PERFECT STAND	26,100	24,550
AVERAGE POPULATION	25,420	24,430
ROW WIDTH	30"	30"
FERTILIZER	118-78-162	130-38-98
SOIL TEST: pH	6.3	6.7
P	178 (very high)	136 (very high)
K	272 (high)	192 (medium)

	DELTA
PLANTED	May 13
HARVESTED	September 22
SOIL TYPE	Onaway Fine Sandy Loam
PREVIOUS CROP	Corn
PERFECT STAND	26,100
AVERAGE POPULATION	21,400
ROW WIDTH	30"
FERTILIZER	80-40-80 + 7 ton manure
SOIL TEST: pH	7.5
P	113 (very high)
K	345 (very high)

FARM COOPERATORS: Allen Schiellard, Hubbard Lake; Richard Dennett, Buckley
COUNTY EXTENSION DIRECTOR: Paul Wegmeyer, Alpena; James Wiesing, Traverse City
EXTENSION AGR'L AGENT: Erwin Elsner, Traverse City

FARM COOPERATORS: Benny & Audrey Herioux, Bark River
MSU COOPERATORS: James Lempke and Dr. Richard Leep, Department Crop & Soil Sciences, Marquette
COUNTY EXTENSION DIRECTOR: Cynthia Brock, Escanaba
EXT. AG/DIST. FARM MGMT AGENT: Warren L. Schauer, Escanaba

Average of Alpena & Missaukee County Silage Trials
One, two year averages — 1994, 1993

HYBRID (BRAND-VARIETY)		% DRY MATTER 1994	% DRY MATTER 2Yr	TONS PER ACRE GREEN WEIGHT 1994	GREEN WEIGHT 2Yr	DRY WEIGHT 1994	DRY WEIGHT 2Yr	ALPENA COUNTY TONS/ACRE % DM	G WT	D WT	%STD	MISSAUKEE COUNTY TONS/ACRE % DM	G WT	D WT	%STD
PIONEER	3979	35.6	--	13.2	--	4.7	--	31.9	13.0	4.2	100	39.4	13.2	5.2	100
*PIONEER	3905	35.6	--	22.1	--	7.9	--	37.0	23.7	*8.8	99	34.2	20.6	7.0	100
PIONEER	3907	34.9	--	22.0	--	7.7	--	35.0	22.7	8.0	100	34.8	21.2	*7.4	100
DAIRYLAND	STEALTH-1284	33.3	--	20.8	--	6.9	--	35.1	20.7	7.3	98	31.5	20.8	6.6	100
PIONEER	3893	31.5	--	24.6	--	7.7	--	31.9	26.3	8.3	100	31.2	22.9	7.2	100
*PICKSEED	4990	30.6	--	26.2	--	8.1	--	31.3	28.0	*8.7	95	30.3	24.4	*7.4	98
*NORTHRUP KING	N2933	30.4	--	25.6	--	7.8	--	31.4	26.4	8.3	100	29.4	24.9	*7.3	100
*DAIRYLAND	DST 9026	29.1	--	27.0	--	7.8	--	29.3	29.2	*8.5	100	28.8	24.8	7.2	100
*NORTHRUP KING	N3030	29.1	--	26.5	--	7.8	--	31.0	28.5	*8.8	95	27.1	24.6	6.7	98
PICKSEED	5665	28.8	--	26.4	--	7.6	--	26.8	28.2	7.6	100	30.8	24.5	*7.5	100
CARGILL	2927	28.7	29.7	26.6	21.4	7.6	6.3	29.3	28.5	8.3	98	28.1	24.7	6.9	100
NORTHRUP KING	N2899	27.9	--	25.3	--	7.1	--	27.0	27.0	7.3	97	28.8	23.6	6.8	100
Average		31.3	29.7	23.8	21.4	7.4	6.3	31.4	25.2	7.8	99	31.2	22.5	6.9	100
Range		27.9 to 35.6	-- --	13.2 to 27.0	-- --	4.7 to 8.1	-- --	26.8 to 37.0	13.0 to 29.2	4.2 to 8.8	95 to 100	27.1 to 39.4	13.2 to 24.9	5.2 to 7.5	98 to 100
Least Significant Difference		1.3		1.0		0.4		1.2	0.9	0.6		1.3	1.1	0.4	
Coefficient of Variance		4.3		4.7		6.3		3.7	3.6	5.6		4.8	5.8	7.0	

* SIGNIFICANTLY BETTER THAN AVERAGE DRY WEIGHT PER ACRE IN 1994

Average of Alpena & Missaukee County In-vitro Analyses
One, two year averages — 1994, 1993

HYBRID (BRAND-VARIETY)		%DRY MATTER DIGEST 1994	2 Yr	% FIBER DIGEST 1994	2 Yr	% NEUTRAL D'GENT FIB 1994	2 Yr	% CRUDE PROTEIN 1994	2 Yr	IN-VITRO QUALITY ANALYSES ALPENA COUNTY %DMD	%FD	%NDF	%CP	MISSAUKEE COUNTY %DMD	%FD	%NDF	%CP
PIONEER	3905	76.7	--	45.6	--	42.9	--	7.38	--	76.2	45.2	43.4	7.43	77.1	46.0	42.4	7.33
PIONEER	3979	70.3	--	43.1	--	51.9	--	7.41	--	64.6	41.1	60.2	7.25	76.0	45.2	43.7	7.57
PIONEER	3907	75.1	--	45.9	--	46.2	--	7.42	--	74.5	47.1	48.3	7.66	75.7	44.8	44.1	7.17
DAIRYLAND	STEALTH-1284	76.2	--	45.0	--	43.3	--	7.39	--	76.1	44.8	43.4	7.74	76.3	45.2	43.3	7.04
PIONEER	3893	75.7	--	44.7	--	43.9	--	6.73	--	76.1	45.5	44.0	6.87	75.4	43.8	43.8	6.58
PICKSEED	4990	73.7	--	44.7	--	47.5	--	7.48	--	72.2	45.2	50.8	7.19	75.3	44.2	44.2	7.77
NORTHRUP KING	N2933	73.7	--	45.2	--	47.9	--	7.10	--	74.6	46.9	47.8	7.49	72.8	43.4	48.1	6.71
DAIRYLAND	DST 9026	74.7	--	47.3	--	48.0	--	7.23	--	74.7	47.3	48.1	7.71	74.7	47.4	48.0	6.75
NORTHRUP KING	N3030	76.5	--	49.0	--	46.1	--	6.87	--	76.0	48.6	46.7	7.06	77.0	49.4	45.4	6.67
PICKSEED	5665	75.9	--	47.3	--	45.8	--	7.49	--	74.9	47.0	47.3	7.89	76.8	47.5	44.2	7.08
CARGILL	2927	74.5	76	48.5	50	49.6	49	7.10	7.2	73.0	47.0	51.0	7.24	76.0	50.0	48.1	6.95
NORTHRUP KING	N2899	73.6	--	45.0	--	47.9	--	6.92	--	72.6	45.2	50.0	7.05	74.7	44.8	45.9	6.78
Average		74.7	76	45.9	50	46.8	49	7.21	7.2	73.8	45.9	48.4	7.38	75.7	46.0	45.1	7.03
Range		70.3 to 76.7		43.1 to 49.0		42.9 to 51.9		6.73 to 7.49		64.6 to 76.2	41.1 to 48.6	43.4 to 60.2	6.87 to 7.89	72.8 to 77.1	43.4 to 50.0	42.4 to 48.1	6.58 to 7.77
Least Significant Difference		0.6		1.2		0.5		.13		0.5	1.0	0.6	.15	0.6	1.3	0.4	.11
Coefficient of Variance		0.6		2.0		0.9		1.4		0.6	1.8	1.0	1.6	0.6	2.2	0.7	1.2

