A special supplement to *Michigan Farm News*, Michigan's only statewide farm newspaper

# Corn Hybrids Compared in the 1998 Season



**Research conducted by Michigan State University**

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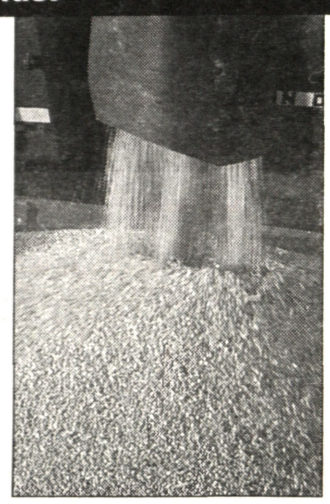

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| | | City | Pioneer® brand Hybrid | Yield |
|---|---|---|---|---|
| *NO-TILL IRRIGATED* | | | | |
| **1st** | **Dave Grabemeyer** | **Dowagiac** | **3335** | **221.67** |
| 2nd | Jerry Bement | Dowagiac | 3491 | 217.71 |
| *A RIDGE-TILL NON-IRRIGATED* | | | | |
| **1st** | **Stephanie M. Eickholt** | **Chesaning** | **3730** | **135.46** |
| *RIDGE-TILL IRRIGATED* | | | | |
| **1st** | **Janice A. Eickholt** | **Chesaning** | **3573** | **136.43** |
| *IRRIGATED* | | | | |
| **1st** | **Jon & Jay Drozd** | **Allegan** | **33A14** | **252.44** |
| 2nd | Kenneth E. Sebasty Jr | Buchanan | 33Y09 | 209.83 |
| 3rd | Randy Cuthbert | Cassopolis | 34G81 | 203.20 |

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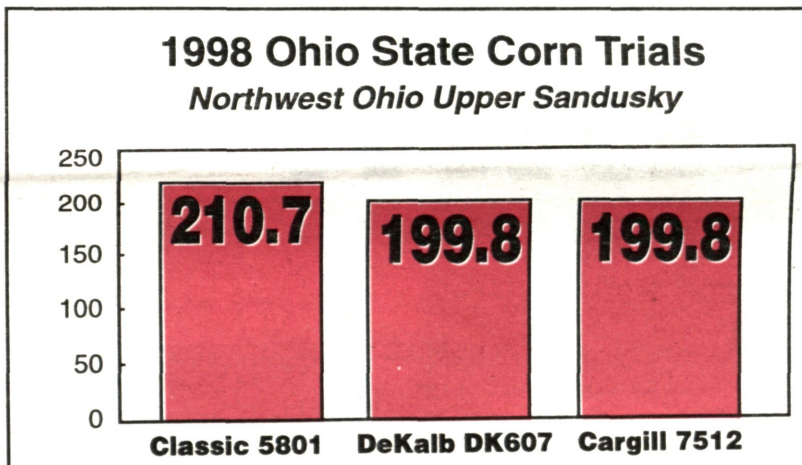


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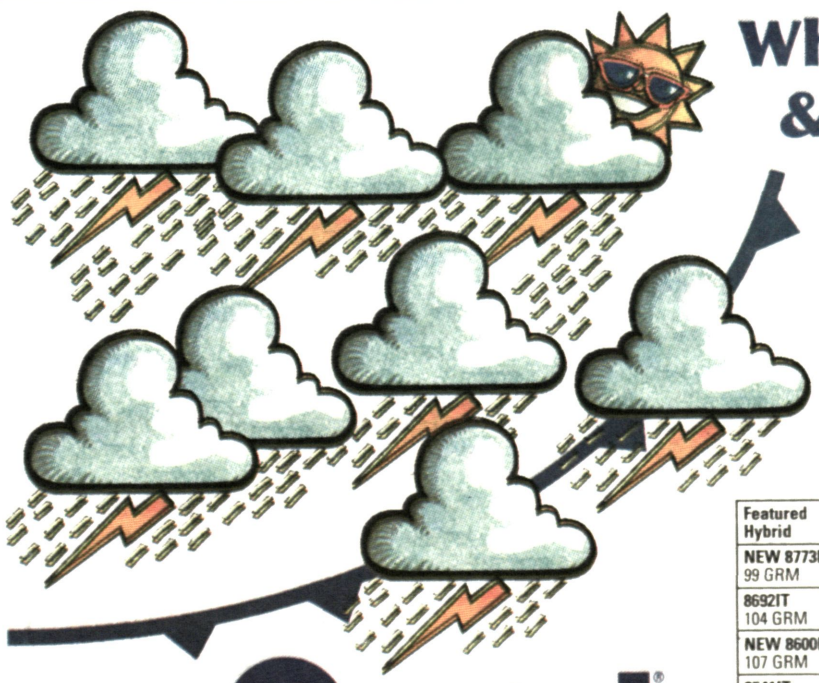

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Extension Bulletin E-431 January 1999

# CORN HYBRIDS COMPARED IN THE 1998 SEASON

*By:*

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*and*

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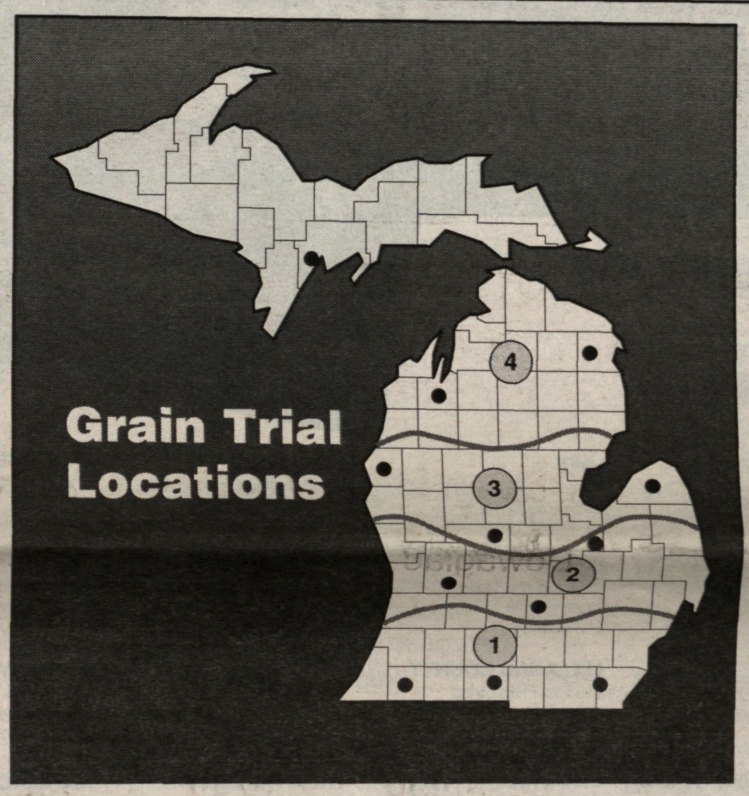
Hybrid corn trials are conducted each year by the Department of Crop and Soil Sciences in cooperation with MSU Extension, seed corn companies, and farmers.

## Entries

Each year seed companies are invited to enter hybrids in the trials. A fee is charged to cover expenses.

Table 8 presents a list of all hybrids planted in the 1998 trials. At 12 grain and 7 silage locations, 303 hybrids from 37 seed companies were tested for yield as 1,376 entries. Table 4 presents 3-year data for Alpena County, 2-year data for Delta County and 1998 data for Grand Traverse County. Dry stressful conditions in Grand Traverse County resulted in data not desirable for use in multiple year and site comparisons. Company names used in association with hybrid numbers refer to the brand. The numbers are the companies' designations.




## Methods

Three trial locations were planted in each of four maturity zones. These zones are based on available growing degree-day units established from long-term weather records. Hybrids entered in each zone are all tested in the three designated locations. The Delta County grain trial does not test the hybrids with maturities later than 90 day. Entries for Zones 1, 2, and 3 are divided into two maturity groups (early and late) based on maturity ratings provided by the seed companies. Zone 4 tests all hybrids in one group.

Four-row plots were used at all grain locations. The two center rows were harvested for yield. Plots were 22-feet long with a 30-inch row spacing.

Experimental design, data acquisition, analysis of variance, and data summarization were facilitated in part by ADaM, a software package developed jointly by MSU, CIMMYT (Mexico), and the Scottish Agricultural Statisitics Service. The field research layout is a four-replication, lattice design. A hybrid's performance is reported as the adjusted mean averaged together from four replicated plots.

All hybrids were grown under similar conditions at each location. They were grown in farmers' fields with equal fertilizer, population, date of planting, and other management practices. Trials in Branch, Cass, Montcalm, Mason, and Missaukee counties were irrigated. In the field, hybrids were identified only by a plot number to assure unbiased comparisons.

Stand counts were recorded in June. Plots with stand counts higher than the desired population were thinned at this time. Desired population rates are listed in Table B (grain) and Table C (silage). Lodging measurements were made at harvest, counting all plants broken below the ear. Plots were harvested mechanically for both grain and silage. Moisture content, field weight and test weight were measured by the GrainGage™, a HarvestData System™ mounted on our plot combine using the grain sample provided. *Grain yields are reported at a standard 15.5 percent moisture. Test weights are reported at harvest moisture. Automated test weight equipment loses some accuracy as harvest moistures increase. Test weight values should be used to determine relative rank and not as a precise weight.*

Grain samples were collected from four replications in Cass and Ingham counties (Zones 1 and 2) and were tested for protein, starch, and oil content. Funding was provided by the Corn Marketing Program of Michigan and the results are presented in the corresponding tables following the yield results.

## Growing Conditions

All yield trials were planted between April 28 and May 18. Mild weather and dry field conditions got the planting season off to an excellent start. Three locations were planted in April with wet weather hitting the first of May. Planting resumed on May 5 at locations in northern Michigan. The planting season continued without much interruption through its conclusion with only Huron and Monroe counties delayed by wet field conditions.

Growing degree day heat units were above long-term normals throughout Michigan all season long and considerably higher than the lower-than-normal recordings of 1996 and 1997. Rainfall was below normal in most parts of Michigan and drought stress occurred across the state with low recorded yields the norm. Timely rainfall did hit some areas of the state, and combined with the higher recorded heat units, resulted in some excellent yields.

Fall harvest was excellent. Early season drydown allowed harvest to begin in late September. Exceptional weather throughout the harvest season and drier corn at harvest reduced the delays from dryer backups with wet corn and resulted in 75 percent of the crop harvested by November 1. Field losses from lodging due to poor weather conditions were virtually non-existent in 1998.

*Continued on page 3*

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*Continued from page 1*

## How to Use This Bulletin

Tables have hybrids listed alphabetically. One-, two-, and three-year averages (1998, 1997, and 1996) averaged over three locations are presented for all hybrids wherever data are available. Results for individual locations in 1998 are also included in the same table. One-year single site results are less reliable than two-or three-year and multiple location averages and should be interpreted with more caution. Confidence in corn performance data increases with the number of years and locations of testing. For complete two- and three- year single site data, visit our web site at: **<www.css.msu.edu/varietytrials/>** .

The tables report the following information about the hybrids tested:

1. Average moisture content at harvest.
2. Average 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. Percent stand of target population.
6. Percent protein, starch, and oil content.

The results shown are the average of four replications grown in close proximity to each other. 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, moisture content, and test weight. The value calculated as the "least significant difference" or "LSD" is the amount that an individual hybrid would have to differ from another hybrid in the same test to be significantly different from that hybrid.

Hybrids which are not significantly different from the highest yielding hybrid are marked with an asterisk (*) in each table. Other agronomic information relative to each trial is given in Tables B and C. 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 grain trials, and 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. Each year, at a limited number of locations, demonstration plantings of each hybrid are planted at the front of the test field. In 1998, four locations had demonstration plantings. A field day plot tour was scheduled and the public invited to observe the hybrids. Examining plant and ear characteristics can help in selecting hybrids suitable for your production operation. Yield results are not taken from the demonstration plot.

### *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. Check with your seed dealer for information on which hybrids perform better at the higher populations when grown on your soil type.

### *Maturity*

Early-maturing hybrids are generally lower in moisture content than later-maturing hybrids at harvest. Differences among hybrids in rate of drydown 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. Another estimate of corn maturity is when a black layer of cells forms at the base of the kernel. This black layer is an indication of the end of active growth processes. At this time, kernel moisture will be between 32 and 35 percent.

### *For Grain*

When selecting a hybrid, yield should not be the only consideration. Identifying hybrids with lower moisture but above average yield will often have higher net returns than top yielding hybrids with higher moisture. One point higher moisture requires about two more bushels in yield to breakeven. It is often better to choose earlier hybrids (below average moisture content) than later hybrids for grain. Data in the tables show that good yields do not totally depend on later maturity. In 1998, early hybrids in Zone 1 produced about 15 bushels per acre less than the later maturing group. Moisture averaged 2.5 percent lower at harvest with 2 pounds higher test weight. The economic disadvantage for early hybrid selection with $2.00 corn was about $12.00 per acre for Zone 1. In Zone 3, where average moisture was 3.5 percent dryer and yields were only 7 bushels less for the early trial, the economic advantage was $5.00 per acre for the early season hybrids.

### *Advantages of early-maturing hybrids are:*

- They usually mature before killing frosts.
- Adapted early hybrids can generally yield as much as late hybrids in most areas of Michigan.
- Early hybrids with lower moisture content at harvest reduce drying time and market discounts for moisture.
- Test weights are generally higher resulting in reduced market discounts.
- Mature, dry corn makes a superior feed grain when used in swine or poultry rations.
- 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 can be more timely with early harvest on land not subject to erosion.

# Narrow Row Corn Trials in Michigan

In 1997, the Corn Marketing Board of Michigan funded a study to document the interaction of multiple row spacing and populations. Four locations were selected for trial sites in Monroe, Ingham, Saginaw, and Huron counties. In 1998, a site in Calhoun County was added to compare non-irrigated and irrigated corn in narrow rows. Data from previous years have raised some additional questions that require further investigation. In 1998, the narrow row test sites were expanded to include not only the row spacing by population trials, but also a planting date study and a study looking at Bt technology in narrow rows.

Six hybrids were selected based on their various plant type, ear type, and maturity characteristics. Of these six hybrids, the two mid-maturity hybrids were planted at all six locations. Two earlier maturity hybrids were added to the Central Zone test and two later maturity hybrids were added to the Southern Zone test. This made a total of four hybrids at each location. Plots were planted in the same manner as the previous year in 30-, 22-, and 15-inch rows with five target populations of 26-, 30-, 34-, 38-, and 42- thousand plants per acre. The Huron County location was abandoned this year due to early season drought stress resulting in poor uneven plant populations.

The planting date study was set up to investigate if a disadvantage existed for narrow rows in late season plantings. In 1997, our trials were planted late in the season and did not show a significant yield advantage for narrow rows. Numerous MSU Extension trials were conducted by local farmers to compare narrow row plantings. These trials, planted earlier in the season, did show some yield advantage with narrow rows. In the study conducted at Michigan State University, three planting dates were used: early, mid, and late season. A set of three hybrids were selected so that one hybrid out of the set would best fit the maturity for each planting date. The plots were planted with a two-week delay between planting dates on April 25, May 9, and May 23. The three hybrids were planted in 30-, 22-, and 15-inch row spacings at populations targeted for 26-, 32-, and 38-thousand plants per acre.

Corn hybrids with corn borer resistance have been gaining exposure in recent months. This has raised two key questions. First, how do Bt hybrids react to narrow rows; and second, how do narrow rows affect corn borer pressure? Locations were planted in Monroe and Calhoun counties utilizing one non-Bt hybrid that also had two versions with different Bt events. Each event was selected for the length of time the Bt was expressed and where. These plots utilized the same row spacing and populations as the planting date study. Five random corn plants from each plot were selected and hand split to evaluate corn borer damage. The number, length, and location of tunnels were recorded as well as live corn borers present in the stalks.

To date, the analysis of the 1998 data has not yet been completed. The data can be accessed through the web at **<http://www.css.msu.edu/varietytrials/>** as soon as the information becomes available.

*See photos on page 11*

# Average of Monroe, Branch & Cass County EARLY trials
# One-, two-, three-year averages — 1998, 1997, 1996

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

| HYBRID | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | MONROE | | | | | BRANCH | | | | | CASS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | | TEST | % | % | % | | TEST | % | % | % | | TEST | % | % | % | | TEST | % | % | % | | TEST | % | % | % | | TEST | % | % |
| BRAND | VARIETY | H2O | BU/A | WT | SL | STD | H2O | BU/A | WT | SL | STD | H2O | BU/A | WT | SL | STD | H2O | BU/A | WT | SL | STD | H2O | BU/A | WT | SL | STD | H2O | BU/A | WT | SL | STD |
| AGRIPRO | AP9340 | 20 | 188 | 57 | 2 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 194 | 59 | 1 | 97 | 22 | 198 | 56 | 2 | 100 | 19 | 171 | 57 | 3 | 100 |
| AGRIPRO | AP9363 | 21 | 183 | 57 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 170 | 58 | 1 | 97 | 24 | 196 | 55 | 1 | 99 | 21 | 183 | 57 | 1 | 98 |
| ASGROW | RX505 Bt | 21 | 188 | 58 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 174 | 59 | 2 | 99 | 24 | 208 | 55 | 2 | 100 | 21 | 182 | 59 | 1 | 100 |
| ASGROW | RX587 | 22 | 169 | 61 | 1 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 164 | 62 | 0 | 94 | 24 | 190 | 58 | 2 | 86 | 21 | 153 | 61 | 2 | 94 |
| ASGROW | RX601 | 22 | 187 | 57 | 2 | 98 | 24 | 170 | 55 | 4 | 97 | 23 | 161 | 54 | 4 | 98 | 21 | *202 | 58 | 1 | 95 | 24 | 181 | 55 | 2 | 100 | 21 | 178 | 57 | 2 | 99 |
| BAYSIDE | Super 105 | 23 | 196 | 55 | 2 | 93 | 24 | 183 | 53 | 6 | 92 | -- | -- | -- | -- | -- | 21 | *200 | 56 | 2 | 85 | 25 | 199 | 53 | 3 | 96 | 22 | 188 | 55 | 1 | 97 |
| BECK'S | 5105 | 22 | *213 | 55 | 2 | 96 | 24 | 195 | 53 | 9 | 97 | 23 | 182 | 53 | 7 | 94 | 20 | *212 | 57 | 1 | 87 | 26 | **230 | 53 | 3 | 100 | 21 | *198 | 54 | 3 | 100 |
| BECK'S | 5305 | 23 | 201 | 56 | 2 | 99 | 25 | 192 | 54 | 9 | 98 | 25 | 184 | 53 | 7 | 98 | 21 | 197 | 58 | 2 | 98 | 25 | *209 | 53 | 2 | 100 | 22 | *196 | 57 | 2 | 100 |
| BECK'S | 5415 | 24 | 200 | 53 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *205 | 53 | 3 | 96 | 28 | *213 | 50 | 2 | 100 | 22 | 182 | 55 | 1 | 100 |
| CALLAHAN | 7847X | 22 | 185 | 59 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 184 | 60 | 3 | 95 | 26 | 207 | 56 | 1 | 99 | 20 | 166 | 59 | 1 | 99 |
| CALLAHAN | 7942X | 21 | 174 | 59 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | *201 | 60 | 1 | 94 | 22 | 169 | 58 | 3 | 99 | 21 | 150 | 57 | 3 | 97 |
| CALLAHAN | 7947X | 22 | *202 | 56 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *202 | 59 | 1 | 89 | 26 | *215 | 53 | 1 | 96 | 21 | 191 | 57 | 2 | 96 |
| CARGILL | 4111 | 20 | 188 | 59 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 171 | 60 | 2 | 92 | 22 | 204 | 57 | 1 | 100 | 20 | 189 | 59 | 3 | 100 |
| CORN BELT | C555 | 22 | 190 | 56 | 2 | 97 | 24 | 176 | 54 | 7 | 98 | -- | -- | -- | -- | -- | 19 | 189 | 57 | 2 | 96 | 25 | 194 | 54 | 4 | 100 | 22 | 186 | 57 | 1 | 96 |
| CORN BELT | Exp5388 | 20 | 162 | 57 | 3 | 83 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 155 | 59 | 3 | 77 | 21 | 182 | 57 | 3 | 88 | 20 | 150 | 57 | 3 | 85 |
| COUNTRYMARK COOP | 5308 | 22 | 182 | 57 | 3 | 96 | 23 | 167 | 55 | 5 | 95 | -- | -- | -- | -- | -- | 21 | 187 | 58 | 1 | 91 | 24 | 186 | 56 | 2 | 100 | 21 | 172 | 58 | 8 | 97 |
| CROW'S | 200 | 21 | 174 | 57 | 2 | 98 | 23 | 166 | 55 | 5 | 98 | 22 | 157 | 54 | 5 | 98 | 19 | 164 | 58 | 1 | 95 | 24 | 194 | 55 | 1 | 100 | 21 | 163 | 57 | 2 | 100 |
| DAIRYLAND | STEALTH-1402 | 21 | 171 | 57 | 3 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 147 | 58 | 6 | 97 | 23 | 202 | 58 | 1 | 97 | 21 | 164 | 57 | 2 | 98 |
| DAIRYLAND | STEALTH-1406 | 22 | *214 | 55 | 2 | 96 | 25 | 189 | 53 | 8 | 94 | -- | -- | -- | -- | -- | 19 | **222 | 57 | 1 | 95 | 25 | *225 | 53 | 2 | 97 | 22 | *195 | 55 | 3 | 96 |
| DAIRYLAND | STEALTH-1505 | 23 | 184 | 59 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 172 | 61 | 1 | 94 | 26 | 206 | 56 | 1 | 100 | 23 | 175 | 60 | 2 | 100 |
| DEKALB | DK471 | 18 | 170 | 58 | 1 | 98 | 20 | 155 | 56 | 5 | 97 | 19 | 151 | 55 | 5 | 97 | 16 | 168 | 57 | 0 | 97 | 20 | 173 | 58 | 2 | 99 | 19 | 169 | 58 | 2 | 97 |
| DEKALB | DK477 | 18 | 155 | 57 | 3 | 99 | 19 | 143 | 56 | 4 | 99 | 19 | 136 | 56 | 5 | 99 | 16 | 159 | 57 | 2 | 96 | 19 | 150 | 58 | 4 | 100 | 19 | 155 | 57 | 3 | 100 |
| DEKALB | DK493 BtX | 19 | 174 | 58 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 17 | 176 | 58 | 1 | 97 | 21 | 182 | 59 | 1 | 99 | 19 | 165 | 58 | 2 | 99 |
| DEKALB | DK525 | 20 | 174 | 59 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 182 | 60 | 1 | 101 | 21 | 165 | 58 | 2 | 99 | 20 | 175 | 58 | 1 | 100 |
| DEKALB | DK537 | 20 | 185 | 57 | 3 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 185 | 58 | 5 | 99 | 23 | 197 | 57 | 1 | 99 | 20 | 172 | 57 | 3 | 100 |
| DEKALB | DK551 | 21 | 192 | 57 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 189 | 58 | 1 | 99 | 24 | 196 | 56 | 0 | 100 | 21 | 189 | 57 | 2 | 98 |
| FONTANELLE | F4193 | 22 | 185 | 58 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 183 | 60 | 0 | 95 | 24 | 195 | 55 | 1 | 100 | 23 | 176 | 59 | 1 | 97 |
| GARST | N5542 | 22 | *213 | 57 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *215 | 59 | 1 | 97 | 24 | *228 | 55 | 1 | 99 | 21 | *197 | 58 | 1 | 100 |
| GARST | 8640 | 20 | *206 | 58 | 1 | 99 | 22 | 184 | 55 | 7 | 95 | -- | -- | -- | -- | -- | 19 | *208 | 59 | 0 | 98 | 21 | *212 | 56 | 2 | 99 | 21 | *198 | 57 | 1 | 100 |
| GENESIS | 1904 | 21 | 189 | 58 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 184 | 60 | 1 | 94 | 24 | 199 | 56 | 2 | 100 | 21 | 184 | 59 | 2 | 99 |
| GOLDEN HARVEST | Ex674 | 21 | 191 | 59 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 191 | 60 | 1 | 94 | 24 | 191 | 56 | 1 | 100 | 21 | 191 | 59 | 1 | 98 |
| GOLDEN HARVEST | Ex685 | 20 | 176 | 56 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 180 | 59 | 2 | 87 | 22 | 170 | 54 | 1 | 96 | 20 | 178 | 56 | 1 | 98 |
| GREAT LAKES | 4758 | 20 | 170 | 59 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 178 | 60 | 2 | 96 | 22 | 175 | 57 | 1 | 93 | 21 | 157 | 59 | 2 | 98 |
| GREAT LAKES | 5322 | 23 | 149 | 56 | 8 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 167 | 56 | 10 | 77 | 24 | 172 | 56 | 0 | 97 | 23 | 107 | 57 | 15 | 99 |
| GREAT LAKES | 5456 | 22 | 195 | 56 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 197 | 57 | 1 | 96 | 25 | 208 | 54 | 1 | 99 | 20 | 179 | 56 | 1 | 97 |
| GREAT LAKES | 5715 | 22 | 176 | 58 | 1 | 95 | 24 | 169 | 56 | 2 | 93 | -- | -- | -- | -- | -- | 20 | 178 | 61 | 1 | 91 | 24 | 180 | 56 | 1 | 95 | 23 | 169 | 58 | 2 | 99 |
| GRIES | GSF4203 | 22 | *206 | 55 | 3 | 98 | 25 | 189 | 53 | 5 | 96 | 23 | 178 | 53 | 5 | 93 | 20 | *200 | 56 | 2 | 95 | 26 | *223 | 54 | 4 | 100 | 22 | *196 | 54 | 3 | 100 |
| GUTWEIN | 2400 | 22 | *204 | 55 | 2 | 99 | 24 | 193 | 53 | 5 | 97 | 23 | 179 | 53 | 5 | 94 | 21 | *210 | 56 | 2 | 96 | 24 | *209 | 53 | 2 | 100 | 22 | *193 | 55 | 1 | 100 |
| GUTWEIN | 2424 | 22 | 180 | 56 | 1 | 96 | 24 | 163 | 54 | 3 | 95 | -- | -- | -- | -- | -- | 20 | 182 | 57 | 1 | 89 | 25 | 192 | 53 | 0 | 100 | 22 | 166 | 57 | 3 | 100 |
| HYTEST | BH4602 | 23 | *205 | 55 | 2 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *206 | 56 | 2 | 82 | 25 | *215 | 53 | 2 | 98 | 22 | *195 | 55 | 1 | 96 |
| MYCOGEN | 2598 | 21 | 200 | 56 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *214 | 57 | 2 | 98 | 22 | 205 | 54 | 1 | 100 | 21 | 180 | 55 | 1 | 99 |
| NOVARTIS | MAX 21 | 23 | 190 | 58 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 192 | 60 | 1 | 97 | 26 | 185 | 56 | 1 | 100 | 22 | 192 | 58 | 0 | 100 |
| NOVARTIS | NX5297 | 23 | 197 | 58 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 196 | 59 | 1 | 97 | 26 | 198 | 56 | 1 | 100 | 22 | *198 | 58 | 1 | 100 |
| PFISTER | 2015 | 22 | 197 | 55 | 4 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 199 | 57 | 4 | 98 | 25 | *211 | 54 | 3 | 100 | 21 | 182 | 55 | 3 | 98 |
| PFISTER | 2025 | 22 | **220 | 55 | 2 | 97 | 24 | 199 | 53 | 7 | 97 | -- | -- | -- | -- | -- | 19 | *220 | 57 | 3 | 96 | 24 | *229 | 53 | 2 | 98 | 22 | **211 | 55 | 1 | 99 |
| *PIONEER* | *35N05* | 22 | 189 | 59 | 3 | 99 | 24 | 183 | 57 | 4 | 99 | -- | -- | -- | -- | -- | 20 | 196 | 61 | 2 | 100 | 23 | 200 | 57 | 1 | 98 | 21 | 171 | 60 | 6 | 99 |
| *PIONEER* | *36H36* | 21 | 163 | 59 | 5 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 173 | 60 | 10 | 100 | 23 | 189 | 57 | 2 | 100 | 21 | 128 | 59 | 4 | 98 |
| *PIONEER* | *36K50* | 22 | 171 | 62 | 3 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 193 | 62 | 0 | 96 | 23 | 146 | 61 | 1 | 100 | 22 | 172 | 61 | 7 | 100 |
| RENK | RK641 | 22 | 180 | 56 | 1 | 100 | 23 | 172 | 55 | 4 | 99 | 22 | 158 | 54 | 4 | 99 | 18 | 171 | 58 | 1 | 99 | 25 | 197 | 54 | 1 | 100 | 21 | 172 | 57 | 1 | 100 |
| RENK | RK691 | 20 | 185 | 57 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 175 | 57 | 1 | 93 | 22 | 196 | 56 | 2 | 100 | 19 | 184 | 58 | 3 | 100 |
| RUPP | XR1682 | 23 | 187 | 56 | 0 | 87 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 188 | 58 | 0 | 83 | 24 | 199 | 54 | 1 | 91 | 22 | 174 | 56 | 0 | 86 |
| RUPP | XR1688 | 23 | 180 | 59 | 1 | 96 | 24 | 170 | 56 | 3 | 92 | 23 | 157 | 56 | 2 | 94 | 20 | 186 | 61 | 1 | 92 | 26 | 188 | 56 | 2 | 100 | 23 | 167 | 60 | 1 | 96 |
| RUPP | XR1698 | 22 | 201 | 55 | 2 | 93 | 25 | 187 | 53 | 7 | 92 | 23 | 174 | 53 | 6 | 93 | 21 | 189 | 57 | 1 | 81 | 25 | *220 | 53 | 1 | 100 | 22 | *195 | 55 | 4 | 99 |
| SUNSTAR | 4706 | 22 | 201 | 56 | 2 | 96 | 24 | 188 | 53 | 4 | 95 | 23 | 178 | 53 | 4 | 94 | 20 | *200 | 57 | 2 | 93 | 25 | *214 | 53 | 3 | 96 | 21 | 190 | 56 | 3 | 99 |
| TERRA | E987 | 21 | 184 | 59 | 2 | 97 | 22 | 170 | 57 | 4 | 91 | -- | -- | -- | -- | -- | 19 | 182 | 60 | 2 | 94 | 22 | 200 | 57 | 3 | 99 | 21 | 169 | 59 | 2 | 97 |
| TERRA | E989 | 19 | 163 | 58 | 3 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 169 | 59 | 2 | 92 | 21 | 171 | 57 | 1 | 96 | 20 | 150 | 58 | 5 | 99 |
| TERRA | E1008 Bt | 21 | 181 | 58 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 161 | 60 | 1 | 91 | 25 | 207 | 55 | 0 | 98 | 21 | 174 | 58 | 0 | 98 |
| TERRA | TR1047 | 23 | *212 | 55 | 2 | 96 | 25 | 191 | 53 | 6 | 93 | -- | -- | -- | -- | -- | 21 | *211 | 57 | 2 | 87 | 26 | *226 | 53 | 2 | 100 | 22 | *200 | 55 | 3 | 100 |
| TERRA | TR1058 Bt | 22 | 191 | 57 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 173 | 59 | 1 | 98 | 27 | 208 | 54 | 0 | 100 | 21 | 191 | 57 | 1 | 100 |
| TERRA | TR1066 | 22 | *206 | 55 | 1 | 98 | 24 | 188 | 53 | 3 | 95 | -- | -- | -- | -- | -- | 20 | *210 | 56 | 1 | 95 | 25 | *213 | 52 | 2 | 100 | 21 | *195 | 57 | 1 | 99 |
| TRELAY | 7002 | 22 | 183 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *202 | 58 | 1 | 95 | 24 | 189 | 54 | 0 | 100 | 21 | 157 | 57 | 3 | 100 |
| AVERAGE | | 21 | 187 | 57 | 2 | 97 | 24 | 178 | 54 | 5 | 96 | 22 | 166 | 54 | 5 | 96 | 19 | 188 | 58 | 2 | 94 | 24 | 197 | 55 | 2 | 98 | 21 | 177 | 57 | 2 | 98 |
| HIGHEST | | 24 | 220 | 62 | 8 | 100 | 25 | 199 | 57 | 9 | 99 | 25 | 184 | 56 | 7 | 99 | 22 | 222 | 62 | 10 | 100 | 28 | 230 | 61 | 4 | 100 | 23 | 211 | 61 | 15 | 100 |
| LOWEST | | 18 | 149 | 53 | 0 | 83 | 19 | 143 | 53 | 2 | 91 | 19 | 136 | 53 | 2 | 93 | 16 | 147 | 53 | 0 | 77 | 19 | 146 | 50 | 0 | 86 | 19 | 107 | 54 | 0 | 85 |
| LSD | | 1 | 18 | 1 | | | | | | | | | | | | | 1 | 23 | 1 | | | 2 | 21 | 2 | | | 1 | 18 | 1 | | |
| CV .05% | | 4 | 6 | 2 | | | | | | | | | | | | | 5 | 8 | 2 | | | 5 | 8 | 2 | | | 4 | 7 | 2 | | |

** HIGHEST YIELDING HYBRID IN 1998

* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

# Grain Quality – Percent Protein, Oil and Starch

## Funding Provided by Corn Marketing Program of Michigan

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

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| AGRIPRO | AP9340 | 7.5 | -- | 3.2 | 62.0 |
| AGRIPRO | AP9363 | 7.4 | -- | 3.3 | 62.0 |
| ASGROW | RX505 Bt | 7.6 | -- | 3.6 | 61.5 |
| ASGROW | RX587 | 8.3 | -- | 3.4 | 61.6 |
| ASGROW | RX601 | 7.5 | 7.1 | 3.6 | 61.3 |
| BAYSIDE | Super 105 | 6.6 | 6.8 | 3.4 | 62.3 |
| BECK'S | 5105 | 6.8 | 7.1 | 3.3 | 62.4 |
| BECK'S | 5305 | 6.5 | 6.8 | 3.3 | 62.5 |
| BECK'S | 5415 | 6.5 | -- | 3.3 | 62.2 |
| CALLAHAN | 7847X | 7.6 | -- | 3.5 | 61.8 |
| CALLAHAN | 7942X | 7.7 | -- | 3.4 | 61.3 |
| CALLAHAN | 7947X | 8.0 | -- | 3.6 | 61.2 |
| CARGILL | 4111 | 7.0 | -- | 3.5 | 62.1 |
| CORN BELT | C555 | 6.7 | 6.7 | 3.5 | 61.9 |
| CORN BELT | Exp5388 | 6.5 | -- | 3.5 | 62.4 |
| COUNTRYMARK COOP | 5308 | 7.2 | 7.5 | 3.5 | 61.9 |
| CROW'S | 200 | 7.1 | 7.8 | 3.1 | 62.5 |
| DAIRYLAND | STEALTH-1402 | 7.9 | -- | 3.2 | 61.6 |
| DAIRYLAND | STEALTH-1406 | 6.9 | 6.9 | 3.4 | 62.1 |
| DAIRYLAND | STEALTH-1505 | 7.6 | -- | 3.5 | 61.8 |
| DEKALB | DK471 | 7.1 | 6.9 | 3.5 | 62.0 |
| DEKALB | DK477 | 7.3 | 7.6 | 3.3 | 62.4 |
| DEKALB | DK493 BtX | 7.0 | -- | 3.7 | 62.2 |
| DEKALB | DK525 | 7.2 | -- | 3.6 | 62.0 |
| DEKALB | DK537 | 6.9 | -- | 3.3 | 62.7 |

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| DEKALB | DK551 | 7.4 | -- | 3.5 | 61.7 |
| FONTANELLE | F4193 | 7.0 | -- | 3.6 | 62.1 |
| GARST | N5542 | 6.7 | -- | 3.6 | 62.1 |
| GARST | 8640 | 7.3 | 7.1 | 3.5 | 61.7 |
| GENESIS | 1904 | 7.4 | -- | 3.4 | 62.2 |
| GOLDEN HARVEST | Ex674 | 7.2 | -- | 3.7 | 62.1 |
| GOLDEN HARVEST | Ex685 | 8.0 | -- | 3.2 | 61.4 |
| GREAT LAKES | 4758 | 7.2 | -- | 3.4 | 62.3 |
| GREAT LAKES | 5322 | 7.8 | -- | 3.2 | 61.4 |
| GREAT LAKES | 5456 | 7.1 | -- | 3.1 | 62.1 |
| GREAT LAKES | 5715 | 7.2 | 7.4 | 3.5 | 62.5 |
| GRIES | GSF4203 | 6.9 | 6.9 | 3.4 | 61.8 |
| GUTWEIN | 2400 | 6.6 | 6.3 | 3.3 | 62.1 |
| GUTWEIN | 2424 | 7.1 | 7.2 | 3.3 | 62.4 |
| HYTEST | BH4602 | 6.6 | -- | 3.4 | 62.4 |
| MYCOGEN | 2598 | 7.3 | -- | 3.5 | 61.9 |
| NOVARTIS | MAX 21 | 6.8 | -- | 3.4 | 62.5 |
| NOVARTIS | NX5297 | 6.1 | -- | 3.4 | 63.2 |
| PFISTER | 2015 | 7.2 | -- | 3.2 | 62.3 |
| PFISTER | 2025 | 6.7 | -- | 3.4 | 62.0 |
| PIONEER | 35N05 | 6.5 | 6.6 | 3.6 | 62.6 |
| PIONEER | 36H36 | 8.6 | -- | 3.1 | 61.1 |
| PIONEER | 36K50 | 7.5 | -- | 3.6 | 61.8 |
| RENK | RK641 | 7.6 | 7.2 | 3.3 | 61.7 |
| RENK | RK691 | 7.3 | -- | 3.4 | 61.3 |

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| RUPP | XR1682 | 7.7 | -- | 3.3 | 61.2 |
| RUPP | XR1688 | 7.5 | 7.7 | 3.5 | 62.1 |
| RUPP | XR1698 | 6.9 | 7.2 | 3.4 | 61.9 |
| SUNSTAR | 4706 | 6.7 | 7.1 | 3.3 | 62.2 |
| TERRA | E987 | 7.7 | 8.0 | 3.7 | 62.0 |
| TERRA | E989 | 7.7 | -- | 3.5 | 61.7 |
| TERRA | E1008 Bt | 8.6 | -- | 3.4 | 60.4 |
| TERRA | TR1047 | 6.6 | 6.5 | 3.4 | 62.3 |
| TERRA | TR1058 Bt | 7.1 | -- | 3.2 | 62.2 |
| TERRA | TR1066 | 7.4 | 7.2 | 3.0 | 62.1 |
| TRELAY | 7002 | 7.2 | -- | 3.4 | 62.0 |
| AVERAGE | | 7.2 | 7.1 | 3.4 | 62.0 |
| HIGHEST | | 8.6 | 8.0 | 3.7 | 63.2 |
| LOWEST | | 6.1 | 6.3 | 3.0 | 60.4 |
| LSD | | .5 | | .2 | .8 |
| CV .05% | | 4.7 | | 4.1 | .9 |

Table 1L

# SOUTHERN MICHIGAN

ZONE 1

## Average of Monroe, Branch & Cass County LATE trials
## One-, two-, three-year averages — 1998, 1997, 1996

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

| HYBRID | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | MONROE | | | | | BRANCH | | | | | CASS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD |
| AGRIPRO | AP9468 | 23 | *202 | 56 | 0 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 188 | 57 | 1 | 88 | 27 | *220 | 53 | 0 | 100 | 22 | 198 | 58 | 0 | 95 |
| ANDERSONS | NC5801 | 24 | *211 | 55 | 2 | 98 | 26 | 195 | 53 | 4 | 98 | 25 | 182 | 52 | 4 | 98 | 22 | 201 | 57 | 3 | 97 | 26 | *223 | 52 | 1 | 100 | 23 | *210 | 56 | 2 | 99 |
| BECK'S | 5360 | 25 | 198 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *206 | 59 | 2 | 99 | 28 | 200 | 53 | 1 | 96 | 24 | 189 | 57 | 2 | 98 |
| BECK'S | 5405 | 25 | *206 | 54 | 1 | 98 | 27 | 193 | 52 | 4 | 98 | 25 | 183 | 52 | 5 | 98 | 22 | *211 | 55 | 2 | 93 | 30 | 207 | 52 | 1 | 100 | 23 | *201 | 56 | 0 | 100 |
| BECK'S | X5505 Bt | 25 | 197 | 54 | 1 | 96 | 27 | 188 | 53 | 3 | 97 | -- | -- | -- | -- | -- | 22 | 175 | 55 | 1 | 92 | 29 | 203 | 52 | 1 | 97 | 25 | *213 | 55 | 2 | 98 |
| BIO GENE | BG307 | 24 | **216 | 55 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *215 | 56 | 2 | 91 | 27 | *222 | 53 | 0 | 93 | 24 | *210 | 56 | 1 | 92 |
| BIO GENE | BG309 | 24 | *209 | 55 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 197 | 56 | 2 | 94 | 27 | **233 | 53 | 1 | 100 | 23 | 198 | 56 | 1 | 99 |
| BROWN | BR7050 | 24 | **216 | 55 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *215 | 57 | 2 | 100 | 27 | *228 | 52 | 1 | 100 | 23 | *205 | 56 | 1 | 100 |
| CALLAHAN | 7658 | 24 | *207 | 55 | 3 | 95 | 26 | 193 | 53 | 6 | 94 | 25 | 184 | 53 | 5 | 96 | 22 | 199 | 56 | 6 | 93 | 26 | *217 | 52 | 1 | 95 | 23 | *203 | 56 | 2 | 97 |
| CARGILL | 6888 | 24 | *209 | 54 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *219 | 56 | 2 | 95 | 27 | 211 | 52 | 1 | 95 | 25 | 196 | 55 | 1 | 99 |
| CORN BELT | C588 | 24 | *207 | 55 | 2 | 98 | 26 | 195 | 53 | 7 | 98 | 25 | 186 | 53 | 5 | 98 | 22 | *212 | 57 | 3 | 96 | 26 | 209 | 52 | 2 | 98 | 23 | *200 | 56 | 1 | 100 |
| CORN BELT | Exp5998 | 25 | *204 | 55 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *209 | 56 | 1 | 98 | 28 | *221 | 52 | 1 | 100 | 24 | 181 | 57 | 1 | 100 |
| COUNTRYMARK COOP | 627 | 24 | *211 | 55 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *203 | 56 | 2 | 98 | 28 | *226 | 53 | 1 | 100 | 22 | *203 | 55 | 1 | 99 |
| CROW'S | 365 | 23 | 194 | 55 | 1 | 97 | 25 | 180 | 53 | 4 | 97 | 23 | 167 | 53 | 5 | 98 | 20 | 175 | 56 | 1 | 95 | 27 | 201 | 52 | 1 | 98 | 23 | *207 | 56 | 2 | 98 |
| CROW'S | 366 | 23 | 195 | 57 | 1 | 99 | 24 | 179 | 55 | 4 | 97 | -- | -- | -- | -- | -- | 20 | 183 | 58 | 2 | 97 | 26 | *214 | 55 | 1 | 100 | 22 | 187 | 57 | 1 | 100 |
| CROW'S | 492 | 24 | *203 | 53 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 201 | 54 | 2 | 91 | 29 | *215 | 50 | 0 | 100 | 23 | 192 | 54 | 2 | 100 |
| CROW'S | 496 | 25 | 193 | 54 | 3 | 100 | 26 | 187 | 52 | 6 | 98 | 25 | 176 | 52 | 5 | 99 | 22 | 190 | 54 | 6 | 99 | 30 | 206 | 51 | 2 | 100 | 22 | 183 | 56 | 1 | 100 |
| DAIRYLAND | STEALTH-1412 | 24 | *213 | 55 | 1 | 99 | 26 | 198 | 53 | 3 | 97 | 25 | 193 | 53 | 3 | 98 | 22 | *213 | 56 | 1 | 98 | 27 | *225 | 52 | 1 | 99 | 24 | *202 | 56 | 1 | 100 |
| DEKALB | DK585 | 22 | *206 | 56 | 2 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 202 | 57 | 1 | 97 | 26 | *217 | 53 | 3 | 98 | 21 | *199 | 57 | 2 | 100 |
| DEKALB | DK595 BtX | 23 | 198 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *205 | 58 | 3 | 92 | 25 | 206 | 53 | 0 | 100 | 22 | 183 | 57 | 2 | 100 |
| DEKALB | DK618 BtX | 25 | *200 | 55 | 1 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 184 | 56 | 1 | 88 | 28 | 213 | 52 | 0 | 96 | 24 | *204 | 56 | 1 | 94 |
| FONTANELLE | F4997 | 24 | 177 | 59 | 1 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 177 | 62 | 1 | 93 | 26 | 181 | 56 | 1 | 97 | 24 | 174 | 58 | 0 | 95 |
| FONTANELLE | F5306 | 24 | *215 | 55 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | **222 | 57 | 1 | 94 | 26 | 212 | 53 | 2 | 100 | 24 | *211 | 56 | 1 | 100 |
| GEERTSON | GS1117 | 24 | *209 | 55 | 1 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *208 | 56 | 2 | 90 | 26 | *224 | 53 | 1 | 98 | 24 | 196 | 56 | 1 | 97 |
| GENESIS | 1909 | 22 | 197 | 56 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 197 | 57 | 2 | 95 | 25 | 206 | 53 | 1 | 95 | 22 | 189 | 57 | 1 | 92 |
| GOLDEN HARVEST | H2495 | 24 | 186 | 55 | 1 | 93 | 25 | 178 | 53 | 1 | 94 | 24 | 172 | 53 | 2 | 96 | 22 | 196 | 57 | 0 | 83 | 26 | 197 | 52 | 0 | 100 | 24 | 166 | 55 | 2 | 95 |
| GREAT LAKES | 5816 | 24 | 199 | 55 | 1 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 177 | 56 | 3 | 78 | 26 | 211 | 52 | 1 | 96 | 22 | *207 | 56 | 0 | 99 |
| GREAT LAKES | 5849 | 24 | 190 | 56 | 2 | 97 | 25 | 183 | 54 | 3 | 96 | 24 | 176 | 53 | 4 | 96 | 21 | 182 | 57 | 2 | 91 | 27 | 205 | 53 | 2 | 100 | 23 | 183 | 57 | 0 | 99 |
| GUTWEIN | 2520 | 23 | *208 | 55 | 2 | 96 | 26 | 193 | 53 | 6 | 97 | 25 | 186 | 53 | 5 | 97 | 21 | 199 | 56 | 3 | 92 | 26 | *225 | 52 | 1 | 99 | 23 | *201 | 56 | 1 | 96 |
| GUTWEIN | Ex799 | 23 | 197 | 54 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 175 | 55 | 2 | 92 | 26 | 207 | 52 | 1 | 97 | 23 | *208 | 56 | 1 | 98 |
| HYTEST | HT4680 | 23 | *204 | 55 | 2 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 201 | 57 | 6 | 86 | 25 | 212 | 53 | 1 | 95 | 23 | *200 | 56 | 1 | 94 |
| HYTEST | HTX7512 | 23 | 198 | 56 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 197 | 57 | 1 | 96 | 25 | 200 | 53 | 1 | 98 | 22 | 196 | 57 | 2 | 98 |
| LG SEEDS | LG2583 | 24 | *214 | 55 | 2 | 96 | 26 | 200 | 53 | 5 | 97 | 25 | 189 | 52 | 4 | 98 | 21 | 195 | 57 | 2 | 91 | 28 | **233 | 52 | 2 | 98 | 23 | *215 | 56 | 1 | 98 |
| LG SEEDS | LG2587 | 25 | 194 | 57 | 0 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 194 | 58 | 1 | 93 | 28 | 209 | 54 | 0 | 95 | 23 | 179 | 58 | 0 | 96 |
| MIDWEST GENETIC | G7610 | 24 | 192 | 55 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 194 | 58 | 0 | 99 | 27 | 205 | 52 | 1 | 100 | 24 | 178 | 55 | 2 | 98 |
| MIDWEST GENETIC | G7636 | 24 | 189 | 55 | 2 | 95 | 26 | 185 | 53 | 5 | 96 | -- | -- | -- | -- | -- | 21 | 184 | 57 | 3 | 89 | 27 | 196 | 52 | 2 | 99 | 24 | 188 | 56 | 1 | 99 |
| MYCOGEN | 2722 | 23 | *203 | 55 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 190 | 57 | 0 | 86 | 25 | *218 | 52 | 1 | 96 | 23 | *200 | 56 | 1 | 98 |
| MYCOGEN | 2725 | 24 | *213 | 54 | 1 | 99 | 26 | 200 | 53 | 4 | 97 | 25 | 187 | 53 | 4 | 95 | 21 | *218 | 56 | 0 | 98 | 27 | *219 | 52 | 1 | 99 | 24 | *201 | 55 | 1 | 100 |
| NOVARTIS | MAX 454 | 24 | 184 | 56 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 170 | 58 | 2 | 98 | 28 | 181 | 53 | 0 | 100 | 23 | *200 | 57 | 1 | 100 |
| NOVARTIS | N6800 Bt | 24 | 183 | 57 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 180 | 59 | 2 | 95 | 28 | 188 | 53 | 0 | 100 | 23 | 182 | 59 | 0 | 100 |
| PAYCO | 834 | 24 | *209 | 55 | 1 | 96 | 26 | 193 | 53 | 6 | 97 | 25 | 185 | 53 | 5 | 95 | 22 | 188 | 57 | 2 | 90 | 26 | *223 | 53 | 1 | 98 | 23 | **216 | 56 | 1 | 99 |
| PFISTER | 2650 | 24 | *209 | 55 | 1 | 100 | 26 | 197 | 53 | 6 | 98 | 25 | 188 | 54 | 5 | 96 | 22 | *209 | 57 | 1 | 99 | 28 | *226 | 54 | 2 | 100 | 24 | 190 | 55 | 0 | 100 |
| PIONEER | 33V08 | 24 | *211 | 56 | 0 | 99 | 26 | 199 | 55 | 2 | 99 | -- | -- | -- | -- | -- | 22 | *204 | 58 | 1 | 96 | 26 | *230 | 55 | 0 | 100 | 24 | 198 | 56 | 0 | 100 |
| PIONEER | 33Y18 | 25 | *211 | 59 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *219 | 61 | 3 | 95 | 28 | *230 | 57 | 0 | 97 | 25 | 184 | 58 | 1 | 100 |
| PIONEER | 34E79 | 24 | *202 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 189 | 57 | 6 | 95 | 24 | *218 | 54 | 0 | 100 | 24 | *200 | 56 | 0 | 98 |
| PIONEER | 34G81 | 23 | *200 | 56 | 1 | 99 | 24 | 192 | 54 | 4 | 98 | -- | -- | -- | -- | -- | 21 | 198 | 59 | 1 | 98 | 24 | 204 | 55 | 1 | 100 | 23 | 196 | 55 | 0 | 99 |
| RENK | RK778 | 22 | 198 | 56 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 198 | 58 | 2 | 95 | 24 | 197 | 53 | 0 | 97 | 22 | 198 | 57 | 1 | 100 |
| RENK | RK818 | 23 | 196 | 57 | 2 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 186 | 59 | 3 | 85 | 25 | 207 | 55 | 1 | 98 | 23 | 193 | 58 | 1 | 100 |
| RENK | RK835 | 24 | 196 | 55 | 2 | 97 | 25 | 192 | 53 | 6 | 98 | 25 | 180 | 53 | 5 | 98 | 21 | 182 | 57 | 4 | 92 | 26 | *216 | 52 | 0 | 100 | 23 | 190 | 56 | 2 | 98 |
| RENK | RK864 | 24 | *213 | 55 | 1 | 95 | 26 | 201 | 53 | 3 | 95 | 25 | 190 | 53 | 3 | 95 | 22 | *205 | 56 | 1 | 91 | 26 | *220 | 53 | 1 | 97 | 25 | *214 | 56 | 0 | 96 |
| RUPP | XR1733 | 24 | *203 | 55 | 2 | 93 | 26 | 194 | 54 | 6 | 95 | 25 | 184 | 53 | 5 | 96 | 22 | 202 | 57 | 2 | 92 | 27 | 209 | 53 | 1 | 93 | 23 | *199 | 57 | 2 | 95 |
| SUNSTAR | 4408 | 23 | *207 | 55 | 1 | 98 | 26 | 191 | 53 | 2 | 92 | 25 | 180 | 53 | 2 | 94 | 20 | 187 | 56 | 1 | 97 | 25 | *222 | 54 | 1 | 100 | 24 | *212 | 56 | 2 | 98 |
| SUNSTAR | 4409 | 23 | *208 | 55 | 1 | 99 | 26 | 195 | 53 | 6 | 95 | 25 | 183 | 52 | 5 | 97 | 21 | *206 | 57 | 2 | 96 | 26 | *219 | 52 | 0 | 100 | 23 | 198 | 56 | 1 | 100 |
| TERRA | TR1087 | 24 | *209 | 55 | 2 | 97 | 26 | 196 | 53 | 4 | 94 | 25 | 183 | 53 | 4 | 95 | 22 | 199 | 56 | 4 | 91 | 26 | *224 | 52 | 0 | 100 | 23 | *203 | 56 | 2 | 99 |
| TERRA | TR1097 | 24 | 199 | 54 | 1 | 94 | 26 | 197 | 53 | 3 | 96 | -- | -- | -- | -- | -- | 21 | 190 | 55 | 1 | 91 | 26 | *223 | 53 | 1 | 97 | 25 | 185 | 55 | 0 | 93 |
| TERRA | TR1106 | 26 | *207 | 52 | 2 | 98 | 28 | 197 | 51 | 6 | 97 | 26 | 187 | 50 | 5 | 96 | 22 | *211 | 52 | 3 | 95 | 33 | 206 | 50 | 2 | 100 | 24 | *204 | 54 | 2 | 99 |
| TRELAY | 8002 | 23 | 188 | 56 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 192 | 58 | 0 | 95 | 25 | 188 | 53 | 0 | 99 | 23 | 183 | 56 | 1 | 100 |
| TRELAY | 9095 | 25 | *208 | 55 | 2 | 98 | 26 | 200 | 53 | 4 | 98 | 25 | 190 | 53 | 4 | 98 | 22 | *210 | 56 | 5 | 100 | 27 | *214 | 52 | 1 | 100 | 24 | *201 | 56 | 0 | 95 |
| TRELAY | 9700 | 28 | 191 | 55 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *204 | 58 | 1 | 100 | 34 | 192 | 53 | 4 | 100 | 26 | 178 | 55 | 1 | 98 |
| AVERAGE | | 24 | 202 | 55 | 1 | 97 | 26 | 193 | 53 | 4 | 96 | 25 | 183 | 52 | 4 | 97 | 22 | 197 | 57 | 2 | 94 | 27 | 212 | 53 | 1 | 98 | 23 | 196 | 56 | 1 | 98 |
| HIGHEST | | 28 | 216 | 59 | 3 | 100 | 28 | 201 | 55 | 7 | 99 | 26 | 193 | 53 | 7 | 99 | 24 | 222 | 62 | 6 | 100 | 34 | 233 | 57 | 4 | 100 | 26 | 216 | 59 | 2 | 100 |
| LOWEST | | 22 | 177 | 52 | 0 | 91 | 24 | 178 | 51 | 1 | 92 | 23 | 167 | 50 | 2 | 94 | 20 | 170 | 52 | 0 | 78 | 24 | 181 | 50 | 0 | 93 | 21 | 166 | 54 | 0 | 92 |
| LSD | | 2 | 16 | 1 | | | | | | | | | | | | | 1 | 19 | 2 | | | 3 | 19 | 1 | | | 1 | 17 | 2 | | |
| CV .05% | | 4 | 5 | 1 | | | | | | | | | | | | | 4 | 7 | 2 | | | 6 | 6 | 2 | | | 3 | 6 | 2 | | |