DMD = DRY MATTER DIGESTABILITY (higher percentage means greater energy content)
FD = FIBER DIGESTABILITY (the measure of the degree of fermintation of fiber, high FD is desirable)
NDF = NEUTRAL DETERGENT FIBER (the measure of fiber content, higher levels mean lower energy)
CP = CRUDE PROTEIN (higher protein levels require less supplementation)

	ALPENA	MISSAUKEE
PLANTED	May 9	May 6
HARVESTED	September 22	September 23
SOIL TYPE	Selkirk Loam	Nester Sandy Loam
PREVIOUS CROP	Navy Beans	Canola
PERFECT STAND	26,100	24,550
AVERAGE POPULATION	25,780	24,510
ROW WIDTH	30"	30"
FERTILIZER	118-78-162	116-18-70
SOIL TEST: pH	6.3	6.6
P	178 (very high)	88 (high)
K	272 (high)	192 (medium)

FARM COOPERATORS: Allen Schiellard, Hubbard Lake; Doug Nielsen and George McGloughlin, Lake City Experiment Station, Lake City
MSU COOPERATORS: Dr. Michael Allen and David Main, Animal Science Department, East Lansing
COUNTY EXTENSION DIRECTOR: Paul Wegmeyer, Alpena; Richard Miller, Lake City

Table 5E (A) SOUTH & NORTH CENTRAL MICHIGAN ZONES 2 & 3

Average of Kent, Ingham & Saginaw County EARLY Silage Trials
One, two, three year averages — 1994, 1993, 1992

EARLY TRIAL (106 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

HYBRID (BRAND-VARIETY)		% DRY MATTER 1994	2Yr	3Yr	GREEN WEIGHT 1994	2Yr	3Yr	DRY WEIGHT 1994	2Yr	3Yr	KENT COUNTY % DM	TONS/ACRE G WT	D WT	%STD	INGHAM COUNTY % DM	TONS/ACRE G WT	D WT	%STD	HURON COUNTY % DM	TONS/ACRE G WT	D WT	%STD
PIONEER	3769	34.7	36.7	--	18.8	19.1	--	6.6	7.0	--	37.3	21.6	8.1	100	33.8	19.8	6.7	99	33.1	15.0	5.0	99
*CIBA	4202	34.3	--	--	21.8	--	--	7.5	--	--	38.0	25.1	*9.5	99	32.4	23.5	7.6	86	32.4	17.0	5.5	99
PIONEER	3752	34.1	--	--	19.7	--	--	6.8	--	--	37.4	23.0	8.6	100	34.1	20.5	7.0	95	30.7	15.5	4.7	82
NORTHRUP KING	N4342wx	33.0	--	--	21.9	--	--	7.3	--	--	36.4	23.8	8.7	94	31.6	23.5	7.4	98	31.0	18.2	*5.7	100
PIONEER	3723	33.0	35.6	36.8	21.8	20.9	20.1	7.3	7.5	7.4	37.4	25.3	*9.4	97	31.9	21.9	7.0	89	29.8	18.3	5.4	96
NORTHRUP KING	N4242	32.6	--	--	21.2	--	--	7.0	--	--	36.0	23.7	8.5	99	32.7	21.6	7.1	90	29.1	18.2	5.3	96
NORTHRUP KING	N3030	32.5	--	--	17.9	--	--	5.9	--	--	36.0	20.3	7.3	89	31.2	18.5	5.8	76	30.3	14.9	4.5	88
CIBA	4172	32.2	--	--	19.8	--	--	6.5	--	--	36.9	22.5	8.3	100	30.6	21.3	6.5	93	29.1	15.7	4.6	98
DAIRYLAND	STEALTH-1203	32.2	--	--	21.6	--	--	7.0	--	--	34.3	24.8	8.5	98	31.4	23.1	7.3	98	30.9	16.9	5.3	94
PIONEER	3751	32.1	34.9	37.2	21.1	20.8	19.8	6.8	7.2	7.3	32.5	25.3	8.2	99	33.2	20.3	6.8	90	30.5	17.7	5.4	98
CIBA	4144	31.9	--	--	20.3	--	--	6.5	--	--	34.2	21.7	7.4	100	31.6	23.2	7.3	97	29.8	16.0	4.8	96
CIBA	4214	31.8	--	--	22.5	--	--	7.2	--	--	33.1	27.2	9.0	96	33.5	23.0	*7.7	86	28.8	17.2	5.0	97
NORTHRUP KING	X4263	31.7	--	--	21.1	--	--	6.7	--	--	33.3	22.8	7.6	100	32.4	22.8	7.4	99	29.2	17.8	5.2	100
GOLDEN HARVEST	Ex702	31.5	--	--	20.4	--	--	6.5	--	--	33.7	23.9	8.1	97	32.7	20.4	6.7	99	28.0	16.8	4.7	99
*NORTHRUP KING	N5220	31.2	--	--	24.2	--	--	7.6	--	--	32.3	29.3	*9.5	99	31.4	24.5	*7.7	92	29.8	18.8	5.6	96
DAIRYLAND	STEALTH-1405	30.8	--	--	22.5	--	--	6.9	--	--	32.1	25.5	8.2	100	31.1	24.7	7.6	98	29.2	17.3	5.0	98
*DAIRYLAND	STEALTH-1205	29.8	31.1	--	26.3	25.5	--	7.9	7.9	--	31.6	29.2	*9.2	100	30.9	26.4	*8.1	99	26.9	23.4	*6.3	100
*PIONEER	3573	29.5	31.4	32.8	26.2	25.6	24.7	7.8	8.1	8.1	32.6	29.5	*9.6	98	28.8	26.1	7.5	97	27.1	23.1	*6.3	98
*DAIRYLAND	STEALTH-1407	28.8	--	--	25.7	--	--	7.5	--	--	29.8	28.5	8.5	98	29.7	26.7	*7.9	94	27.0	22.0	*6.0	92
*CARGILL	4327	28.7	--	--	26.5	--	--	7.6	--	--	29.2	31.4	*9.1	96	30.0	26.3	*7.9	94	26.9	21.8	*5.9	99
Average		31.8	33.9	35.6	22.1	22.4	21.5	7.0	7.5	7.6	34.2	25.2	8.6	98	31.7	22.9	7.2	93	29.5	18.1	5.3	96
Range		28.7 to 34.7	31.1 to 36.7	32.8 to 37.2	17.9 to 26.5	19.1 to 25.6	19.8 to 24.7	5.9 to 7.9	7.0 to 8.1	7.3 to 8.1	29.2 to 38.0	20.3 to 31.4	7.3 to 9.6	89 to 100	28.8 to 34.1	18.5 to 26.7	5.8 to 8.1	76 to 99	26.9 to 33.1	14.9 to 23.4	4.5 to 6.3	82 to 100
Least Significant Difference		1.8			1.0			0.5			2.1	0.9	0.5		1.8	1.0	0.5		1.4	1.0	0.4	
Coefficient of Variance		6.4			5.3			8.6			6.5	3.9	6.9		7.1	5.2	8.6		5.7	6.9	10.2	

* SIGNIFICANTLY BETTER THAN AVERAGE DRY WEIGHT PER ACRE IN 1994

Table 5L (A) SOUTH & NORTH CENTRAL MICHIGAN ZONES 2 & 3

Average of Kent, Ingham & Saginaw County LATE Silage Trials
One, two, three year averages — 1994, 1993, 1992

LATE TRIAL (107 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

HYBRID (BRAND-VARIETY)		% DRY MATTER 1994	2Yr	3Yr	GREEN WEIGHT 1994	2Yr	3Yr	DRY WEIGHT 1994	2Yr	3Yr	KENT COUNTY % DM	TONS/ACRE G WT	D WT	%STD	INGHAM COUNTY % DM	TONS/ACRE G WT	D WT	%STD	HURON COUNTY % DM	TONS/ACRE G WT	D WT	%STD
*CIBA	4394	38.1	37.4	--	22.9	23.3	--	8.7	8.7	--	39.5	26.1	10.2	100	37.7	23.1	*8.8	99	37.0	19.5	*7.2	99
CARGILL	SX269	35.3	--	--	23.4	--	--	8.3	--	--	35.9	26.0	9.3	97	35.7	25.7	*9.2	91	34.5	18.4	6.3	98
CALLAHAN	C7252	34.8	35.7	36.6	23.5	23.1	22.8	8.3	8.2	8.3	38.4	26.6	*10.3	100	32.8	25.6	8.4	95	33.4	18.3	6.1	94
HYPERFORMER	HY9424	34.7	36.4	--	22.9	23.2	--	8.0	8.4	--	35.9	27.4	9.8	100	33.9	22.8	7.7	91	34.3	18.5	6.3	95
CARGILL	5547	34.6	--	--	22.8	--	--	7.9	--	--	34.8	26.3	9.1	99	34.4	23.0	7.9	93	34.6	19.2	6.6	95
*HYPERFORMER	HY9490	34.5	--	--	26.0	--	--	9.1	--	--	39.5	29.5	*11.7	100	33.2	26.5	*8.8	92	30.9	21.9	*6.8	100
NORTHRUP KING	N6330	34.3	--	--	23.9	--	--	8.2	--	--	33.1	28.7	9.5	100	34.5	24.6	*8.5	79	35.3	18.5	6.6	99
CALLAHAN	C7454X	33.9	--	--	22.4	--	--	7.6	--	--	33.7	27.8	9.3	97	34.3	21.8	7.5	80	33.6	17.7	5.9	96
RENK	RK812	33.9	33.1	33.6	24.2	24.1	24.0	8.2	8.0	8.1	35.3	27.6	9.7	99	34.3	23.9	8.2	96	32.2	21.3	*6.9	100
*CALLAHAN	C7258	33.7	32.8	--	25.4	25.3	--	8.6	8.3	--	36.6	29.6	*10.7	100	32.8	26.1	*8.5	97	31.8	20.4	6.5	99
NORTHRUP KING	N5901	33.6	--	--	21.9	--	--	7.4	--	--	34.2	24.5	8.3	98	33.0	23.0	7.6	94	33.7	18.3	6.2	100
*PIONEER	3525	33.1	30.0	31.6	25.8	27.8	26.7	8.5	8.2	8.3	35.0	29.2	10.1	100	32.0	27.1	*8.6	99	32.2	21.0	*6.8	96
PIONEER	3394	32.5	32.2	32.3	24.9	25.8	25.6	8.1	8.2	8.2	33.1	28.7	9.4	99	33.7	25.9	*8.7	97	30.8	20.2	6.2	97
*RENK	RK886	32.3	32.0	32.2	25.8	25.9	25.7	8.4	8.3	8.3	33.2	31.1	*10.3	99	33.3	24.4	8.1	86	30.5	21.9	6.7	100
AMCORN	9292	31.8	33.0	34.2	19.8	21.7	21.9	6.3	7.1	7.4	33.6	23.7	8.0	73	28.8	18.2	5.2	61	33.1	17.4	5.8	81
PIONEER	3394E	29.9	--	--	19.8	--	--	6.0	--	--	30.7	25.4	7.8	78	29.4	16.0	4.7	56	29.5	18.0	5.3	89
Average		33.8	33.6	33.4	23.5	24.5	24.5	8.0	8.2	8.1	35.1	27.4	9.6	96	33.4	23.6	7.9	88	33.0	19.4	6.4	96
Range		29.9 to 38.1	32.0 to 37.4	31.6 to 36.6	19.8 to 26.0	21.7 to 27.8	21.9 to 26.7	6.0 to 9.1	7.1 to 8.7	7.4 to 8.3	30.7 to 39.5	23.7 to 31.1	7.8 to 11.7	73 to 100	28.8 to 37.7	16.0 to 27.1	4.7 to 9.2	56 to 99	29.5 to 37.0	17.4 to 21.9	5.3 to 7.2	81 to 100
Least Significant Difference		2.0			1.5			0.4			2.9	1.6	0.7		1.7	1.7	0.6		1.4	1.1	0.4	
Coefficient of Variance		6.7			7.4			8.7			8.8	6.2	8.0		6.2	8.9	9.4		5.0	7.0	8.8	

* SIGNIFICANTLY BETTER THAN AVERAGE DRY WEIGHT PER ACRE IN 1994

	KENT	INGHAM
PLANTED	May 4	April 25
HARVESTED	September 15, 29	September 9, 20
SOIL TYPE	Spinks Loamy Sand	Capac Loam
PREVIOUS CROP	Alfalfa Sod	Soybeans
PERFECT STAND	28,500	28,500
AVERAGE POPULATION	27,670	25,900
ROW WIDTH	30"	30"
FERTILIZER	76-0-0	160-10-107
SOIL TEST: pH	5.8	5.9
P	132 (very high)	113 (very high)
K	320 (very high)	240 (high)