** HIGHEST YIELDING HYBRID IN 1998

* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

## Grain Quality – Percent Protein, Oil and Starch

### Funding Provided by Corn Marketing Program of Michigan

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

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| AGRIPRO | AP9468 | 7.5 | -- | 3.3 | 62.0 |
| ANDERSONS | NC5801 | 7.0 | 6.8 | 3.5 | 61.8 |
| BECK'S | 5360 | 7.8 | -- | 3.7 | 61.2 |
| BECK'S | 5405 | 7.3 | 7.4 | 3.4 | 61.9 |
| BECK'S | X5505 Bt | 6.8 | 6.7 | 3.5 | 61.9 |
| BIO GENE | BG307 | 7.3 | -- | 3.5 | 62.5 |
| BIO GENE | BG309 | 6.8 | -- | 3.5 | 62.1 |
| BROWN | BR7050 | 7.0 | -- | 3.3 | 62.4 |
| CALLAHAN | 7658 | 6.8 | 6.7 | 3.4 | 62.2 |
| CARGILL | 6888 | 6.3 | -- | 3.6 | 62.4 |
| CORN BELT | C588 | 6.7 | 7.0 | 3.5 | 61.9 |
| CORN BELT | Exp5998 | 7.7 | -- | 3.4 | 61.5 |
| COUNTRYMARK COO | 627 | 6.7 | -- | 3.5 | 62.2 |
| CROW'S | 365 | 7.9 | -- | 3.5 | 61.2 |
| CROW'S | 366 | 7.6 | -- | 3.3 | 61.8 |
| CROW'S | 492 | 6.9 | -- | 3.4 | 61.6 |
| CROW'S | 496 | 7.4 | 7.2 | 3.5 | 61.6 |
| DAIRYLAND | STEALTH-1412 | 6.5 | 6.5 | 3.5 | 62.4 |
| DEKALB | DK585 | 7.3 | -- | 3.7 | 61.9 |
| DEKALB | DK595 BtX | 6.9 | -- | 3.1 | 62.9 |
| DEKALB | DK618 BtX | 7.7 | -- | 3.2 | 62.1 |
| FONTANELLE | F4997 | 6.5 | -- | 3.7 | 62.8 |
| FONTANELLE | F5306 | 6.3 | -- | 3.5 | 62.5 |
| GEERTSON | GS1117 | 6.7 | -- | 3.5 | 62.4 |
| GENESIS | 1909 | 8.4 | -- | 3.8 | 60.7 |

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| GOLDEN HARVEST | H2495 | 7.2 | 7.2 | 3.5 | 61.7 |
| GREAT LAKES | 5816 | 7.0 | -- | 3.4 | 62.1 |
| GREAT LAKES | 5849 | 7.6 | 7.4 | 3.3 | 61.9 |
| GUTWEIN | 2520 | 6.7 | 6.5 | 3.4 | 62.2 |
| GUTWEIN | Ex799 | 6.5 | -- | 3.4 | 62.5 |
| HYTEST | HT4680 | 7.0 | -- | 3.4 | 61.7 |
| HYTEST | HTX7512 | 7.1 | -- | 3.4 | 61.7 |
| LG SEEDS | LG2583 | 6.9 | 6.8 | 3.4 | 62.0 |
| LG SEEDS | LG2587 | 7.8 | -- | 3.7 | 61.3 |
| MIDWEST GENETIC | G7610 | 6.7 | -- | 3.3 | 62.8 |
| MIDWEST GENETIC | G7636 | 6.9 | 6.8 | 3.5 | 61.9 |
| MYCOGEN | 2722 | 7.3 | -- | 3.6 | 61.5 |
| MYCOGEN | 2725 | 6.5 | 6.5 | 3.5 | 62.5 |
| NOVARTIS | MAX 454 | 7.4 | -- | 3.3 | 62.1 |
| NOVARTIS | N6800 Bt | 7.1 | -- | 3.6 | 62.5 |
| PAYCO | 834 | 7.0 | 7.2 | 3.5 | 61.9 |
| PFISTER | 2650 | 6.7 | -- | 3.3 | 62.2 |
| PIONEER | 33V08 | 6.9 | 7.1 | 3.1 | 62.7 |
| PIONEER | 33Y18 | 6.6 | -- | 3.2 | 63.6 |
| PIONEER | 34E79 | 7.8 | -- | 3.8 | 61.4 |
| PIONEER | 34G81 | 7.8 | 7.8 | 3.3 | 61.7 |
| RENK | RK778 | 7.2 | -- | 3.5 | 61.6 |
| RENK | RK818 | 7.2 | -- | 3.3 | 62.1 |
| RENK | RK835 | 6.5 | 6.9 | 3.5 | 62.0 |
| RENK | RK864 | 6.8 | 6.9 | 3.5 | 62.2 |

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| RUPP | XR1733 | 6.8 | 6.9 | 3.5 | 62.0 |
| SUNSTAR | 4408 | 6.7 | 6.6 | 3.5 | 62.5 |
| SUNSTAR | 4409 | 6.7 | 6.8 | 3.5 | 61.7 |
| TERRA | TR1087 | 6.8 | 6.7 | 3.4 | 62.1 |
| TERRA | TR1097 | 6.8 | 6.4 | 3.4 | 62.6 |
| TERRA | TR1106 | 6.9 | 6.8 | 3.5 | 61.9 |
| TRELAY | 8002 | 6.9 | -- | 3.4 | 62.2 |
| TRELAY | 9095 | 6.5 | 6.7 | 3.5 | 62.6 |
| TRELAY | 9700 | 7.6 | -- | 3.5 | 61.9 |
| AVERAGE | | 7.0 | 6.9 | 3.4 | 62.0 |
| HIGHEST | | 8.4 | 7.8 | 3.8 | 63.6 |
| LOWEST | | 6.3 | 6.4 | 3.1 | 60.7 |
| LSD | | .6 | | .2 | .8 |
| CV .05% | | 5.9 | | 4.2 | .8 |

# Average of Kent, Ingham & Saginaw County EARLY trials
# One-, two-, three-year averages — 1998, 1997, 1996

EARLY TRIAL (101 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | KENT | | | | | INGHAM | | | | | SAGINAW | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD |
| AGRIPRO | AP9195 | 18 | 125 | 57 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 111 | 56 | 1 | 98 | 18 | 155 | 58 | 1 | 98 | 16 | 110 | 58 | 0 | 100 |
| AGRIPRO | AP9300 | 20 | *144 | 57 | 1 | 97 | 23 | 156 | 55 | 1 | 93 | 22 | 153 | 54 | 4 | 95 | 21 | *134 | 57 | 1 | 95 | 21 | 160 | 58 | 1 | 100 | 18 | *136 | 58 | 2 | 97 |
| AGRIPRO | AP9313 | 20 | *136 | 56 | 1 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *131 | 54 | 1 | 89 | 20 | 154 | 57 | 1 | 82 | 17 | 121 | 58 | 1 | 92 |
| ASGROW | RX456 | 18 | 128 | 59 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *133 | 59 | 0 | 97 | 19 | 144 | 60 | 1 | 94 | 16 | 107 | 60 | 1 | 98 |
| ASGROW | RX492 | 20 | 122 | 62 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 116 | 61 | 1 | 99 | 20 | 147 | 63 | 1 | 99 | 18 | 102 | 61 | 2 | 100 |
| BAYSIDE | Super 88 | 17 | 113 | 58 | 2 | 98 | 20 | 136 | 55 | 3 | 94 | -- | -- | -- | -- | -- | 18 | 99 | 56 | 2 | 99 | 17 | 143 | 59 | 3 | 94 | 16 | 98 | 57 | 2 | 100 |
| BAYSIDE | Super 93 | 19 | 129 | 57 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 122 | 56 | 1 | 98 | 20 | 150 | 57 | 2 | 93 | 16 | 116 | 57 | 1 | 98 |
| BAYSIDE | Super 99 | 21 | 126 | 57 | 2 | 92 | 24 | 151 | 55 | 2 | 87 | -- | -- | -- | -- | -- | 22 | 117 | 58 | 1 | 97 | 22 | 141 | 57 | 1 | 80 | 19 | 119 | 59 | 3 | 99 |
| BAYSIDE | Super 100 | 20 | *145 | 57 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *141 | 55 | 1 | 100 | 21 | *171 | 57 | 0 | 100 | 17 | *124 | 58 | 1 | 100 |
| BAYSIDE | Super 101 | 21 | *135 | 57 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 120 | 56 | 3 | 100 | 21 | *165 | 58 | 0 | 100 | 20 | 120 | 57 | 1 | 100 |
| BAYSIDE | 1792 | 18 | *140 | 57 | 1 | 97 | 21 | 156 | 55 | 2 | 95 | 20 | 152 | 54 | 3 | 96 | 19 | *132 | 57 | 1 | 100 | 19 | *167 | 58 | 0 | 99 | 17 | 122 | 57 | 2 | 93 |
| BIO GENE | BG095 | 20 | *132 | 59 | 2 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *133 | 58 | 1 | 97 | 21 | 145 | 59 | 1 | 95 | 18 | 116 | 59 | 3 | 98 |
| CALLAHAN | 7737 | 18 | *131 | 57 | 1 | 99 | 22 | 151 | 55 | 2 | 94 | -- | -- | -- | -- | -- | 22 | *137 | 55 | 1 | 100 | 19 | 149 | 58 | 1 | 99 | 15 | 106 | 56 | 1 | 100 |
| CALLAHAN | 7741 | 23 | *133 | 55 | 2 | 99 | 25 | 156 | 53 | 2 | 92 | 25 | 153 | 52 | 5 | 93 | 25 | 126 | 53 | 3 | 97 | 23 | 147 | 55 | 1 | 100 | 22 | 125 | 55 | 3 | 100 |
| CALLAHAN | 7938X | 20 | *137 | 56 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *130 | 54 | 1 | 98 | 20 | 155 | 57 | 1 | 95 | 17 | 126 | 57 | 4 | 98 |
| CALLAHAN | 7939X | 21 | *130 | 59 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 118 | 59 | 2 | 100 | 22 | 156 | 59 | 2 | 99 | 19 | 115 | 60 | 2 | 100 |
| CARGILL | 3677 | 19 | 127 | 59 | 2 | 97 | 22 | 151 | 56 | 2 | 94 | -- | -- | -- | -- | -- | 21 | 116 | 58 | 3 | 100 | 20 | 157 | 59 | 2 | 92 | 17 | 108 | 59 | 1 | 100 |
| CORN BELT | Exp5258 | 21 | *132 | 57 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 122 | 56 | 3 | 101 | 21 | 151 | 60 | 3 | 99 | 20 | *125 | 56 | 0 | 100 |
| CROW'S | 200 | 22 | *140 | 55 | 3 | 99 | 24 | 160 | 53 | 3 | 94 | 24 | 156 | 53 | 5 | 96 | 24 | *128 | 54 | 4 | 99 | 22 | *164 | 56 | 3 | 98 | 19 | *127 | 56 | 2 | 100 |
| DAIRYLAND | STEALTH-1297 | 19 | 127 | 58 | 2 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 114 | 56 | 5 | 92 | 20 | 150 | 59 | 2 | 96 | 16 | 117 | 58 | 1 | 100 |
| DAIRYLAND | STEALTH-1401 | 21 | *135 | 57 | 1 | 83 | 23 | 151 | 54 | 1 | 84 | 22 | 151 | 54 | 2 | 86 | 23 | *127 | 55 | 0 | 85 | 21 | 146 | 57 | 1 | 80 | 19 | *131 | 58 | 1 | 85 |
| DAIRYLAND | STEALTH-1496 | 18 | *141 | 57 | 1 | 94 | 21 | 156 | 55 | 2 | 88 | -- | -- | -- | -- | -- | 20 | *132 | 56 | 1 | 96 | 19 | *166 | 58 | 1 | 88 | 16 | *127 | 58 | 1 | 98 |
| DEKALB | DK355 | 16 | 113 | 58 | 5 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 108 | 57 | 8 | 99 | 15 | 132 | 59 | 2 | 101 | 15 | 98 | 59 | 6 | 100 |
| DEKALB | DK365 | 16 | 89 | 57 | 3 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 116 | 56 | 3 | 100 | 16 | 102 | 57 | 2 | 90 | 14 | 50 | 57 | 3 | 95 |
| DEKALB | DK385B | 16 | 92 | 58 | 3 | 100 | 20 | 123 | 57 | 3 | 95 | -- | -- | -- | -- | -- | 19 | 104 | 58 | 1 | 100 | 16 | 118 | 60 | 2 | 100 | 14 | 55 | 58 | 5 | 100 |
| DEKALB | DK405 | 15 | 120 | 56 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | *132 | 56 | 2 | 94 | 15 | 129 | 57 | 2 | 98 | 13 | 98 | 55 | 3 | 99 |
| DEKALB | DK417 | 17 | 117 | 58 | 4 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 117 | 56 | 7 | 96 | 17 | 134 | 59 | 3 | 99 | 15 | 101 | 57 | 3 | 100 |
| DEKALB | DK440 | 16 | *137 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | *141 | 55 | 1 | 100 | 17 | 157 | 58 | 3 | 95 | 14 | 113 | 56 | 1 | 99 |
| DEKALB | DK471 | 17 | 127 | 56 | 3 | 96 | 21 | 142 | 54 | 3 | 90 | 20 | 142 | 54 | 7 | 93 | 20 | 125 | 55 | 2 | 97 | 17 | 136 | 58 | 4 | 91 | 15 | 121 | 56 | 2 | 99 |
| DEKALB | DK477 | 17 | *135 | 58 | 2 | 99 | 21 | 152 | 55 | 1 | 93 | 20 | 153 | 54 | 4 | 94 | 19 | *132 | 57 | 1 | 100 | 18 | 157 | 58 | 1 | 98 | 16 | 117 | 58 | 3 | 100 |
| DEKALB | DK493 BtX | 18 | *141 | 57 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *134 | 56 | 1 | 96 | 18 | *164 | 58 | 1 | 94 | 15 | *126 | 56 | 2 | 100 |
| GARST | 8766 | 19 | *132 | 58 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 126 | 57 | 2 | 96 | 20 | 144 | 58 | 1 | 96 | 17 | *127 | 58 | 0 | 100 |
| GARST | 8780 Hph | 20 | *142 | 57 | 1 | 99 | 23 | 157 | 54 | 1 | 95 | -- | -- | -- | -- | -- | 22 | *132 | 55 | 1 | 97 | 21 | **180 | 57 | 1 | 98 | 17 | 114 | 58 | 1 | 100 |
| GARST | 8830 | 18 | *134 | 57 | 1 | 96 | 21 | 150 | 54 | 2 | 94 | -- | -- | -- | -- | -- | 20 | 123 | 56 | 1 | 96 | 19 | 159 | 58 | 1 | 99 | 16 | 121 | 57 | 1 | 92 |
| GENESIS | 1996 | 18 | *145 | 57 | 3 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | **146 | 56 | 3 | 95 | 19 | *167 | 58 | 1 | 87 | 16 | 122 | 58 | 4 | 100 |
| GENESIS | 2900 | 21 | *132 | 58 | 1 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *137 | 56 | 2 | 91 | 21 | 146 | 58 | 1 | 82 | 19 | 115 | 59 | 1 | 97 |
| GENESIS | 2995 | 19 | *140 | 57 | 1 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *137 | 55 | 1 | 94 | 20 | 152 | 57 | 2 | 78 | 16 | *131 | 58 | 0 | 92 |
| GENESIS | 2999 | 20 | *143 | 57 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *134 | 56 | 1 | 97 | 21 | 160 | 57 | 2 | 94 | 19 | **137 | 58 | 0 | 100 |
| GOLDEN HARVEST | H2309 | 18 | 126 | 57 | 1 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *131 | 56 | 1 | 92 | 18 | 141 | 58 | 0 | 84 | 16 | 104 | 57 | 3 | 98 |
| GOLDEN HARVEST | H2382 | 20 | 115 | 58 | 3 | 97 | 23 | 144 | 56 | 3 | 97 | 23 | 143 | 55 | 5 | 98 | 22 | 119 | 56 | 1 | 92 | 20 | 135 | 59 | 4 | 100 | 19 | 92 | 58 | 3 | 100 |
| GOLDEN HARVEST | Ex816 | 16 | 118 | 55 | 2 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 112 | 55 | 1 | 85 | 16 | 143 | 57 | 1 | 88 | 14 | 98 | 54 | 3 | 98 |
| GREAT LAKES | 4758 | 19 | *137 | 58 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *129 | 57 | 1 | 88 | 21 | 160 | 58 | 0 | 94 | 18 | 120 | 59 | 2 | 95 |
| GREAT LAKES | 4848 | 20 | *138 | 57 | 1 | 95 | 23 | 155 | 55 | 1 | 93 | 22 | 154 | 54 | 3 | 93 | 21 | *140 | 56 | 1 | 100 | 22 | 148 | 57 | 2 | 87 | 18 | *127 | 58 | 1 | 99 |
| GRIES | GSF2285 | 17 | 122 | 59 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 111 | 58 | 0 | 90 | 17 | 149 | 60 | 0 | 97 | 15 | 106 | 58 | 1 | 100 |
| GUTWEIN | 2066 | 18 | 127 | 57 | 1 | 87 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 119 | 56 | 1 | 83 | 18 | 136 | 58 | 2 | 84 | 16 | *124 | 58 | 1 | 93 |
| GUTWEIN | 2087 | 19 | *139 | 58 | 1 | 98 | 23 | 145 | 55 | 3 | 88 | -- | -- | -- | -- | -- | 21 | *131 | 57 | 1 | 93 | 20 | 158 | 59 | 0 | 99 | 17 | *128 | 59 | 2 | 100 |
| GUTWEIN | 2110 | 22 | *132 | 56 | 1 | 89 | 24 | 143 | 54 | 1 | 86 | 23 | 145 | 54 | 2 | 86 | 23 | 119 | 55 | 0 | 93 | 22 | 150 | 57 | 0 | 84 | 21 | *126 | 57 | 2 | 91 |
| HYTEST | HT4404 | 17 | 119 | 56 | 4 | 89 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 116 | 55 | 4 | 85 | 18 | 149 | 57 | 1 | 89 | 15 | 90 | 55 | 7 | 95 |
| LG SEEDS | LG2473 | 19 | 129 | 56 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *130 | 54 | 1 | 96 | 19 | 150 | 58 | 1 | 95 | 15 | 106 | 56 | 1 | 100 |
| LG SEEDS | LG2483 | 20 | 124 | 56 | 1 | 91 | 23 | 152 | 53 | 2 | 90 | -- | -- | -- | -- | -- | 22 | 123 | 54 | 0 | 93 | 20 | 142 | 57 | 1 | 85 | 18 | 107 | 56 | 2 | 95 |
| LG SEEDS | LG2499 | 23 | *143 | 55 | 1 | 99 | 26 | 160 | 52 | 2 | 94 | 25 | 160 | 52 | 4 | 96 | 24 | *140 | 53 | 1 | 100 | 24 | *166 | 55 | 1 | 99 | 22 | 123 | 56 | 0 | 99 |
| MIDWEST GENETIC | G6980 | 17 | 118 | 56 | 3 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | 121 | 55 | 1 | 97 | 19 | 154 | 56 | 2 | 94 | 15 | 81 | 55 | 6 | 99 |
| MIDWEST GENETIC | G7010 | 18 | *131 | 57 | 1 | 84 | 21 | 153 | 55 | 2 | 89 | -- | -- | -- | -- | -- | 20 | 119 | 56 | 2 | 80 | 18 | 155 | 58 | 1 | 85 | 16 | 120 | 58 | 1 | 88 |
| MYCOGEN | 2545 | 20 | *143 | 58 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *135 | 56 | 1 | 97 | 21 | *162 | 57 | 2 | 97 | 18 | *132 | 59 | 1 | 99 |
| NOVARTIS | NX4446 | 18 | *140 | 58 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | *141 | 57 | 0 | 99 | 18 | 144 | 59 | 2 | 92 | 16 | *135 | 59 | 1 | 100 |
| PAYCO | 607 | 18 | *144 | 57 | 1 | 100 | 21 | 155 | 54 | 2 | 97 | -- | -- | -- | -- | -- | 20 | *130 | 56 | 0 | 100 | 18 | *173 | 57 | 1 | 100 | 16 | *128 | 57 | 1 | 100 |
| PIONEER | 36G32 | 21 | *130 | 59 | 3 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *142 | 58 | 0 | 100 | 22 | *161 | 59 | 0 | 97 | 19 | 87 | 59 | 8 | 100 |
| PIONEER | 36H36 | 21 | *143 | 58 | 2 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *139 | 57 | 2 | 88 | 21 | *168 | 59 | 1 | 94 | 18 | 122 | 58 | 2 | 100 |
| PIONEER | 3730 | 19 | **146 | 57 | 0 | 100 | 22 | 159 | 55 | 2 | 96 | 22 | 162 | 55 | 4 | 96 | 21 | *137 | 56 | 0 | 99 | 20 | *173 | 57 | 0 | 100 | 16 | *127 | 58 | 0 | 100 |
| PIONEER | 37R71 | 18 | *145 | 57 | 2 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *135 | 56 | 2 | 94 | 17 | *176 | 57 | 1 | 95 | 16 | *125 | 57 | 2 | 100 |
| PIONEER | 37M81 | 18 | *141 | 57 | 2 | 99 | 21 | 161 | 54 | 4 | 96 | -- | -- | -- | -- | -- | 20 | *143 | 55 | 3 | 99 | 17 | *166 | 58 | 1 | 98 | 16 | 114 | 57 | 2 | 100 |
| RENK | RK543 | 21 | *137 | 59 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *134 | 58 | 2 | 95 | 21 | 152 | 60 | 0 | 97 | 18 | *126 | 60 | 0 | 100 |
| RENK | RK552 | 18 | *142 | 57 | 1 | 97 | 21 | 157 | 55 | 2 | 95 | -- | -- | -- | -- | -- | 19 | 123 | 56 | 2 | 94 | 18 | *172 | 58 | 2 | 96 | 16 | *129 | 58 | 0 | 100 |
| RENK | RK611 | 20 | *136 | 58 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *131 | 58 | 0 | 100 | 20 | 148 | 59 | 0 | 99 | 19 | *128 | 59 | 1 | 100 |
| RUPP | XR1522 | 19 | *134 | 58 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 117 | 57 | 2 | 93 | 19 | *161 | 59 | 1 | 90 | 16 | *124 | 58 | 2 | 93 |
| RUPP | XR1599 | 20 | *140 | 57 | 1 | 80 | 23 | 146 | 54 | 1 | 80 | -- | -- | -- | -- | -- | 22 | *138 | 55 | 0 | 85 | 21 | 153 | 57 | 0 | 74 | 19 | *130 | 58 | 2 | 81 |
| TERRA | E987 | 20 | *135 | 58 | 2 | 96 | 24 | 153 | 55 | 2 | 92 | -- | -- | -- | -- | -- | 22 | 126 | 57 | 2 | 98 | 20 | 160 | 58 | 1 | 95 | 19 | 117 | 60 | 2 | 94 |
| TERRA | E989 | 19 | *133 | 57 | 1 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 119 | 56 | 1 | 95 | 20 | 153 | 57 | 2 | 90 | 16 | *126 | 58 | 1 | 100 |
| TERRA | E1008 Bt | 25 | *144 | 56 | 3 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | 123 | 54 | 5 | 99 | 24 | *179 | 57 | 1 | 94 | 23 | *131 | 57 | 2 | 100 |
| TRELAY | 4002 | 18 | *142 | 57 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | *130 | 56 | 0 | 99 | 19 | *176 | 57 | 0 | 91 | 16 | 121 | 58 | 1 | 99 |
| TRELAY | 4600 | 17 | 117 | 55 | 3 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 120 | 54 | 3 | 88 | 17 | 143 | 56 | 1 | 100 | 15 | 88 | 55 | 5 | 100 |
| TRELAY | 5004 | 21 | 123 | 57 | 1 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 116 | 56 | 2 | 100 | 22 | 133 | 57 | 1 | 87 | 20 | 120 | 58 | 1 | 97 |
| AVERAGE | | 19 | 132 | 57 | 2 | 96 | 22 | 151 | 53 | 2 | 92 | 22 | 152 | 54 | 4 | 94 | 21 | 127 | 56 | 2 | 95 | 19 | 153 | 58 | 1 | 94 | 20 | 115 | 58 | 2 | 98 |
| HIGHEST | | 25 | 146 | 62 | 4 | 100 | 26 | 161 | 57 | 4 | 97 | 25 | 160 | 55 | 7 | 98 | 27 | 146 | 61 | 5 | 100 | 24 | 180 | 63 | 4 | 100 | 23 | 137 | 61 | 8 | 100 |
| LOWEST | | 15 | 89 | 55 | 0 | 80 | 20 | 123 | 52 | 1 | 80 | 20 | 142 | 52 | 2 | 86 | 18 | 99 | 53 | 0 | 85 | 15 | 102 | 55 | 0 | 80 | 13 | 55 | 54 | 0 | 85 |
| LSD | | 1 | 16 | 1 | | | | | | | | | | | | | 2 | 19 | 2 | | | 2 | 19 | 1 | | | 1 | 13 | 1 | | |
| CV .05% | | 4 | 7 | 1 | | | | | | | | | | | | | 5 | 10 | 2 | | | 5 | 8 | 2 | | | 4 | 8 | 1 | | |