FARM COOPERATORS: Gerald Kayser, Pleasant Acres Farm, Caledonia; Michigan State University, East Lansing
MSU COOPERATORS: Dr. Micheal Allen and David Main, Animal Science Department, East Lansing
COUNTY EXTENSION DIRECTOR: William Harrison, Grand Rapids; Joseph Lessard, Mason
EXTENSION AGR'L AGENTS: William Steenwyk, Grand Rapids John Knorek and Laura Rhodes, Mason

	HURON
PLANTED	May 10
HARVESTED	September 12, 26
SOIL TYPE	Kilmanagh Loam
PREVIOUS CROP	Corn
PERFECT STAND	28,500
AVERAGE POPULATION	27,390
ROW WIDTH	30"
FERTILIZER	150-120-9
SOIL TEST: pH	6.8
P	73 (high)
K	216 (high)

FARM COOPERATORS: William, Ron and Ed McCrea, Wil-le Farms, Bad Axe
MSU COOPERATORS: Dr. Michael Allen and David Main, Animal Science Department, East Lansing
COUNTY EXTENSION DIRECTOR: Robert Johnson, Bad Axe
EXTENSION AGR'L AGENT: James LeCureux, Bad Axe

Table 5E (B) **SOUTH & NORTH CENTRAL MICHIGAN** ZONES 2 & 3

Average of Kent, Ingham & Huron County EARLY In-vitro Analyses
One, two, three year averages — 1994, 1993, 1992

EARLY TRIAL (106 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

HYBRID (BRAND-VARIETY)		%DRY MATTER DIGEST 1994	%DRY MATTER DIGEST 2 Yr	%DRY MATTER DIGEST 3 Yr	% FIBER DIGEST 1994	% FIBER DIGEST 2 Yr	% FIBER DIGEST 3 Yr	% NEUTRAL D'GENT FIB 1994	% NEUTRAL D'GENT FIB 2 Yr	% NEUTRAL D'GENT FIB 3 Yr	% CRUDE PROTEIN 1994	% CRUDE PROTEIN 2 Yr	% CRUDE PROTEIN 3 Yr	KENT COUNTY %DMD	KENT COUNTY %FD	KENT COUNTY %NDF	KENT COUNTY %CP	INGHAM COUNTY %DMD	INGHAM COUNTY %FD	INGHAM COUNTY %NDF	INGHAM COUNTY %CP	HURON COUNTY %DMD	HURON COUNTY %FD	HURON COUNTY %NDF	HURON COUNTY %CP
PIONEER	3769	76.4	76	--	46.1	45	--	43.9	43	--	7.55	7.5	--	75.9	46.3	44.9	7.92	76.7	42.6	40.6	7.48	76.6	49.3	46.1	7.26
CIBA	4202	76.9	--	--	47.4	--	--	44.0	--	--	7.32	--	--	77.9	47.1	41.7	7.76	76.1	46.0	44.4	7.39	76.7	49.2	45.9	6.81
PIONEER	3752	77.8	--	--	46.6	--	--	41.6	--	--	7.43	--	--	77.8	44.7	40.2	7.97	79.6	46.9	38.5	7.26	76.1	48.3	46.1	7.06
NORTHRUP KING	N4342wx	76.4	--	--	43.4	--	--	41.8	--	--	7.58	--	--	75.5	39.8	40.8	8.15	77.3	44.9	41.3	7.58	76.5	45.6	43.2	7.00
PIONEER	3723	75.3	76	76	44.6	45	45	44.7	43	44	7.50	7.6	7.4	74.8	45.1	46.0	8.00	74.7	39.1	41.6	7.25	76.6	49.6	46.5	7.25
NORTHRUP KING	N4242	76.3	--	--	45.8	--	--	43.8	--	--	7.52	--	--	75.4	42.1	42.5	7.98	77.6	47.9	43.1	7.55	76.0	47.4	45.7	7.04
NORTHRUP KING	N3030	77.2	--	--	46.6	--	--	42.9	--	--	7.55	--	--	77.2	44.5	41.1	7.86	77.8	46.2	41.3	7.52	76.5	49.3	46.2	7.26
CIBA	4172	77.1	--	--	45.7	--	--	42.4	--	--	7.40	--	--	76.1	40.3	40.1	7.45	77.4	45.3	41.3	7.54	77.9	51.6	45.8	7.21
DAIRYLAND	STEALTH-1203	77.1	--	--	47.8	--	--	44.0	--	--	7.58	--	--	77.7	47.1	42.1	8.39	77.3	46.2	42.2	7.50	76.1	50.0	47.8	6.86
PIONEER	3751	77.7	77	77	48.0	47	46	42.9	42	43	7.88	7.8	7.6	77.9	47.0	41.7	8.60	78.0	47.0	41.5	7.88	77.2	49.9	45.6	7.17
CIBA	4144	76.5	--	--	46.3	--	--	44.0	--	--	7.50	--	--	76.1	44.5	43.0	7.69	77.9	43.9	39.5	7.98	75.4	50.3	49.5	6.84
CIBA	4214	74.6	--	--	47.2	--	--	48.4	--	--	7.24	--	--	75.1	43.5	44.1	7.75	73.7	45.9	48.6	7.14	74.9	52.1	52.4	6.84
NORTHRUP KING	X4263	75.9	--	--	46.7	--	--	45.1	--	--	7.47	--	--	73.4	43.3	46.9	7.68	77.7	46.7	41.8	7.60	76.7	50.0	46.7	7.13
GOLDEN HARVEST	Ex702	77.5	--	--	48.4	--	--	43.6	--	--	7.96	--	--	78.4	48.2	41.7	8.92	76.5	45.9	43.5	7.64	77.6	51.0	45.7	7.33
NORTHRUP KING	N5220	75.0	--	--	47.8	--	--	48.1	--	--	7.28	--	--	75.9	46.7	45.2	7.91	75.9	47.0	45.4	7.46	73.1	49.8	53.6	6.46
DAIRYLAND	STEALTH-1405	77.4	--	--	48.1	--	--	43.6	--	--	7.43	--	--	78.0	47.5	42.0	8.53	77.9	46.2	41.1	7.70	76.5	50.6	47.6	6.05
DAIRYLAND	STEALTH-1205	77.7	77	--	50.3	48	--	44.8	44	--	8.14	7.9	--	77.9	48.7	43.1	8.30	77.4	49.2	44.6	8.10	77.9	52.8	46.8	8.03
PIONEER	3573	76.6	77	77	48.8	48	47	45.8	44	44	7.60	7.5	7.2	75.1	47.1	47.1	8.25	78.5	49.0	42.3	7.40	76.2	50.4	47.9	7.16
DAIRYLAND	STEALTH-1407	76.4	--	--	47.5	--	--	44.9	--	--	7.24	--	--	77.8	47.2	42.0	8.07	75.7	47.5	46.4	6.69	75.9	47.8	46.2	6.96
CARGILL	4327	76.9	--	--	47.3	--	--	43.8	--	--	7.42	--	--	76.4	44.8	42.7	8.23	76.9	45.6	42.5	7.26	77.5	51.4	46.4	6.78
Average		76.6	77	77	47.0	47	46	44.2	43	43	7.53	7.7	7.4	76.5	45.3	42.9	8.07	77.0	45.9	42.6	7.50	76.4	49.8	47.1	7.03
Range		74.6 to 77.8	76 to 77	76 to 77	43.4 to 50.3	45 to 48	45 to 47	41.6 to 48.4	42 to 44	43 to 44	7.24 to 8.14	7.5 to 7.9	7.2 to 7.6	73.4 to 78.4	39.8 to 48.7	40.1 to 47.1	7.45 to 8.92	73.7 to 79.6	39.1 to 49.2	38.5 to 48.6	6.69 to 8.10	73.1 to 77.9	45.6 to 52.8	43.2 to 53.6	6.05 to 8.03
Least Significant Difference		0.6			1.4			0.3			.16			0.5	1.2	0.4	.15	0.7	1.8	0.4	.17	0.5	1.1	0.2	.16
Coefficient of Variance		0.7			2.4			0.7			1.7			0.6	2.2	0.8	1.5	0.8	3.2	0.8	1.8	0.6	1.9	0.4	1.9

DMD = DRY MATTER DIGESTABILITY (higher percentage means greater energy content)
FD = FIBER DIGESTABILITY (the measure of the degree of fermintation of fiber, high FD is desirable)
NDF = NEUTRAL DETERGENT FIBER (the measure of fiber content, higher levels mean lower energy)
CP = CRUDE PROTEIN (higher protein levels require less supplementation)

Table 5L (B) **SOUTH & NORTH CENTRAL MICHIGAN** ZONES 2 & 3

Average of Kent, Ingham & Huron County LATE In-vitro Analyses
One, two, three year averages — 1994, 1993, 1992

LATE TRIAL (107 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

HYBRID (BRAND-VARIETY)		%DRY MATTER DIGEST 1994	%DRY MATTER DIGEST 2 Yr	%DRY MATTER DIGEST 3 Yr	% FIBER DIGEST 1994	% FIBER DIGEST 2 Yr	% FIBER DIGEST 3 Yr	% NEUTRAL D'GENT FIB 1994	% NEUTRAL D'GENT FIB 2 Yr	% NEUTRAL D'GENT FIB 3 Yr	% CRUDE PROTEIN 1994	% CRUDE PROTEIN 2 Yr	% CRUDE PROTEIN 3 Yr	KENT COUNTY %DMD	KENT COUNTY %FD	KENT COUNTY %NDF	KENT COUNTY %CP	INGHAM COUNTY %DMD	INGHAM COUNTY %FD	INGHAM COUNTY %NDF	INGHAM COUNTY %CP	HURON COUNTY %DMD	HURON COUNTY %FD	HURON COUNTY %NDF	HURON COUNTY %CP
CIBA	4394	75.3	76	--	44.1	44	--	44.3	44	--	6.50	6.6	--	74.0	40.6	43.7	7.09	75.7	46.3	45.3	5.87	76.1	45.6	44.0	6.55
CARGILL	SX269	73.5	--	--	46.4	--	--	49.4	--	--	7.01	--	--	71.6	42.4	49.3	7.29	74.6	47.0	48.0	6.81	74.3	49.7	51.0	6.92
CALLAHAN	C7252	76.0	77	76	44.5	46	46	43.3	43	44	6.77	6.8	6.6	73.9	39.5	43.1	7.00	75.8	45.0	43.9	6.82	78.2	49.0	42.8	6.50
HYPERFORMER	HY9424	76.1	76	--	43.8	44	--	42.6	42	--	7.72	7.6	--	75.7	39.9	40.4	8.36	77.1	45.8	42.2	7.13	74.5	47.2	48.2	7.00
CARGILL	5547	76.0	--	--	45.4	--	--	44.1	--	--	6.81	--	--	75.9	42.0	41.5	7.40	75.8	46.8	45.5	6.34	76.2	47.3	45.3	6.68
HYPERFORMER	HY9490	75.8	--	--	45.8	--	--	44.8	--	--	7.21	--	--	75.6	42.2	42.3	8.14	77.3	48.1	43.8	6.48	75.5	45.7	45.1	7.66
NORTHRUP KING	N6330	76.9	--	--	48.6	--	--	45.0	--	--	7.31	--	--	76.6	46.9	44.1	7.94	76.5	48.9	46.0	6.84	77.6	50.1	45.0	7.16
CALLAHAN	C7454X	76.9	--	--	47.5	--	--	44.0	--	--	7.17	--	--	76.4	45.0	42.9	7.85	78.7	50.8	43.4	6.96	75.7	46.6	45.6	6.70
RENK	RK812	76.4	77	76	47.6	47	46	45.1	44	45	6.72	6.9	6.8	76.0	44.7	43.5	6.97	76.6	48.5	45.4	6.51	74.4	44.3	45.9	6.79
CALLAHAN	C7258	76.1	77	--	46.2	47	--	44.4	44	--	6.86	7.0	--	76.6	46.3	43.5	7.96	75.3	43.9	44.0	5.87	76.5	48.4	45.6	6.74
NORTHRUP KING	N5901	75.7	--	--	44.9	--	--	44.1	--	--	7.42	--	--	75.9	44.0	43.1	7.98	75.7	44.5	43.8	7.46	75.4	46.1	45.6	6.81
PIONEER	3525	75.6	76	75	43.2	44	44	43.0	43	45	6.89	7.1	6.7	76.8	43.2	40.9	7.59	74.4	42.0	44.2	6.36	75.5	44.4	44.0	6.72
PIONEER	3394	75.1	76	75	45.6	45	45	45.8	44	46	6.98	7.0	6.8	74.5	43.3	45.0	7.70	73.4	44.8	48.2	6.55	77.3	48.7	44.2	6.68
RENK	RK886	76.8	77	76	48.1	48	47	44.7	44	45	7.52	7.3	7.1	74.9	47.6	48.0	7.65	78.2	48.6	42.5	7.57	77.4	48.0	43.5	7.33
AMCORN	9292	77.5	78	77	45.5	48	48	41.3	42	44	7.22	7.2	7.1	77.4	43.1	39.8	7.63	76.5	44.4	42.4	6.87	78.7	48.9	41.6	7.16
PIONEER	3394E	74.8	--	--	43.5	--	--	44.6	--	--	7.50	--	--	74.7	42.2	43.7	7.86	75.2	44.0	44.3	7.85	74.4	44.3	45.9	6.79
Average		75.9	77	76	45.7	46	46	44.4	43	45	7.10	7.1	6.9	75.4	43.3	43.4	7.65	76.0	46.2	44.5	6.77	76.2	47.5	45.2	6.88
Range		73.5 to 77.5	76 to 78	75 to 77	43.2 to 48.6	44 to 48	44 to 48	41.3 to 49.4	42 to 44	44 to 46	6.50 to 7.72	6.6 to 7.6	6.6 to 7.1	71.6 to 77.4	39.5 to 47.6	39.8 to 49.3	6.79 to 8.36	73.4 to 78.7	42.0 to 50.8	42.2 to 48.2	5.87 to 7.85	74.3 to 78.7	44.3 to 50.1	41.6 to 51.0	6.50 to 7.66
Least Significant Difference		0.6			1.4			0.5			.13			0.6	1.4	0.5	.16	0.7	1.5	0.5	.11	0.6	1.3	0.4	.12
Coefficient of Variance		0.7			2.5			0.8			1.5			0.7	2.5	0.9	1.7	0.7	2.7	0.8	1.3	0.6	2.2	0.8	1.4