** HIGHEST YIELDING HYBRID IN 1998

* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

# Grain Quality – Percent Protein, Oil and Starch

## Funding Provided by Corn Marketing Program of Michigan

EARLY TRIAL (101 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| AGRIPRO | AP9195 | 8.7 | -- | 3.3 | 60.8 |
| AGRIPRO | AP9300 | 9.0 | 8.8 | 3.6 | 60.0 |
| AGRIPRO | AP9313 | 9.4 | -- | 3.5 | 60.6 |
| ASGROW | RX456 | 9.5 | -- | 3.2 | 60.6 |
| ASGROW | RX492 | 9.0 | -- | 3.3 | 61.2 |
| BAYSIDE | Super 88 | 9.9 | 10.3 | 4.0 | 58.8 |
| BAYSIDE | Super 93 | 8.7 | -- | 3.6 | 60.6 |
| BAYSIDE | Super 99 | 10.3 | 9.9 | 3.9 | 59.2 |
| BAYSIDE | Super 100 | 9.2 | -- | 3.5 | 60.2 |
| BAYSIDE | Super 101 | 8.5 | -- | 3.6 | 60.8 |
| BAYSIDE | 1792 | 8.1 | 8.2 | 3.8 | 60.9 |
| BIO GENE | BG095 | 8.3 | -- | 3.5 | 61.3 |
| CALLAHAN | 7737 | 8.6 | 9.0 | 3.6 | 61.3 |
| CALLAHAN | 7741 | 10.2 | 10.1 | 3.6 | 59.1 |
| CALLAHAN | 7938X | 8.7 | -- | 3.4 | 60.6 |
| CALLAHAN | 7939X | 9.8 | -- | 3.3 | 60.4 |
| CARGILL | 3677 | 8.4 | 8.7 | 3.7 | 61.0 |
| CORN BELT | Exp5258 | 8.7 | -- | 3.7 | 60.4 |
| CROW'S | 200 | 9.4 | 9.3 | 3.4 | 60.1 |
| DAIRYLAND | STEALTH-1297 | 8.8 | -- | 3.2 | 61.1 |
| DAIRYLAND | STEALTH-1401 | 9.3 | 9.4 | 3.6 | 60.2 |
| DAIRYLAND | STEALTH-1496 | 8.7 | 8.7 | 3.7 | 60.4 |
| DEKALB | DK355 | 8.7 | -- | 3.9 | 60.3 |
| DEKALB | DK365 | 9.0 | -- | 3.8 | 59.8 |
| DEKALB | DK385B | 8.6 | 8.7 | 3.8 | 60.8 |
| DEKALB | DK405 | 8.4 | -- | 3.2 | 61.4 |
| DEKALB | DK417 | 8.5 | -- | 3.6 | 60.8 |
| DEKALB | DK440 | 7.3 | -- | 3.3 | 62.1 |
| DEKALB | DK471 | 8.1 | 9.0 | 3.5 | 61.4 |
| DEKALB | DK477 | 8.2 | 9.0 | 3.5 | 61.4 |
| DEKALB | DK493 BtX | 7.6 | -- | 3.7 | 61.3 |
| GARST | 8766 | 9.3 | -- | 3.2 | 60.4 |
| GARST | 8780 Hph | 9.0 | 9.4 | 3.6 | 59.9 |
| GARST | 8830 | 8.2 | 8.0 | 3.7 | 61.1 |
| GENESIS | 1996 | 8.7 | -- | 3.6 | 60.5 |
| GENESIS | 2900 | 9.9 | -- | 3.9 | 59.6 |
| GENESIS | 2995 | 9.0 | -- | 3.8 | 60.3 |
| GENESIS | 2999 | 9.4 | -- | 3.6 | 60.1 |
| GOLDEN HARVEST | H2309 | 9.8 | -- | 3.7 | 59.3 |
| GOLDEN HARVEST | H2382 | 9.0 | 9.0 | 2.8 | 60.6 |
| GOLDEN HARVEST | Ex816 | 9.2 | -- | 3.6 | 60.0 |
| GREAT LAKES | 4758 | 8.9 | -- | 3.4 | 60.2 |
| GREAT LAKES | 4848 | 9.2 | 8.7 | 3.6 | 60.3 |
| GRIES | GSF2285 | 9.3 | -- | 3.4 | 60.2 |
| GUTWEIN | 2066 | 9.1 | -- | 3.8 | 59.8 |
| GUTWEIN | 2087 | 8.8 | 8.9 | 3.2 | 61.1 |
| GUTWEIN | 2110 | 9.6 | 9.1 | 3.5 | 60.0 |
| HYTEST | HT4404 | 8.8 | -- | 3.7 | 60.1 |
| LG SEEDS | LG2473 | 8.8 | -- | 3.7 | 60.8 |
| LG SEEDS | LG2483 | 8.9 | 8.5 | 3.3 | 60.5 |
| LG SEEDS | LG2499 | 10.3 | 10.2 | 3.5 | 59.2 |
| MIDWEST GENETIC | G6980 | 8.4 | -- | 3.7 | 60.5 |
| MIDWEST GENETIC | G7010 | 8.7 | 8.6 | 3.6 | 60.7 |
| MYCOGEN | 2545 | 9.2 | -- | 3.6 | 60.2 |
| NOVARTIS | NX4446 | 9.1 | -- | 3.4 | 60.8 |
| PAYCO | 607 | 8.3 | 8.5 | 3.7 | 60.9 |
| PIONEER | 36G32 | 8.9 | -- | 3.4 | 60.8 |
| PIONEER | 36H36 | 10.2 | -- | 3.1 | 59.6 |
| PIONEER | 3730 | 8.6 | 9.1 | 3.4 | 61.3 |
| PIONEER | 37R71 | 8.3 | -- | 3.6 | 61.2 |
| PIONEER | 37M81 | 8.6 | 8.8 | 3.7 | 60.6 |
| RENK | RK543 | 8.3 | -- | 3.7 | 61.0 |
| RENK | RK552 | 8.8 | 9.1 | 3.8 | 60.3 |
| RENK | RK611 | 8.6 | -- | 3.4 | 60.6 |
| RUPP | XR1522 | 8.7 | -- | 3.6 | 60.6 |
| RUPP | XR1599 | 9.7 | 9.4 | 3.6 | 59.8 |
| TERRA | E987 | 9.0 | 9.0 | 3.7 | 60.6 |
| TERRA | E989 | 8.7 | -- | 3.6 | 60.6 |
| TERRA | E1008 Bt | 9.6 | -- | 3.6 | 59.9 |
| TRELAY | 4002 | 8.5 | -- | 3.7 | 60.7 |
| TRELAY | 4600 | 8.8 | -- | 3.6 | 60.2 |
| TRELAY | 5004 | 9.7 | -- | 3.9 | 59.6 |
| AVERAGE | | 8.9 | 9.1 | 3.6 | 60.5 |
| HIGHEST | | 10.3 | 10.3 | 4.0 | 62.1 |
| LOWEST | | 7.3 | 8.0 | 2.8 | 58.8 |
| LSD | | .6 | | .2 | .7 |
| CV .05% | | 4.4 | | 3.4 | .8 |

# Average of Kent, Ingham & Saginaw County LATE trials
# One-, two-, three-year averages — 1998, 1997, 1996

LATE TRIAL (102 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | KENT | | | | | INGHAM | | | | | SAGINAW | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD |
| ANDERSONS | NC5401 | 24 | 147 | 54 | 1 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 138 | 53 | 1 | 92 | 25 | 172 | 54 | 1 | 81 | 22 | 130 | 55 | 1 | 96 |
| ASGROW | RX490 | 21 | 144 | 58 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *145 | 57 | 1 | 97 | 21 | 166 | 58 | 2 | 100 | 19 | 120 | 60 | 2 | 100 |
| ASGROW | RX530 | 22 | 151 | 55 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 142 | 54 | 0 | 100 | 23 | 178 | 55 | 1 | 99 | 19 | 135 | 56 | 2 | 99 |
| BIO GENE | BG105 | 24 | *156 | 53 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 139 | 52 | 2 | 94 | 25 | *193 | 52 | 0 | 94 | 23 | *137 | 55 | 2 | 100 |
| BROWN | BR6850 | 24 | *156 | 53 | 1 | 98 | 27 | 169 | 52 | 2 | 92 | -- | -- | -- | -- | -- | 25 | 135 | 53 | 2 | 99 | 26 | *199 | 53 | 1 | 98 | 22 | 133 | 55 | 1 | 97 |
| CALLAHAN | 7942X | 20 | 141 | 57 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 132 | 57 | 0 | 97 | 22 | 168 | 57 | 0 | 93 | 17 | 122 | 58 | 1 | 100 |
| CARGILL | 6303 | 26 | *157 | 53 | 1 | 100 | 28 | 170 | 52 | 1 | 96 | 27 | 166 | 52 | 3 | 97 | 30 | *165 | 51 | 1 | 100 | 25 | 184 | 53 | 1 | 99 | 23 | 121 | 55 | 1 | 100 |
| CORN BELT | C567 | 24 | *157 | 53 | 2 | 96 | 27 | 171 | 52 | 3 | 91 | 26 | 167 | 51 | 3 | 91 | 26 | 139 | 52 | 1 | 99 | 26 | *196 | 53 | 2 | 90 | 22 | *137 | 55 | 3 | 98 |
| COUNTRYMARK COOP | 447 | 23 | 144 | 54 | 3 | 97 | 25 | 157 | 53 | 3 | 94 | 24 | 156 | 52 | 5 | 96 | 25 | 135 | 52 | 6 | 95 | 24 | 174 | 55 | 2 | 97 | 18 | 122 | 56 | 0 | 100 |
| COUNTRYMARK COOP | 4949 | 22 | 151 | 54 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *152 | 53 | 0 | 99 | 23 | 173 | 55 | 0 | 97 | 20 | 130 | 56 | 1 | 99 |
| COUNTRYMARK COOP | 5308 | 24 | *161 | 54 | 1 | 95 | 27 | 164 | 52 | 2 | 87 | -- | -- | -- | -- | -- | 27 | *155 | 53 | 1 | 98 | 24 | 186 | 54 | 0 | 91 | 22 | *141 | 55 | 2 | 97 |
| CROW'S | 366 | 26 | 134 | 54 | 2 | 98 | 29 | 155 | 52 | 3 | 95 | -- | -- | -- | -- | -- | 27 | 129 | 53 | 2 | 100 | 26 | 165 | 56 | 1 | 100 | 26 | 107 | 54 | 1 | 95 |
| DAIRYLAND | STEALTH-1406 | 24 | *162 | 54 | 2 | 92 | 27 | 176 | 52 | 3 | 90 | -- | -- | -- | -- | -- | 26 | *146 | 53 | 2 | 93 | 25 | *195 | 54 | 1 | 89 | 21 | *143 | 54 | 2 | 96 |
| DAIRYLAND | STEALTH-1410 | 27 | *161 | 53 | 1 | 97 | 30 | 174 | 52 | 2 | 90 | 29 | 171 | 51 | 5 | 93 | 27 | *150 | 53 | 0 | 95 | 27 | *201 | 53 | 1 | 97 | 25 | 132 | 53 | 2 | 100 |
| DAIRYLAND | STEALTH-1509 | 26 | *153 | 54 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | 139 | 53 | 4 | 101 | 26 | 186 | 54 | 1 | 98 | 23 | 134 | 55 | 1 | 100 |
| DAIRYLAND | DST10208 | 21 | 145 | 57 | 1 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 142 | 57 | 0 | 95 | 22 | 169 | 57 | 0 | 90 | 19 | 123 | 58 | 2 | 100 |
| DEKALB | DK525 | 19 | 136 | 59 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 130 | 58 | 1 | 99 | 20 | 168 | 61 | 2 | 96 | 16 | 110 | 59 | 1 | 100 |
| DEKALB | DK537 | 20 | 146 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *148 | 55 | 1 | 99 | 21 | 172 | 57 | 3 | 97 | 16 | 118 | 57 | 2 | 99 |
| DEKALB | DK551 | 22 | 144 | 56 | 3 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 137 | 55 | 5 | 99 | 23 | 175 | 57 | 2 | 98 | 19 | 119 | 55 | 2 | 100 |
| DEKALB | DK585 | 23 | *152 | 54 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 143 | 53 | 3 | 99 | 25 | 182 | 54 | 1 | 94 | 19 | 131 | 56 | 2 | 100 |
| DEKALB | DK595 BtX | 25 | 148 | 54 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 119 | 54 | 0 | 99 | 26 | 186 | 54 | 1 | 95 | 24 | *140 | 54 | 1 | 100 |
| GARST | 8640 | 22 | *161 | 56 | 2 | 99 | 25 | 170 | 54 | 3 | 90 | 24 | 162 | 53 | 5 | 88 | 24 | *161 | 55 | 1 | 99 | 22 | *194 | 56 | 1 | 98 | 21 | 129 | 57 | 4 | 100 |
| GEERTSON | GS1067 | 24 | *163 | 54 | 3 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *154 | 53 | 2 | 100 | 25 | *192 | 54 | 4 | 99 | 22 | *144 | 55 | 2 | 98 |
| GENESIS | 2903 | 23 | 144 | 55 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | 140 | 55 | 1 | 100 | 24 | 161 | 54 | 1 | 99 | 21 | 132 | 55 | 0 | 100 |
| GREAT LAKES | 5322 | 23 | 142 | 57 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | 141 | 55 | 1 | 98 | 24 | 157 | 56 | 2 | 96 | 20 | 127 | 58 | 1 | 100 |
| GREAT LAKES | 5715 | 26 | 145 | 55 | 1 | 93 | 28 | 159 | 53 | 2 | 89 | 27 | 157 | 53 | 4 | 92 | 26 | *149 | 54 | 0 | 92 | 26 | 154 | 54 | 2 | 91 | 25 | 132 | 56 | 1 | 97 |
| GREAT LAKES | 5816 | 26 | *161 | 53 | 4 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | *157 | 53 | 1 | 98 | 26 | 182 | 54 | 3 | 93 | 25 | *143 | 53 | 7 | 100 |
| GRIES | GSF4203 | 23 | *155 | 54 | 1 | 99 | 27 | 171 | 52 | 2 | 92 | 25 | 165 | 52 | 3 | 89 | 26 | 138 | 52 | 1 | 100 | 23 | *198 | 54 | 1 | 96 | 21 | 128 | 55 | 2 | 100 |
| GUTWEIN | 2424 | 24 | *152 | 54 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *151 | 53 | 0 | 100 | 25 | 184 | 54 | 1 | 98 | 22 | 120 | 56 | 2 | 97 |
| HYTEST | BH4531 | 22 | 141 | 54 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 137 | 55 | 0 | 97 | 23 | 165 | 53 | 1 | 100 | 20 | 120 | 56 | 0 | 98 |
| HYTEST | BH4602 | 24 | *159 | 54 | 2 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 143 | 52 | 1 | 100 | 25 | *202 | 54 | 1 | 97 | 22 | 132 | 54 | 4 | 100 |
| LG SEEDS | LG2512 | 23 | 140 | 56 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 133 | 54 | 0 | 97 | 25 | 164 | 55 | 1 | 95 | 19 | 123 | 59 | 1 | 98 |
| LG SEEDS | LG2530 | 24 | *153 | 54 | 0 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *148 | 52 | 0 | 98 | 25 | *189 | 54 | 0 | 99 | 22 | 121 | 56 | 1 | 98 |
| LG SEEDS | LG2539 | 23 | *167 | 54 | 1 | 98 | 27 | 176 | 52 | 2 | 93 | 25 | 167 | 52 | 3 | 92 | 24 | *155 | 53 | 1 | 100 | 24 | **207 | 54 | 1 | 95 | 21 | *137 | 55 | 2 | 100 |
| MYCOGEN | 2620 | 23 | *153 | 57 | 2 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *146 | 56 | 4 | 99 | 24 | 183 | 57 | 0 | 100 | 21 | 130 | 58 | 1 | 98 |
| MYCOGEN | 2598 | 22 | *152 | 53 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *147 | 53 | 2 | 96 | 23 | 185 | 53 | 1 | 97 | 21 | 124 | 53 | 1 | 97 |
| NOVARTIS | MAX 21 | 25 | 149 | 56 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *147 | 55 | 1 | 99 | 26 | 174 | 55 | 0 | 97 | 23 | 127 | 57 | 1 | 100 |
| NOVARTIS | N4640 Bt | 19 | 147 | 58 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *145 | 58 | 0 | 101 | 19 | 164 | 59 | 1 | 99 | 17 | 133 | 59 | 1 | 100 |
| NOVARTIS | NX5297 | 24 | *157 | 56 | 0 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 141 | 55 | 0 | 99 | 25 | *194 | 55 | 0 | 96 | 22 | 135 | 57 | 1 | 98 |
| PIONEER | 34G81 | 25 | *167 | 55 | 1 | 98 | 27 | 179 | 53 | 1 | 94 | -- | -- | -- | -- | -- | 26 | *160 | 54 | 1 | 97 | 26 | *197 | 54 | 0 | 97 | 23 | *145 | 56 | 1 | 100 |
| PIONEER | 35N05 | 24 | 148 | 57 | 1 | 100 | 26 | 162 | 54 | 1 | 95 | -- | -- | -- | -- | -- | 25 | 137 | 55 | 1 | 100 | 25 | 179 | 57 | 1 | 99 | 22 | 129 | 58 | 1 | 100 |
| PIONEER | 33V08 | 28 | *159 | 54 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 29 | *157 | 54 | 1 | 98 | 31 | *187 | 53 | 0 | 98 | 25 | 132 | 55 | 2 | 100 |
| RENK | RK681 | 22 | 147 | 55 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *150 | 54 | 1 | 99 | 23 | 171 | 54 | 1 | 92 | 18 | 119 | 56 | 3 | 98 |
| RENK | RK691 | 20 | 138 | 55 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 133 | 54 | 2 | 98 | 22 | 167 | 54 | 1 | 99 | 18 | 115 | 55 | 1 | 95 |
| RENK | RK775 | 24 | *158 | 54 | 1 | 97 | 26 | 171 | 52 | 3 | 92 | -- | -- | -- | -- | -- | 24 | 143 | 53 | 2 | 96 | 25 | *194 | 53 | 1 | 99 | 22 | *137 | 55 | 1 | 98 |
| RENK | RK778 | 25 | **168 | 53 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *163 | 53 | 1 | 97 | 27 | *195 | 53 | 0 | 99 | 24 | *145 | 54 | 5 | 96 |
| RENK | RK818 | 27 | 149 | 54 | 1 | 97 | 29 | 163 | 53 | 1 | 90 | -- | -- | -- | -- | -- | 28 | 143 | 54 | 1 | 96 | 27 | 166 | 55 | 2 | 96 | 25 | *137 | 55 | 1 | 100 |
| RENK | RK864 | 27 | *164 | 53 | 1 | 97 | 29 | 179 | 52 | 2 | 89 | 29 | 176 | 51 | 3 | 92 | 29 | **167 | 53 | 1 | 100 | 27 | *190 | 53 | 0 | 93 | 25 | *136 | 54 | 1 | 99 |
| RUPP | XR1682 | 25 | *154 | 53 | 2 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 142 | 53 | 1 | 94 | 25 | 176 | 53 | 0 | 94 | 24 | *143 | 53 | 5 | 96 |
| RUPP | XR1688 | 26 | 146 | 55 | 1 | 98 | 28 | 155 | 53 | 2 | 86 | 27 | 148 | 53 | 5 | 90 | 27 | 143 | 53 | 0 | 96 | 25 | 167 | 55 | 1 | 97 | 24 | 126 | 56 | 2 | 100 |
| RUPP | XR1698 | 24 | *160 | 54 | 1 | 93 | 27 | 167 | 52 | 2 | 87 | 26 | 163 | 52 | 4 | 88 | 25 | 139 | 53 | 2 | 91 | 24 | *204 | 53 | 1 | 93 | 22 | *137 | 56 | 2 | 96 |
| TERRA | TR1047 | 23 | 151 | 54 | 1 | 99 | 26 | 169 | 52 | 3 | 92 | -- | -- | -- | -- | -- | 24 | 132 | 53 | 1 | 98 | 24 | *198 | 54 | 1 | 100 | 22 | 124 | 54 | 1 | 100 |
| TERRA | TR1058 Bt | 24 | 148 | 54 | 3 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 29 | 123 | 52 | 2 | 100 | 26 | *189 | 54 | 4 | 93 | 19 | 131 | 56 | 2 | 100 |
| TERRA | TR1066 | 26 | 147 | 52 | 1 | 99 | 29 | 166 | 51 | 1 | 92 | -- | -- | -- | -- | -- | 26 | 124 | 51 | 1 | 100 | 28 | *190 | 52 | 0 | 99 | 26 | 127 | 53 | 1 | 99 |
| TERRA | TR1087 | 27 | *164 | 53 | 1 | 98 | 30 | 171 | 51 | 2 | 92 | 29 | 168 | 51 | 3 | 94 | 27 | 143 | 54 | 1 | 96 | 27 | *198 | 52 | 0 | 99 | 26 | **150 | 53 | 2 | 100 |
| TERRA | TR1097 | 28 | *156 | 52 | 1 | 95 | 30 | 176 | 52 | 1 | 92 | -- | -- | -- | -- | -- | 29 | *154 | 52 | 0 | 97 | 29 | 173 | 52 | 0 | 92 | 25 | *141 | 53 | 2 | 95 |
| TERRA | TR1106 | 32 | 147 | 50 | 3 | 98 | 34 | 158 | 49 | 3 | 90 | 33 | 153 | 49 | 6 | 91 | 33 | *150 | 50 | 0 | 99 | 34 | 176 | 50 | 0 | 95 | 30 | 117 | 50 | 8 | 100 |
| TRELAY | 7002 | 23 | 150 | 55 | 1 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *156 | 53 | 1 | 100 | 24 | 169 | 55 | 2 | 96 | 20 | 127 | 56 | 2 | 100 |
| AVERAGE | | 24 | 152 | 54 | 1 | 98 | 28 | 168 | 52 | 2 | 91 | 27 | 163 | 52 | 4 | 93 | 25 | 144 | 54 | 1 | 98 | 25 | 181 | 54 | 1 | 96 | 22 | 130 | 55 | 2 | 99 |
| HIGHEST | | 28 | 168 | 59 | 4 | 100 | 34 | 179 | 54 | 3 | 96 | 33 | 176 | 53 | 6 | 97 | 33 | 167 | 58 | 5 | 100 | 34 | 207 | 61 | 4 | 100 | 30 | 150 | 60 | 8 | 100 |
| LOWEST | | 19 | 134 | 50 | 0 | 90 | 25 | 155 | 49 | 1 | 86 | 24 | 153 | 49 | 3 | 88 | 20 | 123 | 50 | 0 | 92 | 19 | 154 | 50 | 0 | 81 | 16 | 107 | 50 | 0 | 95 |
| LSD | | 2 | 15 | 1 | | | | | | | | | | | | | 2 | 23 | 1 | | | 2 | 20 | 2 | | | 1 | 14 | 1 | | |
| CV .05% | | 4 | 6 | 1 | | | | | | | | | | | | | 5 | 10 | 2 | | | 6 | 8 | 2 | | | 4 | 7 | 1 | | |

** HIGHEST YIELDING HYBRID IN 1998

* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

# Grain Quality - Percent Protein, Oil and Starch

## Funding Provided by Corn Marketing Program of Michigan

LATE TRIAL (102 RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| ANDERSONS | NC5401 | 8.7 | -- | 3.4 | 60.5 |
| ASGROW | RX490 | 10.0 | -- | 3.4 | 60.0 |
| ASGROW | RX530 | 9.0 | -- | 3.9 | 59.9 |
| BIO GENE | BG105 | 8.5 | -- | 3.3 | 61.0 |
| BROWN | BR6850 | 8.2 | -- | 3.3 | 61.3 |
| CALLAHAN | 7942X | 8.5 | -- | 3.5 | 60.9 |
| CARGILL | 6303 | 8.8 | 8.8 | 3.6 | 60.8 |
| CORN BELT | C567 | 7.9 | 8.0 | 3.3 | 61.2 |
| COUNTRYMARK COOP | 447 | 9.4 | -- | 3.5 | 59.9 |
| COUNTRYMARK COOP | 4949 | 9.3 | -- | 3.9 | 59.8 |
| COUNTRYMARK COOP | 5308 | 8.8 | 9.0 | 3.8 | 60.1 |
| CROW'S | 366 | 9.4 | 9.4 | 3.5 | 60.2 |
| DAIRYLAND | STEALTH-1406 | 8.4 | 8.4 | 3.3 | 60.9 |
| DAIRYLAND | STEALTH-1410 | 8.8 | 8.7 | 3.6 | 60.1 |
| DAIRYLAND | STEALTH-1509 | 9.3 | -- | 3.5 | 60.1 |
| DAIRYLAND | DST10208 | 9.8 | -- | 4.1 | 59.5 |
| DEKALB | DK525 | 8.1 | -- | 3.8 | 61.2 |
| DEKALB | DK537 | 8.1 | -- | 3.4 | 61.8 |
| DEKALB | DK551 | 8.4 | -- | 3.8 | 60.6 |
| DEKALB | DK585 | 7.8 | -- | 3.6 | 61.3 |
| DEKALB | DK595 BtX | 8.8 | -- | 3.4 | 60.7 |
| GARST | 8640 | 8.7 | 8.9 | 3.4 | 60.9 |
| GEERTSON | GS1067 | 8.2 | -- | 3.6 | 60.8 |
| GENESIS | 2903 | 8.4 | -- | 3.4 | 60.9 |
| GREAT LAKES | 5322 | 8.2 | -- | 3.3 | 61.1 |

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| GREAT LAKES | 5715 | 9.8 | 9.7 | 3.8 | 59.7 |
| GREAT LAKES | 5816 | 9.2 | -- | 3.5 | 59.9 |
| GRIES | GSF4203 | 8.0 | 8.5 | 3.3 | 61.3 |
| GUTWEIN | 2424 | 8.5 | -- | 3.6 | 60.7 |
| HYTEST | BH4531 | 8.0 | -- | 3.6 | 61.2 |
| HYTEST | BH4602 | 8.3 | -- | 3.4 | 60.8 |
| LG SEEDS | LG2512 | 9.0 | -- | 3.8 | 60.3 |
| LG SEEDS | LG2530 | 9.1 | -- | 3.8 | 60.0 |
| LG SEEDS | LG2539 | 7.9 | 8.0 | 3.3 | 61.6 |
| MYCOGEN | 2598 | 8.6 | -- | 3.4 | 60.8 |
| MYCOGEN | 2620 | 9.3 | -- | 3.7 | 60.4 |
| NOVARTIS | MAX 21 | 8.9 | -- | 3.6 | 60.7 |
| NOVARTIS | N4640 Bt | 8.6 | -- | 3.4 | 61.3 |
| NOVARTIS | NX5297 | 8.2 | -- | 3.6 | 61.0 |
| PIONEER | 34G81 | 8.9 | 8.3 | 3.3 | 60.6 |
| PIONEER | 35N05 | 7.9 | 7.9 | 3.6 | 61.5 |
| PIONEER | 33V08 | 8.4 | -- | 3.2 | 61.5 |
| RENK | RK681 | 9.2 | -- | 3.3 | 60.5 |
| RENK | RK691 | 9.2 | -- | 3.5 | 59.8 |
| RENK | RK775 | 8.4 | 8.4 | 3.4 | 60.8 |
| RENK | RK778 | 9.0 | -- | 3.5 | 60.2 |
| RENK | RK818 | 9.5 | 9.1 | 3.5 | 60.0 |
| RENK | RK864 | 8.1 | 7.9 | 3.7 | 60.8 |
| RUPP | XR1682 | 9.1 | -- | 3.5 | 60.0 |
| RUPP | XR1688 | 9.6 | 9.2 | 3.9 | 59.8 |

| HYBRID | | % | 97/98 | % | % |
|---|---|---|---|---|---|
| BRAND | VARIETY | Protein | %Prot | Oil | Starch |
| RUPP | XR1698 | 8.3 | 8.2 | 3.4 | 60.8 |
| TERRA | TR1047 | 8.0 | 8.0 | 3.3 | 61.2 |
| TERRA | TR1058 Bt | 8.6 | -- | 3.4 | 60.5 |
| TERRA | TR1066 | 9.1 | 9.5 | 3.2 | 60.5 |
| TERRA | TR1087 | 8.5 | 8.4 | 3.5 | 60.4 |
| TERRA | TR1097 | 8.4 | 8.2 | 3.7 | 60.3 |
| TERRA | TR1106 | 8.4 | 8.4 | 3.6 | 60.2 |
| TRELAY | 7002 | 8.5 | -- | 3.4 | 61.1 |
| AVERAGE | | 8.7 | 8.6 | 3.5 | 60.6 |
| HIGHEST | | 10.0 | 9.7 | 4.1 | 61.8 |
| LOWEST | | 7.8 | 7.9 | 3.2 | 59.5 |
| LSD | | .5 | | .2 | .6 |
| CV .05% | | 3.6 | | 3.4 | .7 |