DMD = DRY MATTER DIGESTABILITY (higher percentage means greater energy content)
FD = FIBER DIGESTABILITY (the measure of the degree of fermintation of fiber, high FD is desirable)
NDF = NEUTRAL DETERGENT FIBER (the measure of fiber content, higher levels mean lower energy)
CP = CRUDE PROTEIN (higher protein levels require less supplementation)

	KENT	INGHAM
PLANTED	May 4	April 25
HARVESTED	September 15, 29	September 9, 20
SOIL TYPE	Spinks Loamy Sand	Capac Loam
PREVIOUS CROP	Alfalfa Sod	Soybeans
PERFECT STAND	28,500	28,500
AVERAGE POPULATION	27,670	25,900
ROW WIDTH	30"	30"
FERTILIZER	76-0-0	160-10-107
SOIL TEST: pH	5.8	5.9
P	132 (very high)	113 (very high)
K	320 (very high)	240 (high)

	HURON
PLANTED	May 10
HARVESTED	September 12, 26
SOIL TYPE	Kilmanagh Loam
PREVIOUS CROP	Corn
PERFECT STAND	28,500
AVERAGE POPULATION	27,390
ROW WIDTH	30"
FERTILIZER	150-120-9
SOIL TEST: pH	6.8
P	73 (high)
K	216 (high)

FARM COOPERATORS: Gerald Kayser, Pleasant Acres Farm, Caledonia; Michigan State University, East Lansing
MSU COOPERATORS: Dr. Micheal Allen and David Main, Animal Science Department, East Lansing
COUNTY EXTENSION DIRECTOR: William Harrison, Grand Rapids; Joseph Lessard, Mason
EXTENSION AGR'L AGENTS: William Steenwyk, Grand Rapids; John Knorek and Laura Rhodes, Mason

FARM COOPERATORS: William, Ron and Ed McCrea, Wil-le Farms, Bad Axe
MSU COOPERATORS: Dr. Michael Allen and David Main, Animal Science Department, East Lansing
COUNTY EXTENSION DIRECTOR: Robert Johnson, Bad Axe
EXTENSION AGR'L AGENT: James LeCureux, Bad Axe

TABLE 7

Index for 297 hybrids from 37 seed companies entered in 1463 county tests in the 1994 Michigan Corn Performance Trials. Numbers within parentheses refer to table numbers in which the hybrid appears, (E) or (L) refers to the early or late group within that table. Company names used in association with hybrid numbers refer to the brand and the numbers are the variety (hybrid) designation.

Amcorn Hybrids, Inc.
- Amcorn 3030 (3E,4)
- Amcorn 4420 (2E)
- Amcorn 4747 (2E)
- Amcorn 5230 (1E,2L)
- Amcorn 5830 (1L)
- Amcorn 5930 (1L)
- Amcorn 9292 (5L)
- Amcorn Ex 272 (4)
- Amcorn Ex 410 (3E,4)
- Amcorn Ex 537 (1L,2L)
- Amcorn Ex 583 (1L)
- Amcorn LG 2388 (4)
- Amcorn LG 2409 (4)
- Amcorn LG 2465 (2E,3E)
- Amcorn LG 2482 (2E,3E)
- Amcorn LG 2522 (1E,2L)

The Andersons
- Andersons PSX 300 (1E,2E)
- Andersons PSX 370 (1L)
- Andersons HSX 2241 (4)
- Andersons HSX 44011 (3E)

Asgrow Seed Co.
- Asgrow RX 444 (2E,3E)
- Asgrow RX 502 (2E,3E)
- Asgrow RX 623 (1E,2L,3L)
- Asgrow RX 699 (1L)
- Asgrow RX 707 (1L)
- Asgrow XP4923 (2E,3E)

Bayside Seeds
- Bayside 86 (3E)
- Bayside 95 (2E,3E)
- Bayside 102 (2L)
- Bayside 1794 (2E,3E)

Beck's Superior Hybrids
- Beck's 5070 (1E)
- Beck's 5101 (1E)
- Beck's 5202 (1E)
- Beck's 5305 (1L)
- Beck's 5405 (1L)
- Beck's EX1485 (1L)

Blaney Seeds
- Blaney 2100 (2E,3E)

Callahan Seeds
- Callahan C7245 (1E,2L)
- Callahan C7249 (1E,2L)
- Callahan C7252 (1L,5L)
- Callahan C7258 (5L)
- Callahan C7337 (1E,2E)
- Callahan C7348 (1E)
- Callahan C7435 (1E,2E)
- Callahan C7446X (1E,2L)
- Callahan C7454X (5L)
- Callahan C7525 (2E)
- Callahan C7537X (2E)
- Callahan C7548X (2L)
- Callahan C7633X (2E)
- Callahan C7643X (2E)

Cargill Hybrid Seeds
- Cargill SX269 (1L,2L,5L)
- Cargill 1037 (4)
- Cargill 2497 (2E,3E,4)
- Cargill 2927 (3E,4,6)
- Cargill 3777 (1E,2E,3E)
- Cargill 4277 (1E,2L,3L)
- Cargill 4327 (2L,3L,5E)
- Cargill 5547 (1E,2L,3L,5L)
- Cargill 5677 (1L,2L,3L)
- Cargill 6303 (1L)
- Cargill 6327 (1L,2L)
- Cargill 6677 (2L)
- Cargill 7777 (1L)

Ciba Seeds
- Ciba 2130X (3L)
- Ciba 4030 (4)
- Ciba 4120 (3E)
- Ciba 4144 (3E,5E)
- Ciba 4172 (5E)
- Ciba 4202 (3E,5E)
- Ciba 4214 (2E,3E,5E)
- Ciba 4225X (1L)
- Ciba 4273 (2E)
- Ciba 4282 (2L)
- Ciba 4372 (2L)
- Ciba 4394 (1L,2L,5L)
- Ciba 4494 (1L)

Countrymark Cooperative, Inc.
- Countrymark 432 (1E,2E,3L)

Crow's Hybrid Corn Company
- Crow's 165 (2E,3E)
- Crow's 170 (2E,3E)
- Crow's 180 (1E,2E,3L)
- Crow's 204 (1E,2L,3L)
- Crow's 370 (3L)
- Crow's 375 (2L)
- Crow's 401 (1L)
- Crow's 435 (1L,2L)
- Crow's 445 (1L,2L)
- Crow's 490 (1L)