## Average of Huron, Montcalm & Mason County EARLY trials
## One-, two-, three-year averages — 1998, 1997, 1996

EARLY TRIAL (97 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | HURON | | | | | MONTCALM | | | | | MASON | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD |
| ASGROW | RX352 | 21 | 148 | 56 | 1 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 129 | 57 | 1 | 83 | 20 | 134 | 58 | 0 | 100 | 22 | 180 | 53 | 1 | 96 |
| ASGROW | RX355 | 21 | 163 | 57 | 1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 145 | 58 | 1 | 97 | 20 | 147 | 60 | 1 | 100 | 22 | 197 | 53 | 0 | 99 |
| BAYSIDE | Super 88 | 22 | 161 | 55 | 2 | 92 | 23 | 157 | 53 | 3 | 96 | -- | -- | -- | -- | -- | 23 | 145 | 55 | 3 | 78 | 20 | 143 | 56 | 1 | 100 | 22 | 194 | 53 | 1 | 99 |
| BAYSIDE | Super 91 | 22 | 165 | 55 | 1 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *151 | 55 | 1 | 85 | 21 | 143 | 56 | 0 | 100 | 23 | 201 | 52 | 1 | 94 |
| BAYSIDE | Super 93 | 24 | 167 | 53 | 1 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 142 | 53 | 1 | 78 | 22 | 147 | 55 | 1 | 100 | 24 | *213 | 51 | 1 | 95 |
| BAYSIDE | Super 95 | 25 | *175 | 51 | 2 | 94 | 26 | 171 | 50 | 4 | 96 | -- | -- | -- | -- | -- | 28 | *157 | 51 | 3 | 88 | 21 | *159 | 53 | 2 | 100 | 25 | 208 | 50 | 0 | 93 |
| BAYSIDE | Super 97 | 25 | 166 | 55 | 2 | 84 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 142 | 56 | 3 | 76 | 22 | 151 | 57 | 3 | 93 | 26 | 205 | 53 | 1 | 82 |
| BAYSIDE | 1792 | 24 | *177 | 53 | 1 | 96 | 25 | 176 | 52 | 2 | 98 | 25 | 165 | 50 | 3 | 99 | 25 | *161 | 53 | 2 | 89 | 23 | *165 | 55 | 2 | 100 | 24 | 206 | 52 | 0 | 98 |
| BIO GENE | BG090 | 23 | 158 | 54 | 2 | 83 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 125 | 55 | 2 | 67 | 21 | 153 | 55 | 2 | 94 | 26 | 198 | 51 | 1 | 89 |
| CALLAHAN | 7737 | 24 | *172 | 53 | 1 | 94 | 27 | 176 | 52 | 2 | 97 | -- | -- | -- | -- | -- | 24 | 140 | 53 | 4 | 87 | 21 | *163 | 56 | 1 | 100 | 27 | *212 | 51 | 0 | 97 |
| CALLAHAN | 7938X | 25 | *176 | 52 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *162 | 52 | 2 | 88 | 24 | *160 | 52 | 0 | 97 | 26 | 207 | 51 | 0 | 97 |
| CARGILL | 2827 | 22 | 154 | 58 | 1 | 87 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 122 | 58 | 1 | 71 | 22 | 147 | 60 | 1 | 96 | 23 | 193 | 56 | 0 | 94 |
| CORN BELT | C467 | 22 | 156 | 55 | 0 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | 140 | 54 | 0 | 75 | 20 | 144 | 58 | 0 | 98 | 23 | 183 | 53 | 1 | 97 |
| COUNTRYMARK COOP | 3858 | 23 | *175 | 53 | 2 | 90 | 24 | 169 | 52 | 3 | 86 | -- | -- | -- | -- | -- | 24 | *149 | 53 | 3 | 75 | 22 | 154 | 55 | 2 | 100 | 23 | *222 | 51 | 0 | 94 |
| DAIRYLAND | STEALTH-1496 | 24 | *176 | 54 | 1 | 92 | 25 | 175 | 52 | 2 | 91 | -- | -- | -- | -- | -- | 26 | 148 | 53 | 0 | 78 | 22 | *157 | 56 | 3 | 99 | 25 | *224 | 52 | 1 | 98 |
| DAIRYLAND | STEALTH-1595 | 23 | 158 | 54 | 0 | 97 | 24 | 157 | 52 | 1 | 97 | -- | -- | -- | -- | -- | 25 | 137 | 53 | 0 | 93 | 21 | 136 | 56 | 1 | 99 | 22 | 201 | 53 | 0 | 98 |
| DEKALB | DK355 | 20 | 153 | 56 | 2 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | 137 | 56 | 1 | 77 | 19 | 137 | 58 | 3 | 97 | 21 | 186 | 53 | 1 | 94 |
| DEKALB | DK365 | 21 | 151 | 56 | 1 | 90 | 22 | 152 | 55 | 4 | 94 | -- | -- | -- | -- | -- | 20 | 118 | 57 | 2 | 74 | 20 | 139 | 57 | 1 | 99 | 23 | 195 | 53 | 1 | 99 |
| DEKALB | DK385B | 21 | 148 | 58 | 1 | 98 | 23 | 157 | 56 | 2 | 97 | -- | -- | -- | -- | -- | 20 | 127 | 60 | 2 | 96 | 19 | 134 | 60 | 0 | 100 | 23 | 184 | 55 | 1 | 99 |
| DEKALB | DK405 | 20 | 160 | 55 | 1 | 87 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19 | 112 | 56 | 1 | 74 | 20 | *159 | 58 | 1 | 94 | 22 | *210 | 52 | 0 | 93 |
| DEKALB | DK417 | 21 | 169 | 57 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *150 | 58 | 0 | 87 | 20 | 143 | 59 | 2 | 100 | 22 | *213 | 54 | 1 | 95 |
| DEKALB | DK440 | 21 | *178 | 54 | 1 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 145 | 55 | 3 | 76 | 21 | *159 | 55 | 1 | 100 | 23 | **230 | 52 | 0 | 97 |
| DEKALB | DK471 | 23 | *173 | 54 | 1 | 90 | 26 | 173 | 52 | 3 | 94 | 25 | 166 | 50 | 3 | 96 | 23 | *156 | 55 | 0 | 80 | 22 | *159 | 56 | 1 | 98 | 26 | 205 | 51 | 1 | 91 |
| DEKALB | DK477 | 23 | *177 | 53 | 2 | 96 | 25 | 171 | 52 | 3 | 97 | 25 | 167 | 51 | 2 | 97 | 25 | *145 | 53 | 4 | 88 | 21 | *165 | 56 | 2 | 100 | 24 | *220 | 51 | 0 | 99 |
| GARST | 8830 | 23 | *179 | 52 | 2 | 97 | 25 | 177 | 51 | 3 | 98 | -- | -- | -- | -- | -- | 23 | *164 | 53 | 3 | 93 | 23 | *165 | 54 | 1 | 100 | 24 | 207 | 49 | 2 | 97 |
| GENESIS | 2990 | 23 | 153 | 55 | 2 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | 139 | 55 | 3 | 84 | 21 | 148 | 57 | 2 | 99 | 23 | 171 | 53 | 0 | 98 |
| GOLDEN HARVEST | H2309 | 23 | 161 | 54 | 1 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 130 | 54 | 2 | 77 | 22 | 151 | 55 | 1 | 97 | 23 | 201 | 51 | 0 | 89 |
| GOLDEN HARVEST | Ex816 | 22 | *170 | 53 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | *149 | 53 | 2 | 94 | 20 | *161 | 55 | 1 | 100 | 23 | 200 | 52 | 0 | 96 |
| GREAT LAKES | 3807 | 22 | 129 | 57 | 1 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 104 | 57 | 0 | 80 | 20 | 135 | 59 | 2 | 99 | 22 | 147 | 54 | 2 | 100 |
| GREAT LAKES | 4526 | 23 | *177 | 54 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *163 | 54 | 3 | 93 | 22 | 152 | 56 | 1 | 100 | 24 | *215 | 51 | 0 | 97 |
| GREAT LAKES | 4758 | 25 | *172 | 54 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | 144 | 53 | 1 | 82 | 22 | *167 | 56 | 2 | 97 | 26 | 206 | 52 | 0 | 98 |
| GRIES | GSF2285 | 23 | 167 | 55 | 1 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *155 | 55 | 2 | 85 | 22 | 152 | 58 | 1 | 99 | 22 | 192 | 53 | 0 | 94 |
| HYTEST | HT4310 | 24 | *171 | 54 | 2 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *167 | 54 | 4 | 83 | 22 | 141 | 56 | 2 | 95 | 25 | 206 | 52 | 1 | 95 |
| HYTEST | HT4395 | 21 | 160 | 55 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21 | *156 | 56 | 2 | 83 | 21 | 140 | 56 | 1 | 100 | 22 | 183 | 52 | 2 | 99 |
| JUNG | 2488 | 24 | *173 | 52 | 1 | 92 | 25 | 173 | 51 | 4 | 96 | -- | -- | -- | -- | -- | 24 | *151 | 52 | 3 | 85 | 22 | 151 | 54 | 1 | 98 | 25 | *217 | 50 | 0 | 94 |
| LG SEEDS | LG2421 | 24 | *177 | 56 | 2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *150 | 55 | 3 | 94 | 22 | *160 | 58 | 1 | 100 | 25 | *220 | 53 | 1 | 100 |
| LG SEEDS | LG2442 | 23 | *177 | 54 | 2 | 95 | 25 | 174 | 52 | 3 | 97 | -- | -- | -- | -- | -- | 23 | **170 | 55 | 2 | 89 | 22 | 139 | 55 | 2 | 100 | 23 | *223 | 51 | 1 | 97 |
| LG SEEDS | LG2473 | 24 | *172 | 54 | 1 | 92 | 27 | 178 | 52 | 2 | 96 | -- | -- | -- | -- | -- | 23 | 139 | 54 | 2 | 82 | 22 | *159 | 56 | 1 | 100 | 26 | *220 | 52 | 0 | 94 |
| MIDWEST GENETIC | G6970 | 22 | *170 | 53 | 1 | 89 | 25 | 168 | 52 | 3 | 93 | -- | -- | -- | -- | -- | 23 | 136 | 53 | 1 | 76 | 20 | 155 | 55 | 2 | 96 | 25 | *221 | 51 | 1 | 94 |
| MIDWEST GENETIC | G7010 | 24 | 158 | 53 | 2 | 81 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 123 | 52 | 3 | 66 | 22 | 150 | 56 | 2 | 94 | 24 | 202 | 51 | 1 | 83 |
| MYCOGEN | 2395 | 24 | 166 | 56 | 2 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 139 | 56 | 3 | 86 | 22 | *160 | 59 | 2 | 100 | 23 | 198 | 55 | 0 | 92 |
| MYCOGEN | 2420 | 22 | 168 | 55 | 2 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *153 | 55 | 2 | 96 | 21 | *159 | 57 | 3 | 100 | 24 | 193 | 53 | 1 | 87 |
| NOVARTIS | MAX 86 | 23 | *174 | 58 | 1 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *165 | 59 | 1 | 76 | 20 | 144 | 60 | 2 | 94 | 24 | *212 | 56 | 0 | 93 |
| NOVARTIS | N3030 Bt | 24 | *184 | 54 | 2 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *164 | 54 | 5 | 85 | 22 | **170 | 57 | 2 | 100 | 25 | *216 | 52 | 0 | 89 |
| PIONEER | 37M81 | 23 | **187 | 53 | 3 | 98 | 25 | 182 | 51 | 5 | 99 | -- | -- | -- | -- | -- | 23 | *169 | 53 | 5 | 95 | 21 | *166 | 56 | 3 | 100 | 25 | *225 | 50 | 1 | 99 |
| PIONEER | 38P05 | 23 | *178 | 56 | 0 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | *159 | 58 | 1 | 87 | 21 | *166 | 59 | 0 | 99 | 24 | 207 | 53 | 1 | 91 |
| PIONEER | 38W36 | 23 | 169 | 55 | 3 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | **170 | 52 | 4 | 94 | 22 | 151 | 57 | 2 | 100 | 21 | 187 | 54 | 2 | 97 |
| RENK | RK450 | 22 | 159 | 54 | 2 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 136 | 54 | 3 | 72 | 20 | 146 | 56 | 1 | 97 | 22 | 197 | 53 | 1 | 95 |
| RENK | RK546 | 23 | 161 | 53 | 1 | 86 | 25 | 165 | 52 | 3 | 91 | 24 | 160 | 50 | 3 | 94 | 22 | 129 | 52 | 1 | 81 | 20 | *159 | 55 | 1 | 100 | 26 | 195 | 51 | 1 | 78 |
| RENK | RK552 | 24 | *173 | 53 | 1 | 92 | 25 | 172 | 52 | 3 | 94 | -- | -- | -- | -- | -- | 26 | *155 | 53 | 1 | 89 | 22 | 148 | 56 | 1 | 99 | 24 | *216 | 51 | 1 | 88 |
| RUPP | XR1357 | 22 | 162 | 55 | 1 | 91 | 24 | 155 | 53 | 2 | 94 | -- | -- | -- | -- | -- | 24 | 148 | 53 | 2 | 79 | 21 | 145 | 58 | 2 | 99 | 23 | 193 | 53 | 1 | 96 |
| RUPP | XR1522 | 24 | *172 | 54 | 2 | 87 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *154 | 54 | 2 | 78 | 22 | 144 | 56 | 3 | 97 | 24 | *219 | 53 | 1 | 86 |
| TERRA | E958 | 25 | 161 | 54 | 1 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | 138 | 53 | 1 | 75 | 21 | 153 | 57 | 2 | 100 | 26 | 191 | 51 | 1 | 90 |
| TERRA | E968 | 24 | *178 | 54 | 2 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23 | 142 | 54 | 4 | 84 | 22 | *166 | 55 | 2 | 100 | 26 | *226 | 52 | 1 | 99 |
| TRELAY | 3700 | 23 | 163 | 54 | 2 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | 139 | 54 | 2 | 77 | 21 | 149 | 56 | 2 | 100 | 24 | 200 | 51 | 1 | 94 |
| TRELAY | 4002 | 23 | *181 | 53 | 1 | 95 | 24 | 176 | 52 | 3 | 95 | -- | -- | -- | -- | -- | 23 | *167 | 53 | 2 | 91 | 22 | *157 | 55 | 2 | 99 | 24 | *217 | 51 | 0 | 94 |
| TRELAY | 4600 | 24 | 165 | 52 | 2 | 90 | 25 | 166 | 50 | 4 | 93 | -- | -- | -- | -- | -- | 25 | *155 | 51 | 1 | 82 | 20 | 147 | 54 | 3 | 95 | 27 | 192 | 49 | 0 | 94 |
| AVERAGE | | 23 | 167 | 54 | 1 | 92 | 25 | 169 | 52 | 3 | 95 | 25 | 165 | 50 | 3 | 97 | 24 | 146 | 54 | 2 | 83 | 21 | 152 | 56 | 1 | 99 | 24 | 204 | 52 | 1 | 94 |
| HIGHEST | | 25 | 187 | 58 | 3 | 99 | 27 | 182 | 56 | 5 | 99 | 25 | 167 | 51 | 3 | 99 | 28 | 170 | 60 | 5 | 97 | 24 | 170 | 60 | 3 | 100 | 27 | 230 | 56 | 2 | 100 |
| LOWEST | | 20 | 148 | 51 | 0 | 83 | 22 | 152 | 50 | 1 | 86 | 24 | 160 | 50 | 2 | 94 | 19 | 104 | 51 | 0 | 66 | 19 | 134 | 52 | 0 | 93 | 21 | 147 | 49 | 0 | 78 |
| LSD | | 2 | 17 | 1 | | | | | | | | | | | | | 2 | 21 | 2 | | | 1 | 14 | 1 | | | 2 | 21 | 1 | | |
| CV .05% | | 5 | 6 | 2 | | | | | | | | | | | | | 7 | 10 | 2 | | | 3 | 6 | 2 | | | 5 | 7 | 2 | | |

** HIGHEST YIELDING HYBRID IN 1998

* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

# 1998 GROWING SEASON
# WEATHER SUMMARY

Jeff Andresen, agricultural meteorologist/Extension specialist, MSU Dept. of Geography

The beginning of the 1998 growing season coincided with the final stages of the strongest El Nino event of the century. The El Nino conditions were at least partially responsible for abnormally mild temperatures across much of the Great Lakes region for much of the winter and spring of 1998. Mean temperatures from January through May ranged from 5 to as much as 8°F above normal (setting new records for mild temperatures and lack of snowfall in many sections of the state). The abnormally mild weather resulted from a persistent split flow configuration of the jet stream across North America, with cold, arctic-origin air masses remaining well to the north of the lower 48 states. The southern or subtropical branch of the jet stream, much stronger and more active than normal due to the addition of energy from the El Nino/warm water conditions of the eastern Pacific Ocean, generally remained along the southern border states of the U.S. and was responsible for a variety of severe weather, including high winds and flooding in California and violent tornadoes in Florida. For Michigan, the subtropical jet stream provided occasional incursions of moisture from the Gulf of Mexico which resulted in monthly precipitation totals ranging from much above normal in the southern sections to below normal in the north. Spring fieldwork, planting progress, and early crop vegetative development rates were consistently well ahead of normals for the date, due mainly to drier than normal conditions and to abnormally warm soil temperatures. In most years, soils in Michigan contain frozen layers left from the preceding cold months. The seasonal melting of these frozen soil layers and leftover snow cover takes large amounts of heat energy, resulting in a moderation of temperatures and a delay of warm (e.g., 60°F or above) temperatures relative to areas to our south or west. This year, with record-breaking mild temperatures during much of the winter and early spring, there was little in the way of frozen soils or snow cover, allowing soil temperatures to increase much more quickly than normal (e.g., at East Lansing, average 2-inch soil temperatures reached 50°F during the last week in March).

While the early start to the growing season benefitted many, the major weather story of the 1998 growing season was undoubtedly the drought conditions which developed during the early summer and resulted in reduced crop yields. Dryness was most pronounced in central and northern areas of the state, where seasonal (May-September) rainfall totals generally ranged from 50-80% of normal values and soil moisture

*Continued on page 10*

# Average of Huron, Montcalm & Mason County LATE trials
# One-, two-, three-year averages — 1998, 1997, 1996

LATE TRIAL (98 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | HURON | | | | | MONTCALM | | | | | MASON | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD |
| BAYSIDE | Super 100 | 26 | 162 | 52 | 3 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | 134 | 52 | 5 | 80 | 24 | 150 | 53 | 2 | 100 | 28 | 202 | 50 | 2 | 96 |
| BROWN | BR5140 | 26 | 175 | 53 | 2 | 91 | 27 | 169 | 52 | 2 | 91 | -- | -- | -- | -- | -- | 28 | *168 | 53 | 3 | 82 | 23 | 142 | 55 | 3 | 98 | 27 | 215 | 52 | 1 | 94 |
| CALLAHAN | 7741 | 30 | 168 | 51 | 1 | 92 | 31 | 170 | 50 | 2 | 95 | 30 | 165 | 49 | 2 | 96 | 32 | 156 | 51 | 3 | 83 | 24 | 147 | 52 | 1 | 100 | 33 | 201 | 49 | 0 | 94 |
| CALLAHAN | 7939X | 28 | 176 | 54 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 29 | *159 | 55 | 3 | 95 | 24 | 155 | 57 | 0 | 100 | 30 | 212 | 52 | 0 | 95 |
| CARGILL | 3677 | 24 | 167 | 55 | 3 | 95 | 25 | 169 | 53 | 3 | 95 | 25 | 164 | 52 | 3 | 97 | 23 | 153 | 55 | 0 | 90 | 23 | 146 | 58 | 5 | 100 | 25 | 201 | 53 | 2 | 96 |
| CARGILL | 4127 | 26 | 174 | 53 | 1 | 96 | 28 | 168 | 52 | 3 | 98 | 27 | 160 | 51 | 2 | 99 | 25 | *164 | 54 | 1 | 88 | 23 | 146 | 55 | 3 | 100 | 30 | 211 | 52 | 0 | 100 |
| CORN BELT | C498 | 26 | 161 | 52 | 2 | 92 | 28 | 165 | 51 | 2 | 95 | -- | -- | -- | -- | -- | 26 | 143 | 52 | 5 | 83 | 24 | 147 | 54 | 1 | 99 | 27 | 193 | 50 | 1 | 95 |
| COUNTRYMARK COOP | 3969 | 25 | 170 | 55 | 3 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 150 | 54 | 3 | 87 | 21 | 135 | 57 | 5 | 100 | 28 | *224 | 52 | 1 | 95 |
| COUNTRYMARK COOP | 4949 | 27 | *181 | 52 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | *162 | 52 | 2 | 90 | 24 | *162 | 53 | 1 | 100 | 29 | 217 | 50 | 0 | 92 |
| DAIRYLAND | STEALTH-1203 | 27 | 164 | 50 | 2 | 93 | 28 | 161 | 49 | 4 | 95 | 28 | 159 | 48 | 5 | 96 | 29 | 132 | 49 | 4 | 82 | 23 | 143 | 52 | 2 | 100 | 28 | 217 | 49 | 1 | 96 |
| DAIRYLAND | STEALTH-1297 | 25 | 175 | 54 | 1 | 94 | 29 | 173 | 52 | 3 | 96 | 26 | 164 | 51 | 3 | 97 | 26 | *166 | 54 | 2 | 92 | 23 | 160 | 55 | 1 | 98 | 25 | 200 | 53 | 1 | 92 |
| DAIRYLAND | STEALTH-1401 | 26 | 165 | 53 | 1 | 87 | 28 | 164 | 51 | 1 | 92 | 27 | 160 | 50 | 2 | 92 | 26 | 141 | 53 | 1 | 80 | 24 | 158 | 54 | 1 | 92 | 28 | 196 | 52 | 1 | 89 |
| DAIRYLAND | STEALTH-1500 | 26 | 171 | 53 | 3 | 96 | 28 | 163 | 52 | 3 | 97 | -- | -- | -- | -- | -- | 26 | *164 | 53 | 2 | 89 | 23 | 144 | 55 | 6 | 97 | 28 | 206 | 52 | 1 | 100 |
| DEKALB | DK493 BtX | 24 | 168 | 53 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | 137 | 53 | 1 | 79 | 22 | 161 | 56 | 1 | 100 | 27 | 205 | 51 | 0 | 97 |
| DEKALB | DK525 | 25 | *181 | 54 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *176 | 54 | 1 | 82 | 21 | 143 | 57 | 3 | 99 | 26 | *223 | 51 | 0 | 96 |
| DEKALB | DK537 | 26 | **194 | 53 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *173 | 52 | 3 | 91 | 23 | *170 | 55 | 2 | 100 | 28 | **240 | 51 | 1 | 100 |
| DEKALB | DK551 | 29 | *188 | 52 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 30 | *175 | 51 | 1 | 95 | 25 | *167 | 53 | 3 | 100 | 33 | *222 | 52 | 0 | 88 |
| GARST | 8780 Hph | 27 | *181 | 53 | 1 | 96 | 28 | 173 | 51 | 2 | 97 | -- | -- | -- | -- | -- | 26 | *169 | 53 | 2 | 91 | 24 | *163 | 55 | 2 | 99 | 31 | 211 | 50 | 0 | 97 |
| GEERTSON | GS998 | 25 | 171 | 51 | 2 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | 146 | 50 | 2 | 81 | 21 | 158 | 53 | 3 | 99 | 26 | 210 | 51 | 0 | 96 |
| GOLDEN HARVEST | H2382 | 26 | 161 | 54 | 1 | 94 | 28 | 161 | 52 | 3 | 96 | 27 | 155 | 51 | 4 | 97 | 27 | 134 | 53 | 2 | 81 | 24 | 145 | 55 | 1 | 101 | 26 | 203 | 53 | 1 | 100 |
| GREAT LAKES | 4848 | 24 | 165 | 53 | 1 | 87 | 27 | 167 | 51 | 2 | 93 | 27 | 154 | 50 | 2 | 94 | 24 | 137 | 54 | 2 | 70 | 23 | *163 | 54 | 2 | 99 | 26 | 196 | 51 | 0 | 90 |
| GREAT LAKES | 5322 | 29 | 171 | 52 | 3 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 29 | 154 | 52 | 5 | 84 | 26 | 157 | 53 | 2 | 100 | 30 | 201 | 51 | 1 | 92 |
| JUNG | 2577 | 28 | 170 | 53 | 3 | 97 | 30 | 164 | 51 | 4 | 98 | -- | -- | -- | -- | -- | 30 | 156 | 52 | 4 | 95 | 24 | 145 | 55 | 4 | 100 | 29 | 208 | 51 | 0 | 97 |
| LG SEEDS | LG2483 | 26 | 169 | 51 | 1 | 89 | 29 | 167 | 50 | 2 | 93 | -- | -- | -- | -- | -- | 29 | 148 | 51 | 3 | 81 | 24 | *167 | 53 | 1 | 98 | 27 | 192 | 50 | 0 | 89 |
| LG SEEDS | LG2499 | 28 | *182 | 52 | 1 | 93 | 31 | 171 | 50 | 2 | 96 | 29 | 164 | 49 | 2 | 97 | 29 | *161 | 51 | 0 | 82 | 24 | 159 | 53 | 2 | 100 | 30 | *227 | 51 | 0 | 99 |
| MIDWEST GENETIC | G7118 | 26 | 167 | 52 | 1 | 95 | 28 | 165 | 51 | 2 | 96 | -- | -- | -- | -- | -- | 26 | *162 | 53 | 3 | 86 | 25 | 147 | 53 | 1 | 100 | 27 | 194 | 50 | 0 | 99 |
| MYCOGEN | 2500 | 24 | 175 | 54 | 2 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 154 | 53 | 3 | 95 | 23 | *170 | 55 | 3 | 87 | 25 | 201 | 52 | 1 | 97 |
| NOVARTIS | N4640 Bt | 25 | *181 | 53 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *172 | 53 | 2 | 89 | 22 | *169 | 55 | 1 | 100 | 27 | 201 | 52 | 0 | 94 |
| NOVARTIS | NX4446 | 25 | 176 | 54 | 1 | 88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *160 | 54 | 1 | 84 | 22 | *162 | 56 | 2 | 95 | 27 | 207 | 52 | 0 | 84 |
| PAYCO | 607 | 24 | 172 | 53 | 2 | 97 | 26 | 168 | 51 | 3 | 98 | -- | -- | -- | -- | -- | 24 | *166 | 53 | 5 | 91 | 22 | 149 | 55 | 2 | 100 | 25 | 201 | 51 | 1 | 100 |
| PIONEER | 35N05 | 31 | *185 | 54 | 3 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 36 | 149 | 54 | 6 | 87 | 25 | **177 | 55 | 2 | 100 | 31 | *228 | 53 | 0 | 97 |
| PIONEER | 3573 | 28 | *181 | 52 | 1 | 94 | 30 | 171 | 50 | 2 | 97 | 30 | 161 | 49 | 3 | 97 | 29 | *163 | 51 | 2 | 85 | 24 | 160 | 54 | 2 | 99 | 31 | *222 | 50 | 0 | 98 |
| PIONEER | 36G32 | 27 | *182 | 53 | 1 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *174 | 53 | 2 | 93 | 24 | *164 | 56 | 0 | 100 | 28 | 208 | 51 | 0 | 99 |
| PIONEER | 36H36 | 27 | *186 | 53 | 2 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *171 | 53 | 5 | 88 | 24 | *172 | 55 | 1 | 99 | 28 | 215 | 52 | 0 | 96 |
| PIONEER | 37R71 | 24 | 176 | 53 | 1 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *168 | 53 | 3 | 83 | 22 | 158 | 56 | 0 | 98 | 26 | 203 | 50 | 0 | 92 |
| RENK | RK543 | 26 | *180 | 55 | 1 | 92 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *170 | 56 | 3 | 81 | 22 | *169 | 58 | 1 | 100 | 29 | 203 | 52 | 0 | 96 |
| RENK | RK611 | 25 | *186 | 54 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | **181 | 54 | 1 | 94 | 23 | 161 | 56 | 2 | 100 | 28 | 217 | 51 | 0 | 95 |
| RENK | RK681 | 26 | *180 | 52 | 1 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *169 | 51 | 1 | 87 | 23 | *166 | 54 | 1 | 98 | 29 | 206 | 50 | 0 | 97 |
| RUPP | XR1599 | 26 | 160 | 52 | 2 | 76 | 28 | 156 | 51 | 2 | 82 | -- | -- | -- | -- | -- | 26 | 137 | 53 | 5 | 57 | 24 | 151 | 54 | 1 | 89 | 29 | 190 | 50 | 0 | 82 |
| TERRA | E987 | 26 | 174 | 53 | 1 | 94 | 28 | 164 | 51 | 2 | 92 | -- | -- | -- | -- | -- | 27 | *165 | 52 | 1 | 83 | 23 | 144 | 55 | 2 | 100 | 28 | 213 | 52 | 0 | 99 |
| TERRA | E989 | 24 | 158 | 53 | 1 | 89 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | 142 | 53 | 1 | 71 | 22 | 142 | 54 | 1 | 100 | 24 | 190 | 51 | 0 | 95 |
| TERRA | E1008 Bt | 28 | 177 | 53 | 4 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 29 | *159 | 52 | 2 | 87 | 22 | 151 | 54 | 7 | 100 | 32 | *222 | 52 | 2 | 93 |
| TERRA | TR1047 | 30 | *188 | 51 | 2 | 97 | 32 | 174 | 50 | 3 | 95 | -- | -- | -- | -- | -- | 33 | *170 | 52 | 2 | 92 | 25 | *162 | 52 | 2 | 99 | 31 | *233 | 50 | 1 | 99 |
| TRELAY | 5004 | 26 | 171 | 53 | 1 | 93 | 28 | 169 | 52 | 2 | 96 | -- | -- | -- | -- | -- | 29 | 156 | 52 | 2 | 84 | 23 | 156 | 55 | 1 | 99 | 26 | 202 | 52 | 1 | 96 |
| AVERAGE | | 26 | 174 | 53 | 2 | 93 | 28 | 167 | 51 | 2 | 95 | 28 | 161 | 50 | 3 | 96 | 27 | 158 | 53 | 3 | 85 | 23 | 156 | 55 | 2 | 99 | 28 | 209 | 51 | 1 | 95 |
| HIGHEST | | 31 | 194 | 55 | 4 | 97 | 32 | 174 | 53 | 4 | 98 | 30 | 165 | 52 | 5 | 99 | 36 | 181 | 56 | 6 | 95 | 26 | 177 | 58 | 7 | 100 | 33 | 240 | 53 | 2 | 100 |
| LOWEST | | 24 | 158 | 50 | 1 | 76 | 25 | 161 | 49 | 1 | 82 | 25 | 154 | 48 | 2 | 92 | 23 | 132 | 49 | 0 | 57 | 21 | 135 | 52 | 0 | 87 | 25 | 190 | 49 | 0 | 82 |
| LSD | | 2 | 16 | 1 | | | | | | | | | | | | | 3 | 24 | 1 | | | 1 | 15 | 1 | | | 2 | 19 | 1 | | |
| CV .05% | | 5 | 6 | 1 | | | | | | | | | | | | | 6 | 11 | 2 | | | 4 | 7 | 1 | | | 5 | 6 | 2 | | |

** HIGHEST YIELDING HYBRID IN 1998

## Table A – Weather Summary

Temperature, Precipitation, and Growing Degree Day Summary
1998 Growing Season

| COUNTY | | MAY OBS. | MAY NORM | MAY DEV. | JUNE OBS. | JUNE NORM | JUNE DEV. | JULY OBS. | JULY NORM | JULY DEV. | AUGUST OBS. | AUGUST NORM | AUGUST DEV. | SEPTEMBER OBS. | SEPTEMBER NORM | SEPTEMBER DEV. | SEASON OBS. | SEASON NORM | SEASON DEV. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZONE 1 | | | | | | | | | | | | | | | | | | | |
| MONROE | TEMP | 66.7 | 58.3 | 8.4 | 71.0 | 67.8 | 3.2 | 73.6 | 71.7 | 1.9 | 72.3 | 69.9 | 2.4 | 67.8 | 62.6 | 5.2 | 70.3 | 66.1 | 4.2 |
| | PPT | 0.78 | 3.04 | -2.26 | 1.83 | 3.30 | -1.47 | 3.44 | 3.73 | -0.29 | 5.13 | 3.20 | 1.93 | 0.59 | 2.62 | -2.03 | 11.77 | 15.89 | -4.12 |
| | GDD | 509 | 353 | 156 | 622 | 542 | 80 | 719 | 658 | 61 | 697 | 616 | 81 | 545 | 432 | 113 | 3092 | 2601 | 491 |
| BRANCH | TEMP | 64.7 | 57.8 | 6.9 | 68.0 | 67.2 | 0.8 | 72.3 | 70.8 | 1.5 | 70.4 | 69.2 | 1.2 | 66.5 | 62.4 | 4.1 | 68.4 | 65.5 | 2.9 |
| | PPT | 1.77 | 3.03 | -1.26 | 4.36 | 3.73 | 0.63 | 2.86 | 4.01 | -1.15 | 8.36 | 3.40 | 4.96 | 2.00 | 3.03 | -1.03 | 19.35 | 17.20 | 2.15 |
| | GDD | 473 | 342 | 131 | 557 | 535 | 22 | 681 | 646 | 35 | 681 | 602 | 79 | 512 | 427 | 85 | 29.04 | 2552 | 352 |
| CASS | TEMP | 64.1 | 59.2 | 4.9 | 67.1 | 68.4 | -1.3 | 71.4 | 71.9 | -0.5 | 70.9 | 70.1 | 0.8 | 65.0 | 63.3 | 1.7 | 67.7 | 66.6 | 1.1 |
| | PPT | 1.51 | 3.12 | -1.61 | 1.86 | 3.95 | -2.09 | 1.68 | 3.79 | -2.11 | 5.94 | 3.16 | 2.78 | 1.43 | 3.01 | -1.58 | 12.42 | 17.03 | -4.61 |
| | GDD | 461 | 381 | 80 | 542 | 564 | -22 | 646 | 670 | -24 | 650 | 628 | 22 | 485 | 454 | 31 | 2784 | 2697 | 87 |
| ZONE 2 | | | | | | | | | | | | | | | | | | | |
| KENT | TEMP | 64.9 | 57.4 | 7.5 | 67.3 | 67.1 | 0.2 | 72.5 | 71.2 | 1.3 | 72.6 | 69.5 | 3.1 | 66.6 | 61.9 | 4.7 | 68.8 | 65.4 | 3.4 |
| | PPT | 1.85 | 2.86 | -1.01 | 2.06 | 3.68 | -1.62 | 2.57 | 2.95 | -0.38 | 1.74 | 3.14 | -1.40 | 2.63 | 3.24 | -0.61 | 10.85 | 15.87 | -5.02 |
| | GDD | 483 | 335 | 148 | 543 | 530 | 13 | 695 | 654 | 41 | 701 | 610 | 91 | 509 | 412 | 97 | 2931 | 2541 | 390 |
| INGHAM | TEMP | 63.7 | 57.5 | 6.2 | 66.3 | 67.0 | -0.7 | 70.4 | 70.7 | -0.3 | 69.9 | 69.0 | 0.9 | 65.1 | 62.0 | 3.1 | 67.1 | 65.2 | 1.8 |
| | PPT | 1.45 | 2.73 | -1.28 | 2.68 | 3.54 | -0.86 | 2.66 | 3.02 | -0.36 | 3.85 | 3.12 | 0.73 | 1.49 | 2.50 | -1.01 | 12.13 | 14.91 | -2.78 |
| | GDD | 456 | 338 | 118 | 529 | 530 | -1 | 630 | 640 | -10 | 627 | 598 | 29 | 488 | 418 | 70 | 2730 | 2524 | 206 |
| SAGINAW | TEMP | 64.6 | 58.6 | 6.0 | 69.5 | 68.2 | 1.3 | 73.6 | 72.1 | 1.5 | 72.7 | 70.2 | 2.5 | 66.6 | 62.9 | 3.7 | 69.4 | 66.4 | 3.0 |
| | PPT | 1.16 | 2.49 | -1.33 | 1.81 | 3.09 | -1.28 | 1.30 | 2.83 | -1.53 | 1.51 | 3.29 | -1.78 | 1.85 | 2.76 | -0.91 | 7.63 | 14.46 | -6.83 |
| | GDD | 465 | 367 | 98 | 586 | 555 | 31 | 701 | 670 | 31 | 695 | 623 | 72 | 512 | 438 | 74 | 2959 | 2653 | 306 |
| ZONE 3 | | | | | | | | | | | | | | | | | | | |
| HURON | TEMP | 61.3 | 55.2 | 6.1 | 65.4 | 64.9 | 0.5 | 69.5 | 69.3 | 0.2 | 68.3 | 67.8 | 0.5 | 64.9 | 61.0 | 3.9 | 65.9 | 63.6 | 2.2 |
| | PPT | 1.41 | 2.58 | -1.17 | 1.87 | 2.88 | -1.01 | 1.75 | 2.93 | -1.18 | 3.15 | 3.01 | 0.14 | 4.18 | 2.67 | 1.51 | 12.36 | 14.07 | -1.71 |
| | GDD | 391 | 298 | 93 | 500 | 479 | 21 | 609 | 602 | 7 | 622 | 569 | 53 | 498 | 387 | 111 | 2620 | 2335 | 285 |
| MONTCALM | TEMP | 63.5 | 57.7 | 5.8 | 66.4 | 67.1 | -0.7 | 70.9 | 71.0 | -0.1 | 71.0 | 69.3 | 1.7 | 64.7 | 61.6 | 3.1 | 67.3 | 65.3 | 2.0 |
| | PPT | 2.20 | 2.88 | -0.68 | 1.93 | 3.43 | -1.50 | 0.40 | 2.50 | -2.10 | 2.31 | 3.84 | -1.53 | 3.12 | 3.12 | 0.00 | 9.96 | 15.77 | -5.81 |
| | GDD | 452 | 351 | 101 | 529 | 536 | -7 | 642 | 646 | -4 | 658 | 603 | 55 | 480 | 414 | 66 | 2761 | 2550 | 211 |
| MASON | TEMP | 63.5 | 54.4 | 9.1 | 66.1 | 63.6 | 2.5 | 70.5 | 68.5 | 2.0 | 70.7 | 67.2 | 3.5 | 63.6 | 60.2 | 3.4 | 66.9 | 62.8 | 4.1 |
| | PPT | 0.94 | 2.48 | -1.54 | 2.58 | 2.93 | -0.35 | 1.50 | 2.18 | -0.68 | 3.96 | 3.79 | 0.17 | 2.34 | 3.25 | -0.91 | 11.32 | 14.63 | -3.31 |
| | GDD | 468 | 273 | 195 | 519 | 450 | 69 | 636 | 587 | 49 | 649 | 552 | 97 | 446 | 365 | 81 | 2718 | 2227 | 491 |
| ZONE 4 | | | | | | | | | | | | | | | | | | | |
| ALPENA | TEMP | 58.5 | 52.0 | 6.5 | 62.2 | 61.7 | 0.5 | 67.8 | 66.6 | 1.2 | 67.9 | 64.9 | 3.0 | 60.7 | 57.2 | 3.5 | 63.4 | 60.5 | 2.9 |
| | PPT | 2.36 | 2.78 | -0.42 | 2.88 | 3.12 | -0.24 | 1.11 | 3.11 | -2.00 | 2.47 | 3.23 | -0.76 | 2.93 | 3.08 | -0.15 | 11.75 | 15.32 | -3.57 |
| | GDD | 346 | 251 | 95 | 421 | 413 | 8 | 551 | 534 | 17 | 572 | 496 | 76 | 374 | 317 | 57 | 2264 | 2011 | 253 |
| GRAND TRAVERSE | TEMP | 61.8 | 53.5 | 8.3 | 64.6 | 63.7 | 0.9 | 70.2 | 68.8 | 1.4 | 69.6 | 67.3 | 2.3 | 63.8 | 59.3 | 4.5 | 66.0 | 62.5 | 3.5 |
| | PPT | 2.05 | 2.48 | -0.43 | 3.23 | 3.15 | 0.08 | 1.00 | 2.88 | -1.88 | 4.39 | 2.93 | 1.46 | 3.76 | 3.60 | 0.16 | 14.43 | 15.04 | -0.61 |
| | GDD | 392 | 273 | 119 | 470 | 454 | 16 | 629 | 587 | 42 | 630 | 552 | 78 | 432 | 348 | 84 | 2553 | 2214 | 339 |
| DELTA | TEMP | 57.2 | 53.6 | 3.6 | 61.1 | 62.7 | -1.6 | 67.1 | 67.4 | -0.3 | 67.5 | 65.5 | 2.0 | 60.1 | 57.0 | 3.1 | 62.6 | 61.2 | 1.4 |
| | PPT | 2.03 | 3.57 | -1.54 | 3.55 | 3.72 | -0.17 | 1.44 | 3.63 | -2.19 | 2.35 | 3.86 | -1.51 | 2.76 | 3.60 | -0.84 | 12.13 | 18.38 | -6.25 |
| | GDD | 338 | 285 | 53 | 395 | 438 | -43 | 529 | 559 | -30 | 555 | 513 | 42 | 358 | 319 | 39 | 2175 | 2114 | 61 |

TEMP = Temperature (°F)
PPT = Precipitation (inches)
GDD = Growing Degree Days calculated at base 50°, with 50°F and 85°F cutoffs
OBS = Totals observed in 1998
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
(517/355-0231)

# Alpena, Grand Traverse, and Delta County Trials
# One-, two-, three-year averages — 1998, 1997, 1996

| | | ALPENA | | | | | | | | | | | | | | | GRAND TRAVERSE | | | | | DELTA | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | | 3 YEAR AVG (96 - 98) | | | | | 1998 | | | | | 1998 | | | | | 2 YEAR AVG (97 / 98) | | | | |
| BRAND | HYBRID VARIETY | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD | % H2O | BU/A | TEST WT | % SL | % STD |
| BAYSIDE | Super 75 | 25 | 116 | 56 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *74 | 52 | 0 | 100 | 24 | *156 | 54 | 2 | 99 | -- | -- | -- | -- | -- |
| BROWN | BR1680 | 27 | 127 | 52 | 0 | 100 | 28 | 124 | 50 | 0 | 100 | -- | -- | -- | -- | -- | 28 | *77 | 51 | 0 | 86 | 26 | *167 | 50 | 2 | 100 | 26 | 126 | 48 | 2 | 100 |
| CARGILL | 1877 | 24 | 120 | 58 | 1 | 99 | 26 | 121 | 55 | 1 | 99 | 25 | 124 | 55 | 4 | 99 | 25 | 68 | 55 | 1 | 99 | 23 | *159 | 57 | 0 | 97 | 25 | 128 | 54 | 2 | 98 |
| COUNTRYMARK COOP | 3858 | 33 | 110 | 51 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Silage only | | | | | | | | | |
| COUNTRYMARK COOP | 3969 | 37 | 109 | 53 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 33 | 69 | 49 | 1 | 100 | Silage only | | | | | | | | | |
| DAIRYLAND | STEALTH-1496 | 31 | 130 | 52 | 0 | 100 | 33 | 122 | 49 | 1 | 94 | -- | -- | -- | -- | -- | 27 | 66 | 50 | 0 | 97 | Silage only | | | | | | | | | |
| DEKALB | DK355 | 27 | 105 | 54 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | 60 | 51 | 1 | 100 | 24 | *165 | 52 | 2 | 99 | -- | -- | -- | -- | -- |
| DEKALB | DK365 | 26 | 128 | 55 | 2 | 100 | 28 | 123 | 51 | 2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *157 | 52 | 7 | 100 | 27 | 135 | 48 | 6 | 100 |
| DEKALB | DK385B | 28 | *135 | 56 | 1 | 100 | 29 | 128 | 52 | 1 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | *161 | 53 | 2 | 100 | 28 | 136 | 50 | 3 | 100 |
| DEKALB | DK405 | 27 | **150 | 53 | 2 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 31 | *88 | 49 | 0 | 97 | 26 | *168 | 49 | 3 | 97 | -- | -- | -- | -- | -- |
| DEKALB | DK417 | 27 | 122 | 54 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 27 | *77 | 52 | 1 | 100 | Silage only | | | | | | | | | |
| DEKALB | DK440 | 31 | *147 | 52 | 0 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 32 | *88 | 52 | 1 | 100 | Silage only | | | | | | | | | |
| GREAT LAKES | 3362 | 29 | 111 | 51 | 1 | 100 | 29 | 107 | 48 | 1 | 100 | 28 | 122 | 48 | 3 | 99 | 29 | 44 | 49 | 1 | 100 | 26 | 149 | 49 | 3 | 99 | 27 | 118 | 46 | 5 | 98 |
| GREAT LAKES | 3807 | 25 | 120 | 56 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24 | *83 | 53 | 0 | 100 | 24 | *161 | 55 | 2 | 101 | -- | -- | -- | -- | -- |
| GREAT LAKES | 4526 | 33 | 122 | 51 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 31 | 48 | 50 | 1 | 100 | Silage only | | | | | | | | | |
| GREAT LAKES | 4758 | 34 | 133 | 54 | 2 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 32 | **97 | 51 | 1 | 94 | Silage only | | | | | | | | | |
| JUNG | 2232 | 29 | 111 | 53 | 0 | 100 | 29 | 107 | 50 | 3 | 100 | 27 | 114 | 50 | 5 | 100 | 25 | *78 | 52 | 1 | 100 | 25 | *164 | 52 | 5 | 99 | 25 | 134 | 49 | 8 | 99 |
| JUNG | 2285 | 29 | 108 | 53 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | *94 | 51 | 3 | 100 | 25 | *156 | 53 | 4 | 101 | -- | -- | -- | -- | -- |
| LG SEEDS | LG2367 | 30 | 115 | 55 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 30 | *72 | 52 | 1 | 100 | 27 | *168 | 54 | 7 | 100 | -- | -- | -- | -- | -- |
| LG SEEDS | LG2408 | 31 | 109 | 51 | 1 | 100 | 34 | 106 | 47 | 1 | 99 | -- | -- | -- | -- | -- | 33 | 33 | 48 | 1 | 100 | 29 | 147 | 48 | 4 | 99 | 35 | 118 | 45 | 4 | 100 |
| MYCOGEN | 2110 | 24 | 114 | 58 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 40 | 54 | 1 | 100 | 23 | *160 | 58 | 2 | 99 | -- | -- | -- | -- | -- |
| MYCOGEN | 2250 | 29 | 125 | 55 | 1 | 100 | 31 | 119 | 51 | 2 | 100 | 30 | 129 | 50 | 3 | 100 | -- | -- | -- | -- | -- | 25 | **169 | 54 | 4 | 99 | 27 | 134 | 50 | 9 | 100 |
| PIONEER | 38W36 | 30 | 128 | 53 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 30 | 65 | 51 | 1 | 99 | Silage only | | | | | | | | | |
| PIONEER | 38D66 | 27 | 130 | 52 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 29 | *96 | 51 | 0 | 100 | Silage only | | | | | | | | | |
| RENK | RK221 | 26 | 117 | 55 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *74 | 53 | 2 | 100 | 25 | 148 | 54 | 5 | 99 | -- | -- | -- | -- | -- |
| RENK | RK272 | 26 | 117 | 52 | 0 | 100 | 28 | 112 | 49 | 1 | 97 | -- | -- | -- | -- | -- | 24 | *81 | 51 | 1 | 100 | 25 | *155 | 51 | 2 | 99 | 26 | 127 | 47 | 3 | 99 |
| RENK | RK277 | 26 | *136 | 55 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25 | *96 | 53 | 1 | 100 | 24 | *162 | 53 | 6 | 101 | -- | -- | -- | -- | -- |
| RENK | RK366 | 30 | 111 | 51 | 1 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 31 | 65 | 49 | 0 | 100 | 27 | *165 | 49 | 4 | 99 | -- | -- | -- | -- | -- |
| RENK | RK376 | 30 | 102 | 50 | 0 | 100 | 31 | 105 | 48 | 2 | 99 | -- | -- | -- | -- | -- | 32 | 57 | 47 | 3 | 100 | 27 | *164 | 48 | 2 | 100 | 29 | 134 | 46 | 5 | 100 |
| TERRA | E858 | 30 | 109 | 54 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 139 | 52 | 5 | 100 | -- | -- | -- | -- | -- |
| TERRA | TR906 | 31 | 112 | 51 | 1 | 100 | 30 | 111 | 48 | 2 | 98 | 28 | 117 | 48 | 5 | 95 | 30 | 65 | 50 | 1 | 99 | 25 | *160 | 50 | 5 | 100 | 27 | 134 | 46 | 4 | 99 |
| TRELAY | 1003 | 26 | 120 | 54 | 1 | 100 | 28 | 117 | 51 | 2 | 98 | -- | -- | -- | -- | -- | 24 | 71 | 51 | 1 | 99 | 24 | *155 | 53 | 5 | 99 | 25 | 135 | 49 | 8 | 100 |
| TRELAY | 1007 | 26 | 127 | 54 | 2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | *95 | 52 | 0 | 100 | 24 | *166 | 52 | 3 | 100 | -- | -- | -- | -- | -- |
| TRELAY | 2006 | 32 | 110 | 51 | 0 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 28 | 67 | 49 | 1 | 100 | 26 | *161 | 50 | 5 | 86 | -- | -- | -- | -- | -- |
| AVERAGE | | 29 | 120 | 53 | 1 | 100 | 30 | 115 | 50 | 1 | 98 | 28 | 121 | 50 | 4 | 99 | 28 | 80 | 51 | 1 | 99 | 25 | 159 | 52 | 4 | 99 | 27 | 130 | 48 | 5 | 99 |
| HIGHEST | | 37 | 150 | 58 | 2 | 100 | 34 | 128 | 55 | 3 | 100 | 30 | 129 | 55 | 5 | 100 | 33 | 97 | 55 | 3 | 100 | 29 | 169 | 58 | 7 | 100 | 35 | 136 | 54 | 9 | 100 |
| LOWEST | | 24 | 102 | 50 | 0 | 99 | 26 | 105 | 47 | 0 | 94 | 25 | 114 | 48 | 3 | 95 | 24 | 33 | 47 | 0 | 86 | 23 | 139 | 48 | 0 | 86 | 25 | 118 | 45 | 2 | 98 |
| LSD | | 2 | 15 | 1 | | | | | | | | | | | | | 3 | 25 | 2 | | | 1 | 16 | 1 | | | | | | | |
| CV .05% | | 4 | 9 | 1 | | | | | | | | | | | | | 7 | 21 | 2 | | | 4 | 7 | 2 | | | | | | | |

** HIGHEST YIELDING HYBRID IN 1998

* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

## TABLE B AGRONOMIC TABLE - GRAIN TRIALS

| COUNTY | PLANTING/ HARVEST DATES | SOIL TYPE | PREVIOUS CROP | PLANTING RATE/ AVG. STAND | FERTILIZER | SOIL TEST | FARM COOPERATOR | LOCATION |
|---|---|---|---|---|---|---|---|---|
| MONROE - **Zone 1** | May 19<br>Oct. 29 | Selfridge Pewamo Complex | Soybeans | 28,512<br>26,687 | 218-70-120 | pH 6.7<br>P 81, K 324 | Gary Kreps | Temperance |
| BRANCH | May 7<br>Oct. 6 | Oshtemo Sandy Loam | Corn | 30,096<br>29,614 | 191-0-0 | pH 6.1<br>P 196, K 545 | Remus Riggs | Coldwater |
| CASS | April 28<br>Oct. 9 | Kalamazoo Loam | Corn | 30,096<br>29,524 | 179-44-139<br>+Zinc Mg | pH 6.6<br>P 175, K 352 | Dave & Mel Cripe | Cassopolis |
| KENT - **Zone 2** | May 8<br>Oct. 8 | Thetfod & Spinks Loamy Sand | Alfalfa | 28,512<br>27,543 | 115-42-42 | pH 6.5<br>P 98, K 376 | Gerald Kayser | Caledonia |
| INGHAM | April 30<br>Oct. 2 | Capac Loam | Soybeans | 28,512<br>27,001 | 213-46-0 | pH 6.5<br>P 74, K 319 | Joregensen Farms | Williamston |
| SAGINAW | April 29<br>Sept. 29 | Mistequay Silty Clay | Dry Beans | 30,096<br>29,539 | 170-0-0 | pH 8.0<br>P 61, K 460 | Saginaw Bean & Beet Research Farm | Saginaw |
| HURON - **Zone 3** | May 13<br>Oct. 27 | Kilmanagh Loam | Soybeans | 26,928<br>22,646 | 179-57-60 | pH 6.5<br>P 75, K 248 | Wil-Le Farms<br>William, Ron & Ed McCrea | Bad Axe |
| MONTCALM | May 15<br>Oct. 24 | McBride & Isabella Sandy Loam | Soybeans | 28,512<br>28,099 | 165-38-38 | pH 6.4<br>P 295, K 286 | Thorlund Brother Farms | Greenville |
| MASON | May 6<br>Oct. 14 | Ogemaw Sandy Loam | Corn | 26,928<br>25,460 | 146-0-0 | pH 6.7<br>P 196, K 376 | Robert & August Oshe | Scottville |
| ALPENA - **Zone 4** | May 12<br>Oct. 15 | Selkirk Loam | Dry Beans | 26,928<br>26,901 | 132-48-48 | pH 6.4<br>P 182, K 281 | Allen Schiellard | Hubbard Lake |
| GRAND TRAVERSE | May 6<br>Oct. 14 | Karlin Sandy Loam | Alfalfa/Sod | 26,136<br>25,875 | 93-65-185 | pH 6.5<br>P 76, K 42 | Richard Dennett | Buckley |
| DELTA | May 5<br>Oct. 15 | Onaway Fine Sandy Loam | Alfalfa | 26,136<br>26,796 | 51-51-51<br>9,000 Gal. Liq. Manure | pH 7.3<br>P 185, K 400 | Benny Herioux | Bark River |

## 1998 GROWING SEASON...*Continued from page 8*

deficits were the most acute since the summer of 1988. Rainfall totals during July were less than one inch in many central and northern areas of the state, and were in some cases the lowest July totals since 1936. By early August, Palmer Drought Severity Index (PDSI) values, which are based on the principles of long-term balance between moisture supply and demand and indicate the severity of a wet or dry spell, fell below -3.0 in central and northern sections of the state for the first time since the summer of 1988 (A PSDI value of -2.0 is considered 'moderate drought' and a value of -3.0 or lower is considered 'severe drought'). On a regional scale, the drought conditions were most intense across central and northern sections of Michigan, northern Minnesota and Wisconsin, and southern Ontario. Ironically, wetter than normal conditions were common in areas as close as the southern two tiers of counties in lower Michigan, northern Indiana and central Illinois, where crop performance was reported as average or better than average.

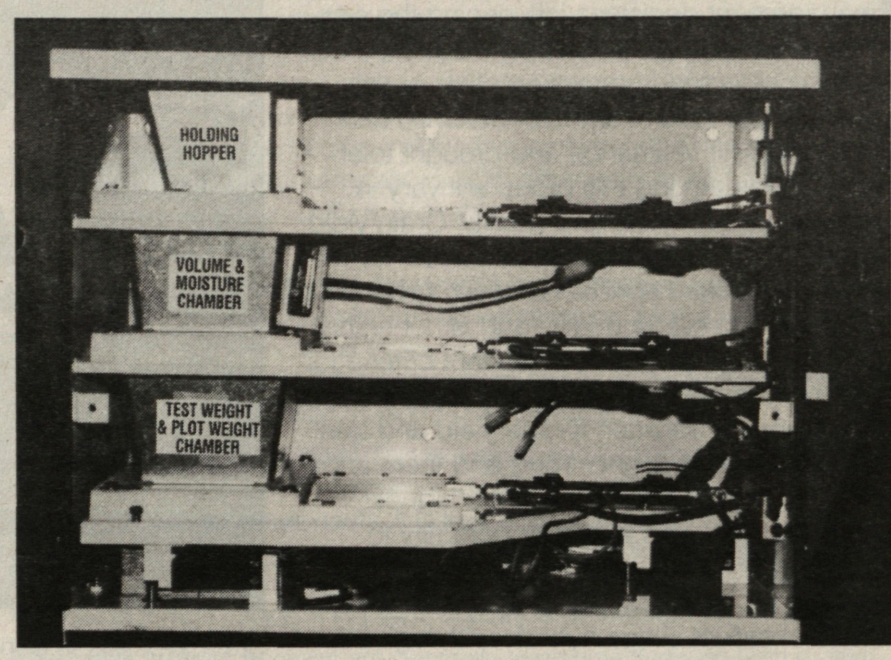
Similar to the spring, warmer and drier than normal weather dominated the fall season, accelerating fall drydown and leading to an early finish of harvesting operations for many growers. Given the earlier drought conditions and the mild, dry fall weather, drying costs in most production areas of the state were expected to remain well below normal. Finally, the persistent nature of the mild weather during 1998 (January-December) was extremely unusual from a climatological point of view. For most locations in the state, the abnormal warmth during the winter, spring, and fall/early winter seasons will put it in the record books as either the mildest or one of the mildest on record.

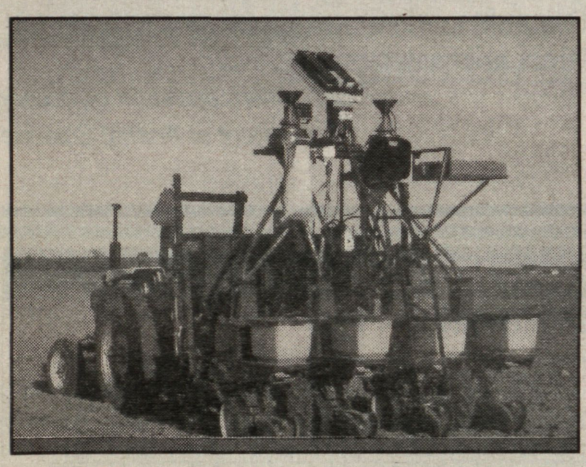
## PLOTS REQUIRE SPECIALIZED EQUIPMENT

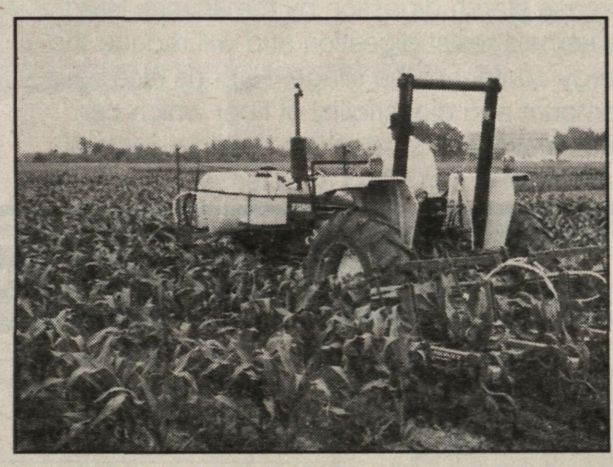
From planting through harvest, specialized equipment is needed to conduct variety trials around the state. Up to 140 hybrids are tested at a location. The plot planter allows for planting of individual seed packets of each hybrid and divides the seed equally into four rows. Plots are 22-feet long with a 3-foot alley between plots.