Dairyland Seed Company, Inc.
- Dairyland Stealth-1174 (4)
- Dairyland Stealth-1195 (3E)
- Dairyland Stealth-1198 (1E,2L)
- Dairyland Stealth-1200 (2E,3L)
- Dairyland Stealth-1203 (1E,2L,3L,5E)
- Dairyland Stealth-1205 (1E,2L,3L,5E)
- Dairyland Stealth-1209 (1L)
- Dairyland Stealth-1284 (4,6)
- Dairyland Stealth-1285 (4)
- Dairyland Stealth-1400 (2E,3L)
- Dairyland Stealth-1405 (1E,2L,5E)
- Dairyland Stealth-1407 (1E,2L,5E)
- Dairyland DST 9026 (3E,6)

Dekalb Plant Genetics
- Dekalb DK306 (4)
- Dekalb DK352 (4)
- Dekalb DK381 (3E,4)
- Dekalb DK401 (2E,3E,4)
- Dekalb DK446 (3E,4)
- Dekalb DK471 (1E,2E,3E)
- Dekalb DK474 (2E,3E)
- Dekalb DK485 (1E,2E)
- Dekalb DK493 (1E,2E,3L)
- Dekalb DK512 (1E,2L,3L)
- Dekalb DK560 (1E)
- Dekalb DK569 (1E,2L)
- Dekalb DK580 (1L)
- Dekalb DK591 (1L)

Gen-Tech Farm Seeds, Inc.
- Gen-Tech 1064 (1E)
- Gen-Tech 1074 (1E)

Sommers Bros. Seed Company
- Golden Harvest H-2292 (2E,3E)
- Golden Harvest H-2331 (1E,2E,3E)
- Golden Harvest H-2349 (1E,2E,3E)
- Golden Harvest H-2390 (1E,2L)
- Golden Harvest Ex 692 (1E,2L)
- Golden Harvest Ex 702 (1E,2L,3L,5E)

Gries Seed Farms, Inc.
- Gries GSF-Ex185 (2E)
- Gries GSF-4100 (2E)
- Gries GSF-5208 (1L)

Fred Gutwein & Sons, Inc.
- Gutwein Ex333 (2L,3L)
- Gutwein 2088 (2E,3E)
- Gutwein 2434 (1L)
- Gutwein 2474 (1L)
- Gutwein 2494 (1L)

HyPerformer Seed Company
- HyPerformer HY 9207 (3E)
- HyPerformer HY 9262 (2E,3E)
- HyPerformer HS 9330 (2L)
- HyPerformer HY 9355 (2L,3L)
- HyPerformer HY 9385 (1E,2L)
- HyPerformer HS 9408 (1L)
- HyPerformer HY 9424 (1L,2L,5L)
- HyPerformer HY 9487 (1L)
- HyPerformer HY 9490 (1L,5L)
- HyPerformer HX45101 (1L)

ICI Seed Company
- ICI Seeds 8400 (1L)
- ICI Seeds 8481 (1L)
- ICI Seeds 8513 (1L)
- ICI Seeds N8541 (1L)
- ICI Seeds 8570 (1L)
- ICI Seeds 8700 (2L)
- ICI Seeds 8746 (2E,3L)
- ICI Seeds 8751 (2E,3E)
- ICI Seeds 8940 (4)
- ICI Seeds 8990 (4)

Jung Farms, Inc.
- Jung 2244 (4)
- Jung 2366 (4)
- Jung 2386 (4)
- Jung 2496 (3E,4)
- Jung 2596 (3L)
- Jung 2648 (3L)
- Jung 2672 (3L)

King Agro
- King Agro KGAG 18057 (3E)
- King Agro KGAG 21050 (4)

Leader Seeds, Inc.
- Leader SX499 (1E,2L)
- Leader X3654 (1E,2L)
- Leader X4154 (1E,2L)
- Leader X5154 (1L,2L)

Mycogen Plant Sciences
- Mycogen 1376 (4)
- Mycogen 2440 (4)
- Mycogen 3440 (3E)
- Mycogen AG3965 (3E,3L)
- Mycogen 4140 (4)
- Mycogen 4440 (3E)
- Mycogen 4770 (3E)
- Mycogen 4970 (2E)
- Mycogen 5150cb (2L)
- Mycogen 5270 (2E,3L)
- Mycogen 5480 (1E)
- Mycogen 6060 (1L)
- Mycogen 6220 (1L,2L)
- Mycogen 6970 (1L,2L)
- Mycogen 7460 (1L)
- Mycogen 7660 (1L)

Northrup King Company
- Northrup King N1500 (4)
- Northrup King N2409 (3E,4)
- Northrup King N2555 (3E)
- Northrup King N2879 (3E)
- Northrup King N2899 (6)
- Northrup King N2933 (2E,6)
- Northrup King N3030 (2E,3E,5E,6)
- Northrup King N4242 (1E,2E,3L,5E)
- Northrup King X4263 (2L,5E)
- Northrup King N4342wx (5E)
- Northrup King N5220 (1E,2L,5E)
- Northrup King N5901 (1L,5L)
- Northrup King X6133 (1L)
- Northrup King N6330 (5L)

Michigan State Seed
- Payco 151 (4)
- Payco 253 (3E,4)
- Payco 344 (3E,4)
- Payco 413 (2E,3E)
- Payco 444 (2E,3E)
- Payco 531 (1E,2E,3E)
- Payco 614 (1E,2E,3E)
- Payco 711 (1E)
- Payco 734 (1E,2L,3L)
- Payco 754 (1L,2L)
- Payco 814 (2L)
- Payco 834 (2L)
- Payco 903 (2L)
- Payco Ex4241 (2E,3E)

Pickseed Canada, Inc.
- Pickseed 2620 (4)
- Pickseed 4990 (3E,4,6)
- Pickseed 5665 (6)
- Pickseed 5990 (3E)
- Pickseed 5993 (2E,3L)

Pioneer Hi-Bred International, Inc.
- Pioneer 3293 (1L)
- Pioneer 3394 (1L,2L,3L,5L)
- Pioneer 3394E (5L)
- Pioneer 3463W (1E,2E)
- Pioneer 3525 (1E,2L,3L,5L)
- Pioneer 3573 (1E,2L,3L,5E)
- Pioneer 3723 (1E,2E,3L,5E)
- Pioneer 3751 (2E,3E,5E)
- Pioneer 3752 (1E,2E,3E,5E)
- Pioneer 3769 (2E,3E,5E)
- Pioneer 3861 (2E,3E)
- Pioneer 3893 (4,6)
- Pioneer 3905 (4,6)
- Pioneer 3907 (4,6)
- Pioneer 3979 (4,6)

Renk Seed Company
- Renk RK424 (3E)
- Renk RK555 (3E)
- Renk RK602 (3L)
- Renk RK617 (1E,2L,3L)
- Renk RK646PT (1E,2L)
- Renk RK657 (3L)
- Renk RK696 (1E,2L)
- Renk RK714 (1L)
- Renk RK802PT (1L)
- Renk RK812 (1L,2L,5L)
- Renk RK835 (1L)
- Renk RK886 (1L,5L)

Rupp Seeds, Inc.
- Rupp XR1623 (1E,2L,3L)
- Rupp XR1644 (3L)
- Rupp XR1677 (1E,2L)
- Rupp XR1688 (1E)
- Rupp XR1704 (1E)
- Rupp XR1727 (1E,EL)
- Rupp XR1739 (1L)
- Rupp Ex.4-223 (2L)
- Rupp Ex.4-229 (4)
- Rupp Ex.4-238 (4)
- Rupp Ex.4-239 (2E,3E)
- Rupp Ex.4-240 (4)

Stine Seed Company
- Stine 870 (3E)
- Stine 951 (3E)
- Stine 993 (2E,3L)
- Stine 994 (2E,3L)
- Stine 1033 (1E)
- Stine 1059 (1E)
- Stine 1076 (1L,2L)
- Stine 92-70X (1E,2L)

Terra International, Inc.
- Terra TR910 (4)
- Terra E981 (2E,3E)
- Terra TR1031 (1E,2L,3L)
- Terra TR1050 (1E,2L)
- Terra TR1070 (1L,2L)
- Terra TR1091 (1L)

Top Farm Hybrids
- Top Farm TFsx1097A (1E,2E,3L)
- Top Farm TFsx1193 (3E)
- Top Farm TFsx2103 (1E,2L)
- Top Farm TFsx2104 (1E,2L)
- Top Farm TFsx2108 (1L,2L)
- Top Farm TFsx2194 (3E)
- Top Farm TFsx2195 (3E)

Trelay Seeds, Inc.
- Trelay 1011 (4)
- Trelay 2004 (4)
- Trelay 5200 (2E)
- Trelay 5202 (2E)
- Trelay 6002 (1E)
- Trelay 7200 (1E)

Tri State Seeds
- Tri State 572 (1L)
- Tri State 574 (1L)
- Tri State 628 (1L)
- Tri State 633 (1L)
- Tri State 685 (1L)
- Tri State 750 (1L)
- Tri State 770 (1L)

Vigoro Industries
- Vigoro V875 (2E)
- Vigoro V925 (2E)
- Vigoro V974 (2E)
- Vigoro V1055 (1E)
- Vigoro V1084 (1L)
- Vigoro V1105 (1L)

Vineyard Seed Company
- Vineyard V414W (1L,2E)
- Vineyard V417W (1L,2L)
- Vineyard V438W (1L)

Wolf River Valley Seeds
- Wolf River Valley WRV-9185 (4)
- Wolf River Valley WRV-9383 (4)

COMPANIES WITH HYBRIDS ENTERED IN 1994 TRIALS

BRAND	COMPANY NAME AND ADDRESS
AMCORN	Amcorn Hybrids, Inc., 9875 W. Grand Ledge Hwy. Sunfield, MI 48891
ANDERSONS	The Andersons, P.O. Box 119, Maumee, OH 43537
ASGROW	Asgrow Seed Company, 7000 Portage Road Kalamazoo, MI 49001
BAYSIDE	Bayside Seeds, 259 Bowker Road, Munger, MI 48747
BECK'S	Beck's Superior Hybrids, 6767 East 276th St Atlanta, IN 46031
BLANEY	Blaney Seeds, Rt.1 Box 40, Francesville, IN 47946
CALLAHAN	Callahan Enterprises, Inc., 1122 E. 169th St Westfield, IN 46074
CARGILL	Cargill Hybrid Seeds, Box 5645 Minneapolis, MN 55440-5645
CIBA	CIBA Seeds, 12275 South Sherman Lake Drive Augusta, MI 49012
COUNTRYMARK	Countrymark CO-OP, 950 N. Meridian St. Indianapolis, IN 46204-3909
CROW'S	Crow's Hybrid Corn Company, Box 306, Milford, IL 60953
DAIRYLAND	Dairyland Seed Co, Inc., Box 958, 3570 Hwy.H West Bend, WI 53095-0958
DEKALB	Dekalb Genetics Corp., 3100 Sycamore Road, Dekalb, IL 60115
GEN-TECH	Gen-Tech Farm Seeds, Inc., 15740 Old 31, Argos, IN 46501
GOLDEN HARVEST	Sommer Bros. Seed Company, P.O. Box 248, Pekin, IL 61554
GRIES	Gries Seed Farms, Inc., 2348 North Fifth St, Fremont, OH 43420
GUTWEIN	Fred Gutwein & Sons, Route 1, Box 40, Francesville, IN 47946
HYPERFORMER	HyPerformer Seed Co. 3477 S.Graham Rd., Hwy M-52 Saginaw, MI 48603

BRAND	COMPANY NAME AND ADDRESS
ICI SEEDS	ICI Seeds, Inc., 6945 Vista Drive, West Des Moines, IA 50266
JUNG	Jung Farms, Inc., 335 South High Street, Randolph, WI 53957
KING-AGRO	King-Agro, P.O. Box 1088, Chatham, Ontario, Canada, N7M5L6
LEADER	Leader Seeds, Inc., 7160 S.R. 118, Celina, OH 45822
MYCOGEN	Mycogen Plant Sciences, 720 St. Croix St., Prescott, WI 54021
NORTHRUP KING	Northrup King Company, P.O. Box 959, Minneapolis, MN 55440
PAYCO	Michigan State Seed/Payco, 717 N. Clinton Street Grand Ledge, MI 48837
PICKSEED	Pickseed Canada, Inc., Box 517, R.R.#5 Tilbury, Ontario, Canada N0P 2L0
PIONEER	Pioneer Hi-Bred International, Inc., R3 05-653 Route 15 N, P.O. Box 756, Bryan, OH 43506-0756
RENK	Renk Seed Company, 6800 Wilburn Road, Sun Prairie, WI 53590
RUPP	Rupp Seeds, Inc., 17919 Co. Rd B, Wauseon, OH 43567
STINE	Stine Seed Company, 2225 Laredo Trail, Adel, IA 50003
TERRA	Terra International, Terra Centre, 600 Fourth Street, P.O. Box 6000, Sioux City, IA 51102-6000
TOP FARM	Top Farm Hybrids, Inc., P. O. Box 850, Cokato, MN 55321
TRELAY	Trelay Inc., 11623 Hwy 80 N, Livingston, WI 53554
TRI-STATE	Tri-State Seeds, P.O. Box 341, Richmond, MI 49083
VIGORO	Vigoro Industries, P.O. Box 177, Sigourney, IA 52591
VINEYARD	Vineyard Seed Company Inc., P.O. Box 139, Sidney, IL 61877
WOLF RIVER VALLEY	Wolf River Valley Seeds, N. 2976 Cty Hwy. M, White Lake, WI 54491