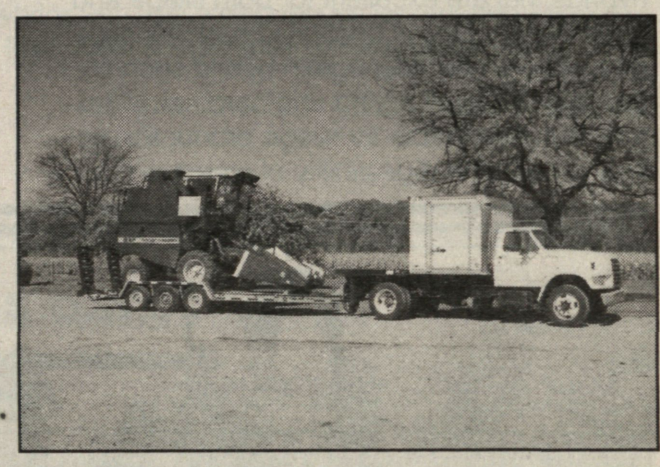
A mounted sprayer and an adjustable 4-row cultivator make it possible to care for the plots at the different locations. Weed control and side dressing are both possible with one machine.

Grain harvesting is done with a 2-row combine designed for plot harvest. All data are measured by the GrainGage™ system pictured here. The grain cycles through the system via pneumatically-controlled gates at the base of each chamber. The first chamber determines the volume for each cycle taken (size of the plot determines the number of cycles per plot), the second chamber determines moisture while the third chamber measures weight. At the end of each plot, all cycles are averaged for moisture and test weight, and plot weights are totaled. These data are then stored in the memory of the HarvestMaster Data System.™ This complete system allows for one person to handle the harvesting operations.





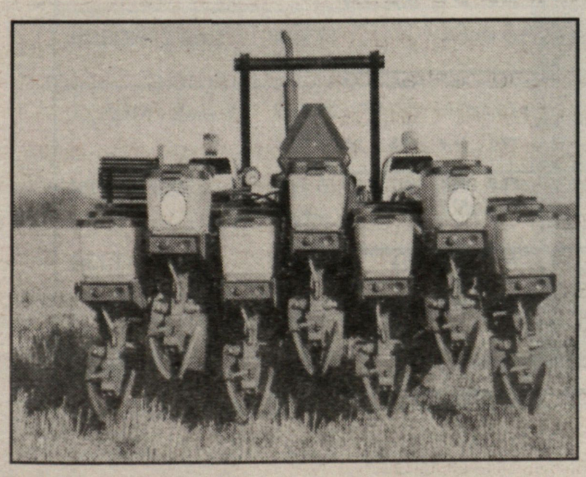


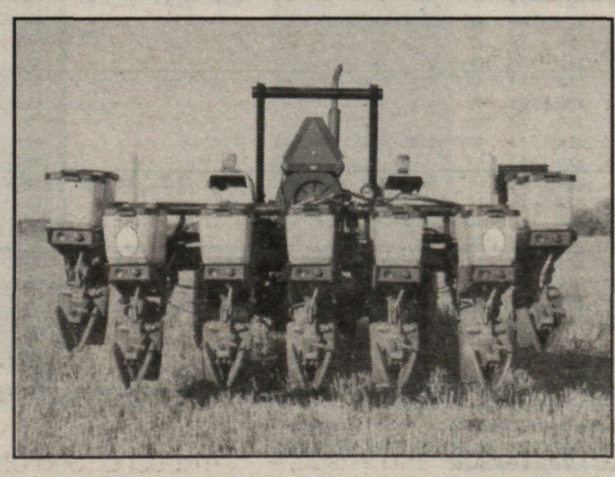
## Narrow Row Corn Trials...*Continued from page 3*

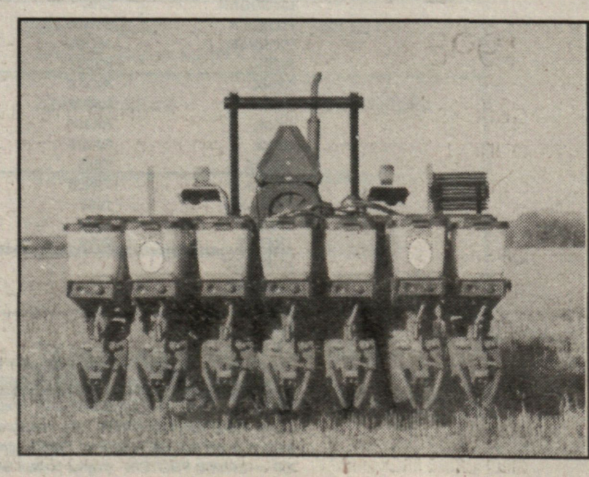
30" Row Configuration

22" Row Configuration

15" Row Configuration







# A Nutritionist's Perspective

Hybrid selection is one of the most important management decisions influencing the economics of corn silage production. Hybrids should be selected from a group that is well adapted to the area in terms of maturity, disease and insect resistance and drought tolerance. Hybrids among this group will vary in grain yield, forage yield and quality. Grain yield has been the most widely used criterion for selection of silage hybrids. However, grain yield is not related to silage quality and is not highly related to forage yield, two important criteria for silage hybrids. Although there is a slight negative relationship between forage yield and quality, the relationship is not strong and there is variation in quality even among the highest yielding hybrids. This allows opportunity to select for high quality with little reduction in yield.

While excellent silage hybrids with high forage yield and high quality exist, dual purpose hybrids that are excellent for both silage and grain do not. This is because characteristics that make an excellent grain hybrid such as fast rate of kernel drying and hard kernel texture are undesirable for silage production as they reduce the digestibility of starch in the grain. Kernels in corn silage should have high moisture and be of soft kernel texture to increase starch digestion by the animal. Hard, dry kernels resist digestion and will reduce the energy content of the silage. Hybrids also vary in amount and digestibility of fiber which can affect intake and production. Varying levels of crude protein can affect supplementation costs.


## SPECIFIC RECOMMENDATIONS

Any hybrid selected for silage should be among the top 50 percent in forage yield. The hybrid should have a slow to medium rate of kernel drying so the kernel will not be too dry when the whole plant is dry enough to ensile. This is particularly important for upright silos that require drier silage to reduce seepage. The kernel should have soft texture so that it is easily fractured during chopping and chewing. Additional recommendations vary by animal type and level of performance. Hybrids with high digestibility due to highly digestible NDF should be selected for high producing dairy cattle in early lactation. Hybrids with low NDF and high crude protein should be selected for growing animals consuming high corn silage diets to increase dry matter intake and reduce protein supplementation costs. As research becomes available, hybrid selection indexes will be able to more accurately rank hybrids for different animal types.

*M.S. Allen, assistant professor*
*Department of Animal Science*

**Table 7 — Northern Michigan**

**Alger County Silage – 1998**

| HYBRID BRAND | VARIETY | SILAGE YIELD % DryM | Tons Gwt/A | Tons Dwt/A | % STD | IN-VITRO QUALITY ANALYSIS % DMD | % FD | % NDF | % CP |
|---|---|---|---|---|---|---|---|---|---|
| CARGILL | XB227 | 27.1 | 16.0 | 4.3 | 98 | 89.0 | 74.6 | 43.5 | 7.4 |
| CARGILL | 1527 | 35.0 | 12.9 | 4.5 | 100 | 85.3 | 64.4 | 41.3 | 7.9 |
| CARGILL | 1877 | 31.0 | 16.0 | *5.0 | 100 | 85.8 | 64.0 | 39.3 | 7.5 |
| CARGILL | FQ2411 | 31.0 | 16.3 | *5.0 | 100 | 84.1 | 63.7 | 40.5 | 6.9 |
| NOVARTIS | MAX40 | 32.5 | 13.9 | 4.5 | 98 | 86.9 | 66.0 | 38.6 | 7.3 |
| NOVARTIS | N15-B4 | 31.3 | 16.2 | **5.1 | 99 | 83.1 | 60.9 | 43.6 | 6.6 |
| PIONEER | 3893 | 31.0 | 13.6 | 4.2 | 100 | 83.9 | 62.9 | 43.3 | 7.1 |
| PIONEER | 3941 | 32.7 | 14.1 | *4.6 | 98 | 86.3 | 65.2 | 39.5 | 7.6 |
| PIONEER | 39K72 | 37.7 | 10.1 | 3.8 | 95 | 84.5 | 62.5 | 41.4 | 8.1 |
| WOLF RIVER VALLEY | 9373 | 35.6 | 11.0 | 3.9 | 89 | 84.0 | 58.0 | 38.1 | 7.4 |
| AVERAGE | | 32.5 | 14.0 | 4.5 | 98 | 85.3 | 64.2 | 40.9 | 7.4 |
| HIGHEST | | 37.7 | 16.3 | 5.1 | 100 | 89.0 | 74.6 | 43.6 | 8.1 |
| LOWEST | | 27.1 | 10.1 | 3.8 | 95 | 83.1 | 58.0 | 38.1 | 6.9 |
| LSD | | 2.3 | 1.7 | 0.5 | | 2.1 | 3.7 | 0.5 | 0.5 |
| CV .05% | | 4.9 | 8.2 | 8.4 | | 1.1 | 2.5 | 0.6 | 3.2 |

**HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE
*DRY WEIGHT NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

**Table 4B — NORTHERN MICHIGAN — ZONE 4**

## Average of Delta County Silage Trials
## One-, two-, three-year averages — 1998, 1997, 1996

| HYBRID BRAND | VARIETY | SILAGE YIELD 1998 % DryM | Tons Gwt/A | Tons Dwt/A | % STD | 2 YEAR AVG (97 / 98) % DryM | Tons Gwt/A | Tons Dwt/A | % STD | 3 YEAR AVG (96 - 98) % DryM | Tons Gwt/A | Tons Dwt/A | % STD | IN-VITRO QUALITY ANALYSIS 1998 % DMD | % FD | % NDF | % CP | 2 YEAR AVG (97 / 98) % DMD | % FD | % NDF | % CP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BAYSIDE | Super 75 | 32.4 | 24.2 | *7.7 | 100 | – | – | – | – | – | – | – | – | 78.7 | 49.6 | 42.5 | 8.0 | – | – | – | – |
| BROWN | BR1680 | 33.2 | 23.6 | *7.8 | 100 | 32.2 | 19.8 | 6.4 | 100 | – | – | – | – | 82.6 | 53.7 | 37.5 | 8.1 | 79.5 | 50.2 | 40.8 | 8.3 |
| CARGILL | 1877 | 29.7 | 21.6 | 6.4 | 99 | 28.9 | 21.1 | 6.1 | 99 | 29.5 | 19.8 | 5.8 | 95 | 81.4 | 52.5 | 39.3 | 8.5 | 80.0 | 50.2 | 40.2 | 8.5 |
| COUNTRYMARK COOP | 3858 | 32.4 | 22.9 | 7.5 | 99 | – | – | – | – | – | – | – | – | 81.5 | 54.4 | 40.5 | 9.4 | – | – | – | – |
| COUNTRYMARK COOP | 3969 | 33.0 | 22.8 | 7.6 | 100 | – | – | – | – | – | – | – | – | 81.9 | 56.0 | 41.0 | 8.0 | – | – | – | – |
| DAIRYLAND | STEALTH-1496 | 29.8 | 23.1 | 6.8 | 99 | 28.7 | 24.1 | 6.9 | 99 | – | – | – | – | 80.4 | 54.3 | 42.9 | 8.9 | 77.4 | 50.8 | 45.7 | 8.6 |
| DEKALB | DK355 | 32.0 | 25.1 | *7.9 | 100 | – | – | – | – | – | – | – | – | 82.6 | 60.1 | 43.5 | 7.9 | – | – | – | – |
| DEKALB | DK365 | 31.0 | 25.1 | *7.7 | 98 | 29.6 | 23.2 | 6.9 | 99 | – | – | – | – | 81.8 | 54.6 | 39.8 | 7.6 | 79.0 | 50.2 | 41.9 | 7.3 |
| DEKALB | DK385B | 31.2 | 25.0 | *7.7 | 99 | 29.8 | 23.1 | 6.8 | 97 | – | – | – | – | 81.2 | 51.7 | 39.4 | 8.2 | 78.5 | 48.0 | 41.4 | 8.0 |
| DEKALB | DK405 | 30.3 | 23.7 | 7.2 | 94 | – | – | – | – | – | – | – | – | 82.1 | 58.7 | 43.4 | 8.7 | – | – | – | – |
| DEKALB | DK417 | 33.8 | 25.1 | *8.3 | 94 | – | – | – | – | – | – | – | – | 86.6 | 67.7 | 41.3 | 7.9 | – | – | – | – |
| DEKALB | DK440 | 32.3 | 23.7 | *7.7 | 98 | – | – | – | – | – | – | – | – | 78.1 | 51.2 | 44.4 | 7.3 | – | – | – | – |
| GREAT LAKES | 3362 | 33.1 | 25.3 | *8.3 | 100 | 31.5 | 22.5 | 7.1 | 100 | 32.0 | 20.6 | 6.5 | 94 | 83.4 | 57.8 | 39.2 | 8.8 | 79.2 | 52.1 | 43.1 | 8.5 |
| GREAT LAKES | 3807 | 32.3 | 24.1 | *7.8 | 98 | – | – | – | – | – | – | – | – | 82.5 | 57.6 | 41.3 | 7.8 | – | – | – | – |
| GREAT LAKES | 4526 | 30.5 | 25.7 | *7.8 | 100 | – | – | – | – | – | – | – | – | 81.9 | 52.5 | 37.4 | 7.9 | – | – | – | – |
| GREAT LAKES | 4758 | 31.5 | 23.3 | 7.3 | 98 | – | – | – | – | – | – | – | – | 80.5 | 51.8 | 39.8 | 7.3 | – | – | – | – |
| JUNG | 2232 | 33.3 | 21.4 | 7.0 | 100 | 32.5 | 20.6 | 6.6 | 100 | 32.6 | 19.1 | 6.1 | 97 | 82.9 | 57.5 | 40.1 | 7.7 | 79.0 | 51.9 | 43.3 | 7.6 |
| JUNG | 2285 | 28.0 | 28.6 | *8.0 | 100 | – | – | – | – | – | – | – | – | 79.1 | 51.0 | 43.1 | 7.4 | – | – | – | – |
| LG SEEDS | LG2367 | 30.3 | 24.2 | 7.2 | 100 | – | – | – | – | – | – | – | – | 84.2 | 59.5 | 38.6 | 8.9 | – | – | – | – |
| LG SEEDS | LG2408 | 34.7 | 20.4 | 7.1 | 100 | 29.4 | 23.9 | 6.8 | 100 | – | – | – | – | 84.2 | 56.7 | 36.4 | 7.7 | 80.1 | 52.5 | 41.6 | 8.2 |
| MYCOGEN | 2110 | 33.2 | 25.7 | *8.4 | 100 | – | – | – | – | – | – | – | – | 83.9 | 62.5 | 42.5 | 7.3 | – | – | – | – |
| MYCOGEN | 2250 | 30.5 | 26.1 | *7.9 | 96 | 29.8 | 22.7 | 6.7 | 98 | 30.7 | 20.6 | 6.3 | 97 | 75.1 | 47.1 | 47.0 | 7.2 | 75.8 | 47.3 | 45.6 | 7.7 |
| PIONEER | 38W36 | 29.0 | 27.5 | *7.9 | 95 | – | – | – | – | – | – | – | – | 81.1 | 54.7 | 41.0 | 8.3 | – | – | – | – |
| PIONEER | 38D66 | 33.0 | 23.8 | *7.8 | 97 | – | – | – | – | – | – | – | – | 81.4 | 53.2 | 39.3 | 8.4 | – | – | – | – |
| RENK | RK221 | 32.7 | 23.8 | 7.6 | 100 | – | – | – | – | – | – | – | – | 83.4 | 56.2 | 37.5 | 9.0 | – | – | – | – |
| RENK | RK272 | 30.7 | 23.9 | 7.3 | 98 | 31.1 | 21.6 | 6.7 | 99 | – | – | – | – | 80.6 | 51.2 | 40.3 | 7.6 | 77.6 | 48.7 | 43.8 | 7.7 |
| RENK | RK277 | 34.0 | 25.9 | **8.8 | 100 | – | – | – | – | – | – | – | – | 81.6 | 56.1 | 41.5 | 7.7 | – | – | – | – |
| RENK | RK366 | 28.8 | 26.3 | 7.5 | 100 | – | – | – | – | – | – | – | – | 78.3 | 51.1 | 45.0 | 8.6 | – | – | – | – |
| RENK | RK376 | 32.8 | 23.4 | 7.6 | 99 | 30.2 | 21.5 | 6.6 | 99 | – | – | – | – | 82.8 | 58.0 | 40.6 | 8.4 | 79.6 | 51.9 | 41.8 | 8.3 |
| TERRA | E858 | 32.3 | 27.0 | *8.7 | 97 | – | – | – | – | – | – | – | – | 83.2 | 55.6 | 37.9 | 8.5 | – | – | – | – |
| TERRA | TR906 | 30.1 | 25.0 | 7.5 | 96 | 30.0 | 23.2 | 7.0 | 98 | 30.4 | 20.9 | 6.3 | 93 | 82.4 | 52.9 | 37.6 | 8.1 | 78.6 | 49.6 | 41.7 | 8.1 |
| TRELAY | 1003 | 31.0 | 23.8 | 7.4 | 96 | 31.8 | 22.5 | 7.1 | 97 | – | – | – | – | 79.1 | 51.3 | 42.8 | 8.4 | 76.6 | 49.0 | 45.7 | 8.1 |
| TRELAY | 1007 | 33.6 | 24.6 | *8.2 | 98 | – | – | – | – | – | – | – | – | 83.2 | 55.2 | 37.6 | 8.1 | – | – | – | – |
| TRELAY | 2006 | 31.3 | 23.7 | 7.4 | 100 | – | – | – | – | – | – | – | – | 81.1 | 52.2 | 39.9 | 8.3 | – | – | – | – |
| AVERAGE | | 31.7 | 24.4 | 7.7 | 98 | 30.4 | 22.3 | 6.8 | 99 | 31.0 | 20.2 | 6.2 | 95 | 81.7 | 55.0 | 40.6 | 8.1 | 78.5 | 50.2 | 42.8 | 8.1 |
| HIGHEST | | 34.7 | 28.6 | 8.8 | 100 | 32.5 | 24.1 | 7.1 | 100 | 32.6 | 20.6 | 6.5 | 97 | 86.6 | 67.7 | 47.0 | 9.4 | 80.1 | 52.5 | 45.7 | 8.5 |
| LOWEST | | 28.0 | 20.4 | 6.4 | 94 | 28.7 | 19.8 | 6.1 | 97 | 29.5 | 19.1 | 5.8 | 93 | 75.1 | 47.1 | 36.4 | 7.2 | 75.2 | 47.3 | 40.2 | 7.3 |
| LSD | | 3.5 | 4.0 | 1.1 | | | | | | | | | | 2.5 | 6.0 | 0.7 | 0.3 | | | | |
| CV .05% | | 7.6 | 11.1 | 9.8 | | | | | | | | | | 1.5 | 6.8 | 0.9 | 1.9 | | | | |

** HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE
* DRY WEIGHT NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

DMD = DRY MATTER DIGESTIBILITY (higher percentage means greater energy content)
FD = FIBER DIGESTIBILITY (the measure of the degree of fermentation 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)

# RELIABLE SILAGE QUALITY ESTIMATES ARE NOW POSSIBLE

Seven locations containing 10 silage tests were harvested.

Table 8 contains a list of all hybrids planted in the 1998 silage trials. The 10 silage tests included 101 hybrids from 26 seed companies comprising 228 entries. Company names used in association with hybrid numbers refer to their brands. The numbers are the companies' designations.

***Methods***

Testing procedures (randomization, replication, planting rates, etc.) for silage evaluation are the same as used in the grain trials except for the use of 2-row plots. Silage tables are arranged by company order.

Chopped silage (fodder plus grain) samples are weighed. A representative sample is collected for use in determining moisture content. Percent dry matter for estimating silage yield is based on an air-dried sample. A second sample is collected and ensiled in a PVC mini silo to ferment for 30 days. It is then opened, air-dried and finely ground for further evaluation by means of in-vitro silage digestibility analysis* conducted by the Department of Animal Science.

Trials conducted in Ionia, 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 1998 (Table 6).

The Delta County silage trial (Table 4B) contains the same entries as the Zone 4 grain trials (Table 4A). Table 4B contains one-, two- and three-year yield data while the analyses for digestibility started in 1997 contain one- and two-year data. Alger County started a silage trial in 1998 and has one year data for yield and digestibility (Table 7).

The results from the 1998 silage digestibility trials are presented in the adjoining tables.

*All analyses were determined by wet-chemical methods.

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 differences 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 rumen 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 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 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.

## HARVESTING AND HANDLING SILAGE DATA

Silage plots are harvested with a single row, side-mounted forage chopper. Plot weights are measured by electronic scales mounted on the tractor and chopper. After weighed samples are dumped, subsamples are collected for use in determining percent dry matter and quality analysis.

Samples for dry matter are weighed, air dried till weight loss is zero, then weighed again to determine the percent dry matter. Multiple replications of the quality samples are then combined and dried. At this point, samples are finely ground for analysis.

## IN-VITRO SILAGE ANALYSIS

In-vitro analysis is an in-the-laboratory (literally "in glass") system to estimate the actual nutrient content of a silage sample. A few of the steps are illustrated by a series of pictures.

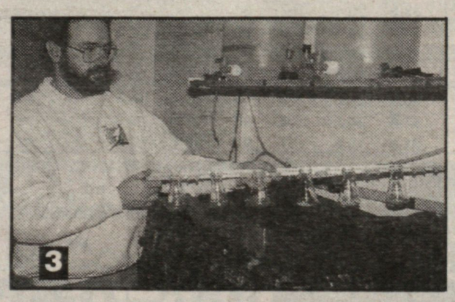
**1** A sample of the rumen contents of a cow is removed, blended, and filtered to remove fiber.

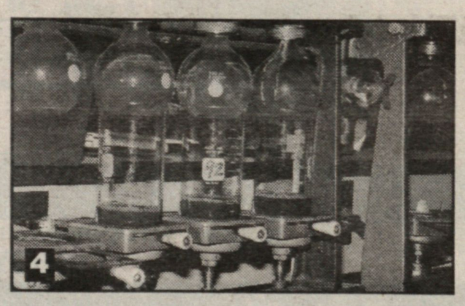
**2** Measured amounts of rumen fluid and media are added to weighed amounts of the ground silage sample (flasks 1 & 2).

**3** This media and silage is incubated in a heated water bath at 40°C for 30 hours. In this step, the microbes from the rumen sample attack the ground silage sample in a process similar to the digestive processes of the ruminant animal. Following this digestion step, the undigested materials can be separated and measured.

**4** Other evaluation procedures estimate the protein and fiber content of the silage. Here the samples are shown on a fiber reflux condenser. Samples are boiled for an hour in detergent solutions and filtered to determine fiber.






## TABLE C AGRONOMIC TABLE - SILAGE TRIALS

| COUNTY | PLANTING/ HARVEST DATES | SOIL TYPE | PREVIOUS CROP | PLANTING RATE/ AVG. STAND | FERTILIZER | SOIL TEST | FARM COOPERATOR | LOCATION |
|---|---|---|---|---|---|---|---|---|
| IONIA - **Zone 2** | May 7<br>Sept. 1, 8 | Miami Clay Loam | Soybeans | 30,096<br>29,675 | 151-15-51 | pH 6.8<br>P 172, K 352 | Clarksville Hort. Res. Stn.<br>Michigan State University | Clarksville |
| INGHAM | May 7<br>Aug 27, Sept 3 | Capac Loam | Soybeans | 30,096<br>29,780 | 175-51-51 | pH 5.9<br>P 52 , K 79 | Crop & Soil Scs. Res. Fac.<br>Michigan State University | East Lansing |
| HURON - **Zone 3** | May 13<br>Sept. 5, 21 | Kilmanagh Loam | Soybeans | 26,928<br>24,222 | 179-57-60 | pH 6.5<br>P 75 , K 248 | Wil-Le Farms<br>William, Ron & Ed McCrea | Bad Axe |
| ALPENA - **Zone 4** | May 12<br>Sept 11 | Selkirk Loam | Dry Beans | 26,928<br>26,874 | 132-48-48 | pH 6.4<br>P 182, K 281 | Allen Schiellard | Hubbard Lake |
| MISSAUKEE | May 6<br>Sept 2 | East Lake<br>Rubicon Sands | Corn | 28,512<br>26,887 | 175-50-50 | pH 6.7<br>P 356, K 570 | Ken Dezeeuw | McBain |
| DELTA | May 5<br>Sept. 10 | Onaway Fine Sandy Loam | Alfalfa | 26,136<br>25,718 | 51-51-51<br>9,000 Gal.<br>Liq. Manure | pH 7.3<br>P 185, K 400 | Benny Herioux | Bark River |
| ALGER | May 5<br>Sept. 10 | Chatham Stoney Loam | Barley | 25,340<br>24,860 | 65-19-19 | N/A | UP Experiment Station<br>Michigan State University | Chatham |

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

## Average of Ionia, Ingham & Huron County EARLY Silage Trials
## One-, two-, three-year averages — 1998, 1997, 1996

EARLY TRIAL (103 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | 2 YEAR AVG (97 / 98) | | | | 3 YEAR AVG (96 - 98) | | | | IONIA | | | | INGHAM | | | | HURON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD |
| AGRIPRO | AP9272 | 33.4 | 17.7 | 5.9 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 34.5 | 15.3 | 5.3 | 100 | 34.9 | 18.9 | 6.6 | 100 | 30.7 | 19.0 | *5.9 | 99 |
| ASGROW | RX490 | 32.4 | 19.4 | *6.3 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | 33.4 | 17.1 | *5.7 | 94 | 34.0 | 21.0 | 7.1 | 100 | 29.9 | 20.2 | *6.0 | 94 |
| BALDRIDGE | BH510 | 27.6 | 18.7 | 5.1 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 27.7 | 16.8 | 4.7 | 100 | 30.0 | 19.9 | 5.9 | 100 | 25.1 | 19.3 | 4.8 | 98 |
| BAYSIDE | Super 88 | 34.1 | 16.3 | 5.6 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | 33.7 | 14.8 | 5.0 | 100 | 37.5 | 17.7 | 6.6 | 100 | 31.1 | 16.3 | 5.1 | 88 |
| CALLAHAN | 7526XS | 28.6 | 23.0 | *6.6 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 27.0 | 20.3 | *5.5 | 100 | 31.9 | 24.9 | *7.9 | 98 | 26.8 | 23.8 | *6.4 | 98 |
| CALLAHAN | 7938X | 32.5 | 17.2 | 5.6 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 32.3 | 14.4 | 4.7 | 99 | 34.6 | 20.6 | 7.0 | 99 | 30.6 | 16.7 | 5.1 | 95 |
| CALLAHAN | 7941X | 34.3 | 17.8 | *6.1 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 36.7 | 15.3 | *5.6 | 98 | 35.5 | 21.0 | *7.4 | 100 | 30.8 | 17.0 | 5.3 | 87 |
| DAIRYLAND | STEALTH-1203 | 34.5 | 18.3 | *6.3 | 99 | 35.0 | 19.3 | 6.6 | 96 | 35.5 | 18.3 | 6.4 | 97 | 36.0 | 15.2 | *5.5 | 100 | 36.9 | 22.3 | *8.2 | 100 | 30.5 | 17.3 | 5.3 | 98 |
| DAIRYLAND | STEALTH-1297 | 33.8 | 19.1 | *6.4 | 98 | 33.6 | 20.5 | 6.8 | 97 | -- | -- | -- | -- | 35.5 | 16.8 | *6.0 | 100 | 36.8 | 20.7 | *7.5 | 98 | 29.1 | 19.9 | *5.8 | 96 |
| DAIRYLAND | STEALTH-1496 | 34.4 | 18.2 | *6.2 | 96 | 35.3 | 19.6 | 6.9 | 95 | -- | -- | -- | -- | 37.9 | 15.7 | *5.9 | 96 | 36.0 | 22.1 | *7.8 | 100 | 29.2 | 16.7 | 4.9 | 91 |
| DAIRYLAND | STEALTH-1500 | 33.0 | 17.3 | 5.7 | 98 | 32.2 | 19.5 | 6.2 | 97 | -- | -- | -- | -- | 34.7 | 15.6 | 5.4 | 100 | 35.2 | 17.3 | 6.1 | 99 | 29.2 | 18.9 | 5.5 | 96 |
| DAIRYLAND | DST10208 | 33.5 | 18.6 | *6.2 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 35.3 | 15.7 | *5.5 | 96 | 35.2 | 21.4 | *7.4 | 100 | 29.9 | 18.8 | 5.6 | 88 |
| DAIRYLAND | DST10212 | 33.7 | 18.6 | *6.3 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | 35.6 | 16.2 | *5.8 | 99 | 36.5 | 22.0 | *8.0 | 100 | 29.1 | 17.5 | 5.1 | 81 |
| GARST | 8707 | 32.8 | 19.9 | *6.5 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 34.2 | 16.5 | *5.6 | 100 | 34.8 | 23.8 | **8.3 | 100 | 29.4 | 19.5 | 5.7 | 91 |
| GOLDEN HARVEST | H2382 | 34.6 | 16.2 | 5.7 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 34.0 | 14.0 | 4.8 | 100 | 39.9 | 18.7 | *7.5 | 100 | 30.0 | 15.8 | 4.8 | 95 |
| GREAT LAKES | 4848 | 33.9 | 17.3 | 5.9 | 92 | 33.8 | 19.6 | 6.6 | 93 | -- | -- | -- | -- | 35.2 | 15.7 | *5.5 | 99 | 33.8 | 21.6 | *7.3 | 98 | 32.7 | 14.5 | 4.8 | 78 |
| LG SEEDS | LG2499 | 31.5 | 18.7 | 5.9 | 97 | 31.3 | 21.2 | 6.6 | 96 | -- | -- | -- | -- | 30.6 | 17.3 | 5.3 | 99 | 34.3 | 19.5 | 6.7 | 100 | 29.6 | 19.3 | 5.7 | 91 |
| MIDWEST GENETIC | G7380 | 31.0 | 20.6 | *6.4 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 31.3 | 18.3 | *5.7 | 96 | 32.9 | 23.3 | *7.7 | 100 | 28.8 | 20.3 | *5.8 | 88 |
| MYCOGEN | TMF100 | 32.0 | 21.4 | **6.8 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 34.2 | 18.5 | **6.3 | 100 | 32.5 | 23.0 | *7.4 | 98 | 29.3 | 22.6 | **6.6 | 93 |
| PAYCO | 468 | 35.0 | 16.1 | 5.7 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 35.1 | 12.7 | 4.5 | 98 | 39.8 | 19.0 | *7.6 | 99 | 30.0 | 16.6 | 5.0 | 93 |
| PIONEER | 3573 | 30.6 | 19.0 | 5.8 | 98 | 30.7 | 22.1 | 6.8 | 96 | 31.2 | 20.8 | 6.5 | 96 | 32.1 | 17.3 | *5.6 | 100 | 30.9 | 21.3 | 6.6 | 100 | 28.8 | 18.4 | 5.3 | 95 |
| PIONEER | 36H36 | 34.4 | 19.4 | *6.7 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 35.5 | 16.1 | *5.7 | 96 | 35.9 | 21.9 | *7.8 | 97 | 31.8 | 20.2 | *6.5 | 92 |
| PIONEER | 36K50 | 33.8 | 18.3 | *6.2 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 36.5 | 16.1 | *5.9 | 100 | 33.7 | 20.3 | 6.8 | 98 | 31.2 | 18.5 | *5.8 | 93 |
| PIONEER | 37R71 | 35.2 | 16.8 | 5.9 | 90 | -- | -- | -- | -- | -- | -- | -- | -- | 38.0 | 15.6 | *5.9 | 99 | 34.6 | 20.9 | 7.1 | 95 | 32.9 | 13.8 | 4.6 | 75 |
| RENK | RK543 | 33.1 | 18.1 | 5.9 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 34.5 | 16.5 | *5.7 | 98 | 34.2 | 18.8 | 6.3 | 99 | 30.6 | 19.0 | *5.8 | 95 |
| RENK | RK552 | 35.2 | 16.9 | *6.0 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | 36.1 | 13.8 | 5.0 | 100 | 36.8 | 20.3 | *7.5 | 98 | 32.8 | 16.6 | 5.4 | 89 |
| TRELAY | 5004 | 32.3 | 18.6 | *6.0 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 32.9 | 14.9 | 4.9 | 100 | 34.0 | 20.3 | 6.8 | 99 | 30.1 | 20.5 | *6.2 | 94 |
| AVERAGE | | 33.0 | 18.4 | 6.1 | 97 | 33.1 | 20.3 | 6.6 | 96 | 33.4 | 19.3 | 6.5 | 97 | 34.1 | 16.0 | 5.4 | 99 | 34.9 | 20.8 | 7.2 | 99 | 30.0 | 18.4 | 5.5 | 91 |
| HIGHEST | | 35.2 | 23.0 | 6.8 | 100 | 35.0 | 22.1 | 6.9 | 97 | 35.5 | 20.8 | 6.5 | 97 | 38.0 | 20.3 | 6.3 | 100 | 39.9 | 24.9 | 8.3 | 100 | 32.9 | 23.8 | 6.6 | 99 |
| LOWEST | | 27.6 | 16.1 | 5.1 | 90 | 30.7 | 19.3 | 6.2 | 93 | 31.2 | 18.3 | 6.4 | 96 | 27.0 | 12.7 | 4.5 | 94 | 30.0 | 17.3 | 5.9 | 95 | 25.1 | 13.8 | 4.6 | 75 |
| LSD | | 2.4 | 2.1 | .8 | | | | | | | | | | 2.6 | 2.1 | .8 | | 2.7 | 2.9 | 1.0 | | 2.4 | 2.1 | .8 | |
| CV .05% | | 4.5 | 6.9 | 8.0 | | | | | | | | | | 5.3 | 9.1 | 10.6 | | 5.6 | 9.8 | 10.4 | | 5.7 | 8.0 | 10.6 | |

** HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE

* DRY WEIGHT NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

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

## Average of Ionia, Ingham & Huron County LATE Silage Trials
## One-, two-, three-year averages — 1998, 1997, 1996

LATE TRIAL (104 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | 2 YEAR AVG (97 / 98) | | | | 3 YEAR AVG (96 - 98) | | | | IONIA | | | | INGHAM | | | | HURON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD |
| AGRIPRO | AP521 | 35.0 | 20.1 | *7.0 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 35.2 | 19.1 | 6.7 | 99 | 35.1 | 22.8 | *8.0 | 100 | 34.6 | 18.4 | *6.4 | 86 |
| AGRIPRO | AP9560 | 31.5 | 19.6 | 6.1 | 92 | 34.2 | 21.7 | 7.4 | 93 | -- | -- | -- | -- | 33.4 | 19.2 | 6.4 | 99 | 32.3 | 23.3 | 7.5 | 98 | 28.7 | 16.4 | 4.5 | 78 |
| BALDRIDGE | BH612 | 28.6 | 19.9 | 5.7 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | 27.5 | 20.2 | 5.6 | 100 | 31.3 | 20.7 | 6.5 | 100 | 27.1 | 18.7 | 5.0 | 87 |
| CORN BELT | C567 | 35.4 | 19.7 | *7.0 | 97 | 38.2 | 20.6 | 7.9 | 96 | -- | -- | -- | -- | 37.9 | 17.9 | 6.8 | 99 | 34.5 | 23.4 | *8.1 | 100 | 33.8 | 17.7 | 6.0 | 91 |
| DAIRYLAND | STEALTH-1406 | 36.6 | 19.1 | *7.0 | 93 | 37.8 | 20.7 | 7.8 | 92 | -- | -- | -- | -- | 40.4 | 16.8 | 6.8 | 91 | 36.8 | 23.3 | *8.6 | 97 | 32.5 | 17.1 | 5.5 | 91 |
| DAIRYLAND | STEALTH-1407 | 35.0 | 18.6 | 6.5 | 95 | 38.4 | 19.7 | 7.5 | 95 | 36.5 | 19.3 | 7.0 | 95 | 37.4 | 16.5 | 6.2 | 100 | 35.6 | 22.8 | *8.1 | 100 | 32.0 | 16.5 | 5.3 | 86 |
| DAIRYLAND | STEALTH-1508 | 34.5 | 20.9 | *7.2 | 98 | 36.0 | 21.3 | 7.6 | 95 | -- | -- | -- | -- | 36.0 | 19.5 | *7.0 | 100 | 34.4 | 23.9 | *8.3 | 99 | 33.2 | 19.4 | *6.3 | 95 |
| GARST | 8524SB | 33.3 | 19.3 | 6.4 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 34.4 | 19.1 | 6.6 | 100 | 33.2 | 21.8 | 7.2 | 100 | 32.2 | 16.9 | 5.3 | 85 |
| GOLDEN HARVEST | Ex674 | 34.6 | 18.7 | 6.5 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | 36.9 | 18.1 | 6.7 | 99 | 34.3 | 21.8 | 7.4 | 97 | 32.5 | 16.3 | 5.3 | 87 |
| GREAT LAKES | 5456 | 36.3 | 20.1 | *7.3 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 38.3 | 18.7 | *7.2 | 96 | 38.6 | 22.6 | *8.6 | 98 | 32.0 | 19.0 | *6.1 | 90 |
| GREAT LAKES | 5675 | 37.4 | 18.8 | *7.0 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 40.6 | 17.5 | *7.1 | 97 | 36.9 | 20.6 | 7.6 | 100 | 34.8 | 18.2 | *6.2 | 98 |
| GREAT LAKES | 5816 | 33.4 | 21.3 | *7.1 | 93 | 34.8 | 22.6 | 7.8 | 91 | 34.5 | 21.6 | 7.4 | 93 | 35.9 | 20.1 | *7.2 | 96 | 32.8 | 24.8 | *8.1 | 99 | 31.6 | 19.0 | *6.1 | 83 |
| LG SEEDS | LG2583 | 33.2 | 21.4 | *7.1 | 97 | 34.7 | 22.6 | 7.8 | 95 | -- | -- | -- | -- | 34.3 | 21.0 | *7.2 | 100 | 33.6 | 23.5 | 7.9 | 99 | 31.6 | 19.6 | *6.3 | 92 |
| MYCOGEN | TMF108 | 35.0 | 19.9 | *7.0 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 37.7 | 19.9 | *7.5 | 100 | 36.8 | 22.1 | *8.1 | 100 | 30.4 | 17.6 | 5.3 | 92 |
| MYCOGEN | TMF114 | 30.4 | 24.2 | *7.4 | 95 | -- | -- | -- | -- | -- | -- | -- | -- | 32.7 | 24.0 | **7.9 | 100 | 30.4 | 27.2 | *8.3 | 100 | 28.1 | 21.3 | 6.0 | 84 |
| PAYCO | 746 | 32.8 | 22.0 | *7.3 | 97 | -- | -- | -- | -- | -- | -- | -- | -- | 33.2 | 20.4 | 6.8 | 100 | 34.7 | 24.7 | *8.6 | 100 | 30.6 | 20.8 | *6.4 | 90 |
| PIONEER | 33V08 | 31.9 | 21.7 | *6.9 | 95 | 33.1 | 23.9 | 7.9 | 93 | -- | -- | -- | -- | 33.8 | 22.7 | *7.7 | 100 | 32.2 | 24.1 | 7.7 | 99 | 29.6 | 18.4 | 5.4 | 85 |
| PIONEER | 33Y18 | 33.0 | 23.0 | **7.6 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 34.0 | 21.6 | *7.4 | 100 | 33.1 | 25.5 | *8.4 | 100 | 31.8 | 21.8 | **7.0 | 94 |
| RENK | RK775 | 37.8 | 19.7 | *7.4 | 91 | 38.6 | 20.7 | 7.9 | 91 | -- | -- | -- | -- | 42.8 | 17.5 | *7.5 | 97 | 36.9 | 24.7 | **9.1 | 98 | 33.6 | 16.9 | 5.7 | 78 |
| RENK | RK778 | 33.5 | 20.4 | 6.7 | 94 | -- | -- | -- | -- | -- | -- | -- | -- | 34.7 | 19.2 | 6.7 | 96 | 34.3 | 23.5 | *8.0 | 96 | 31.5 | 18.6 | 5.5 | 89 |
| RENK | RK864 | 34.2 | 20.4 | *7.0 | 96 | 35.3 | 22.1 | 7.8 | 95 | 34.5 | 21.5 | 7.4 | 95 | 35.1 | 18.8 | 6.6 | 98 | 34.4 | 23.2 | *8.0 | 97 | 33.2 | 19.2 | *6.3 | 93 |
| TERRA | TR1066 | 35.2 | 19.7 | *6.9 | 96 | -- | -- | -- | -- | -- | -- | -- | -- | 36.3 | 18.5 | 6.7 | 98 | 34.5 | 21.0 | 7.3 | 100 | 34.8 | 19.6 | *6.8 | 90 |
| TRELAY | 9700 | 31.7 | 22.8 | *7.2 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 34.4 | 21.5 | *7.4 | 100 | 30.0 | 25.1 | 7.6 | 100 | 30.6 | 21.7 | *6.6 | 95 |
| AVERAGE | | 33.9 | 20.5 | 6.9 | 95 | 36.1 | 21.6 | 7.7 | 94 | 35.2 | 20.8 | 7.3 | 94 | 35.8 | 19.5 | 6.9 | 98 | 34.2 | 23.3 | 8.0 | 99 | 31.1 | 18.6 | 5.9 | |
| HIGHEST | | 37.8 | 24.2 | 7.6 | 98 | 38.6 | 23.9 | 7.9 | 96 | 36.5 | 21.6 | 7.4 | 95 | 42.8 | 24.0 | 7.9 | 100 | 38.6 | 27.2 | 9.1 | 100 | 34.8 | 21.8 | 7.0 | |
| LOWEST | | 28.6 | 18.6 | 5.7 | 91 | 33.1 | 19.7 | 7.4 | 91 | 34.5 | 19.3 | 7.0 | 93 | 27.5 | 16.5 | 5.6 | 91 | 30.0 | 20.6 | 6.5 | 96 | 27.1 | 16.3 | 4.5 | |
| LSD | | 2.4 | 1.8 | .7 | | | | | | | | | | 3.4 | 1.7 | .9 | | 2.6 | 3.4 | 1.1 | | 3.1 | 1.9 | .9 | |
| CV .05% | | 4.3 | 5.2 | 6.4 | | | | | | | | | | 6.7 | 6.1 | 9.3 | | 5.4 | 10.4 | 9.8 | | 6.8 | 7.2 | 7.2 | |

** HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE

* DRY WEIGHT NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

# Table 6A NORTHERN MICHIGAN — ZONE 4

## Average of Alpena & Missaukee County Silage Trials
## One-, two-, three-year averages — 1998, 1997, 1996

| HYBRID | | 1998 | | | | 2 YEAR AVG (97 / 98) | | | | 3 YEAR AVG (96 - 98) | | | | ALPENA | | | | MISSAUKEE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD | % DryM | Tons Gwt/A | Tons Dwt/A | % STD |
| BAYSIDE | Super 88 | 34.4 | 19.7 | *6.8 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 33.5 | 17.2 | *5.8 | 100 | 35.3 | 22.2 | *7.8 | 99 |
| DAIRYLAND | STEALTH-1195 | 33.5 | 18.3 | 6.2 | 99 | 33.0 | 20.2 | 6.6 | 99 | 34.1 | 19.7 | 6.7 | 96 | 31.9 | 16.2 | 5.2 | 100 | 35.0 | 20.4 | 7.1 | 98 |
| DAIRYLAND | STEALTH-1289 | 33.0 | 19.6 | 6.4 | 99 | 32.6 | 21.1 | 6.8 | 99 | 34.6 | 20.0 | 6.8 | 99 | 33.5 | 17.2 | *5.8 | 100 | 32.4 | 22.0 | 7.0 | 97 |
| GEERTSON | GS998 | 30.2 | 22.0 | *6.6 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 30.5 | 18.7 | *5.7 | 99 | 29.8 | 25.3 | 7.4 | 98 |
| GREAT LAKES | 3362 | 34.6 | 18.3 | 6.4 | 97 | 33.9 | 18.9 | 6.3 | 98 | 35.4 | 18.3 | 6.4 | 96 | 32.9 | 16.0 | *5.3 | 100 | 36.3 | 20.6 | 7.5 | 94 |
| GREAT LAKES | 4563 | 30.1 | 21.3 | 6.4 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 30.8 | 18.5 | *5.7 | 99 | 29.3 | 24.1 | 7.0 | 97 |
| GREAT LAKES | 4758 | 33.5 | 20.7 | *6.9 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 31.1 | 18.9 | **5.9 | 100 | 35.8 | 22.4 | *7.9 | 97 |
| LG SEEDS | LG2367 | 35.7 | 20.2 | **7.2 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 34.6 | 17.1 | **5.9 | 100 | 36.7 | 23.3 | **8.5 | 99 |
| LG SEEDS | LG2448 | 31.2 | 20.7 | *6.5 | 98 | 30.1 | 22.0 | 6.5 | 94 | 31.8 | 21.7 | 6.8 | 94 | 29.2 | 17.2 | 5.0 | 100 | 33.1 | 24.2 | *7.9 | 95 |
| MYCOGEN | TMF94 | 31.6 | 21.1 | *6.6 | 98 | -- | -- | -- | -- | -- | -- | -- | -- | 29.7 | 19.6 | *5.8 | 100 | 33.5 | 22.5 | 7.4 | 95 |
| MYCOGEN | TMF2202 | 34.1 | 19.9 | *6.9 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 29.3 | 19.0 | *5.6 | 100 | 38.8 | 20.8 | *8.1 | 99 |
| PIONEER | 37M81 | 33.4 | 19.9 | *6.6 | 100 | 32.2 | 22.1 | 7.1 | 100 | -- | -- | -- | -- | 33.5 | 17.3 | *5.8 | 100 | 33.3 | 22.4 | 7.4 | 100 |
| PIONEER | 38W36 | 34.3 | 19.7 | *6.8 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 32.3 | 17.3 | *5.6 | 100 | 36.3 | 22.1 | *8.0 | 97 |
| PIONEER | 38D66 | 33.7 | 20.3 | *6.8 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 34.3 | 17.0 | *5.8 | 100 | 33.1 | 23.6 | *7.8 | 100 |
| RENK | RK366 | 34.0 | 19.4 | *6.6 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 33.1 | 16.5 | *5.5 | 100 | 34.8 | 22.3 | *7.7 | 98 |
| RENK | RK376 | 34.0 | 19.7 | *6.7 | 99 | 32.8 | 20.3 | 6.6 | 99 | -- | -- | -- | -- | 32.0 | 16.8 | *5.4 | 100 | 35.9 | 22.5 | *8.0 | 98 |
| RENK | RK552 | 34.2 | 19.6 | *6.7 | 99 | -- | -- | -- | -- | -- | -- | -- | -- | 32.2 | 17.1 | *5.5 | 98 | 36.1 | 22.0 | *7.9 | 99 |
| TERRA | E968 | 33.0 | 19.8 | *6.5 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 30.3 | 17.7 | *5.4 | 100 | 35.6 | 21.8 | *7.6 | 100 |
| AVERAGE | | 33.2 | 20.0 | 6.6 | 99 | 32.4 | 20.8 | 6.7 | 98 | 34.0 | 19.9 | 6.7 | 96 | 31.9 | 17.5 | 5.6 | 100 | 34.4 | 22.5 | 7.7 | 98 |
| HIGHEST | | 31.2 | 22.0 | 7.2 | 100 | 33.9 | 22.1 | 7.1 | 100 | 35.4 | 21.7 | 6.8 | 99 | 33.5 | 19.0 | 5.9 | 100 | 38.8 | 25.3 | 8.5 | 100 |
| LOWEST | | 30.1 | 18.3 | 6.2 | 97 | 30.1 | 18.9 | 6.3 | 94 | 31.8 | 18.3 | 6.4 | 94 | 29.2 | 16.0 | 5.0 | 98 | 29.3 | 20.4 | 7.0 | 94 |
| LSD | | 2.4 | 2.0 | .7 | | | | | | | | | | 1.9 | 1.6 | .6 | | 3.7 | 3.9 | .9 | |
| CV .05% | | 6.0 | 4.7 | 5.0 | | | | | | | | | | 4.3 | 6.6 | 7.4 | | 7.5 | 12.0 | 8.5 | |

** HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE

* DRY WEIGHT NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID

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

# Average of Ionia, Ingham & Huron County EARLY In-vitro Analyses
# One-, two-, three-year averages — 1998, 1997, 1996

EARLY TRIAL (103 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | 2 YEAR AVG (97 / 98) | | | | 3 YEAR AVG (96 - 98) | | | | IONIA | | | | INGHAM | | | | HURON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP |
| AGRIPRO | AP9272 | 81.9 | 54.6 | 39.7 | 7.9 | – | – | – | – | – | – | – | – | 83.7 | 56.4 | 42.5 | 6.9 | 81.6 | 53.3 | 39.1 | 8.0 | | | | |
| ASGROW | RX490 | 83.2 | 56.6 | 38.4 | 7.7 | – | – | – | – | – | – | – | – | 85.8 | 61.1 | 36.5 | 7.9 | 82.5 | 54.6 | 38.4 | 7.3 | 81.2 | 54.2 | 40.0 | 7.9 |
| BALDRIDGE | BH510 | 83.2 | 58.4 | 40.4 | 8.0 | – | – | – | – | – | – | – | – | 82.5 | 62.1 | 46.1 | 9.8 | 80.5 | 53.9 | 42.3 | 6.8 | 86.5 | 59.1 | 32.9 | 7.5 |
| BAYSIDE | Super 88 | 82.0 | 54.6 | 39.3 | 8.5 | – | – | – | – | – | – | – | – | 85.8 | 57.3 | 32.4 | 9.4 | 78.9 | 49.6 | 41.9 | 7.4 | 81.2 | 56.8 | 43.5 | 8.6 |
| CALLAHAN | 7526XS | 81.6 | 55.1 | 41.1 | 7.1 | – | – | – | – | – | – | – | – | 82.2 | 55.6 | 40.1 | 7.5 | 81.2 | 54.9 | 41.8 | 6.1 | 81.3 | 54.7 | 41.3 | 7.6 |
| CALLAHAN | 7938X | 82.2 | 55.7 | 40.2 | 8.1 | – | – | – | – | – | – | – | – | 84.5 | 57.0 | 38.2 | 8.1 | 79.5 | 52.5 | 43.2 | 8.1 | 82.6 | 57.5 | 41.1 | 8.2 |
| CALLAHAN | 7941X | 82.6 | 54.1 | 37.5 | 7.6 | – | – | – | – | – | – | – | – | 86.0 | 54.3 | 30.6 | 7.8 | 79.4 | 50.6 | 40.9 | 7.2 | 82.5 | 57.5 | 41.1 | 7.7 |
| DAIRYLAND | STEALTH-1203 | 83.7 | 57.3 | 38.0 | 7.6 | 81.1 | 51.4 | 38.9 | 7.7 | 79.9 | 50.0 | 40.2 | 7.3 | 86.6 | 61.5 | 34.9 | 8.5 | 81.0 | 51.1 | 38.8 | 7.0 | 83.4 | 59.2 | 40.2 | 7.3 |
| DAIRYLAND | STEALTH-1297 | 83.8 | 58.0 | 38.5 | 7.6 | 81.5 | 51.9 | 38.9 | 7.5 | – | – | – | – | 84.1 | 57.7 | 37.5 | 8.0 | 84.3 | 57.1 | 36.7 | 7.1 | 83.1 | 59.1 | 41.2 | 7.6 |
| DAIRYLAND | STEALTH-1496 | 82.8 | 54.0 | 37.4 | 8.0 | 79.0 | 47.5 | 39.9 | 7.6 | – | – | – | – | 85.7 | 56.3 | 32.6 | 7.5 | 80.0 | 48.4 | 38.7 | 7.2 | 82.6 | 57.4 | 40.8 | 9.2 |
| DAIRYLAND | STEALTH-1500 | 82.6 | 56.4 | 39.7 | 7.6 | 79.5 | 49.1 | 39.7 | 7.6 | – | – | – | – | 85.8 | 59.0 | 34.5 | 7.8 | 79.0 | 51.1 | 42.8 | 5.4 | 82.9 | 59.0 | 41.7 | 9.5 |
| DAIRYLAND | DST10208 | 82.2 | 55.9 | 40.3 | 8.0 | – | – | – | – | – | – | – | – | 84.9 | 57.7 | 35.8 | 8.4 | 78.6 | 50.2 | 43.0 | 7.3 | 83.0 | 59.8 | 42.1 | 8.3 |
| DAIRYLAND | DST10212 | 84.0 | 61.1 | 40.8 | 8.4 | – | – | – | – | – | – | – | – | 87.3 | 64.9 | 35.6 | 8.2 | 82.6 | 56.8 | 40.4 | 6.9 | 82.2 | 61.6 | 46.4 | 10.2 |
| GARST | 8707 | 80.3 | 54.6 | 43.2 | 7.1 | – | – | – | – | – | – | – | – | 81.9 | 53.7 | 39.1 | 6.8 | 77.0 | 50.3 | 46.3 | 6.7 | 82.1 | 59.7 | 44.3 | 7.9 |
| GOLDEN HARVEST | H2382 | 83.8 | 58.2 | 38.6 | 8.1 | – | – | – | – | – | – | – | – | 85.6 | 58.8 | 35.1 | 9.6 | 81.5 | 55.4 | 41.1 | 6.4 | 84.2 | 60.3 | 39.7 | 8.2 |
| GREAT LAKES | 4848 | 82.9 | 57.5 | 40.2 | 7.8 | 79.5 | 49.6 | 40.7 | 7.4 | – | – | – | – | 84.8 | 58.6 | 36.6 | 7.7 | 80.0 | 53.5 | 43.0 | 7.7 | 83.8 | 60.4 | 41.0 | 7.9 |
| LG SEEDS | LG2499 | 83.1 | 58.6 | 39.0 | 7.9 | 80.3 | 51.7 | 40.0 | 7.7 | – | – | – | – | 83.0 | 56.7 | 38.5 | 8.0 | 81.8 | 55.7 | 41.2 | 6.7 | 84.4 | 63.3 | 37.3 | 9.0 |
| MIDWEST GENETIC | G7380 | 82.7 | 58.1 | 41.2 | 7.0 | – | – | – | – | – | – | – | – | 84.6 | 59.9 | 38.2 | 8.0 | 80.8 | 54.8 | 42.6 | 6.1 | 82.7 | 59.7 | 42.9 | 7.0 |
| MYCOGEN | TMF100 | 83.7 | 59.1 | 39.5 | 7.2 | – | – | – | – | – | – | – | – | 85.8 | 62.0 | 37.3 | 7.0 | 80.1 | 53.6 | 42.8 | 6.6 | 85.3 | 61.8 | 38.4 | 7.9 |
| PAYCO | 468 | 84.9 | 59.1 | 36.9 | 7.8 | – | – | – | – | – | – | – | – | 86.6 | 62.1 | 34.8 | 8.5 | 83.4 | 55.0 | 37.0 | 7.1 | 84.5 | 60.1 | 38.8 | 7.7 |
| PIONEER | 3573 | 83.6 | 57.5 | 38.6 | 7.9 | 80.8 | 51.2 | 39.2 | 7.5 | 79.1 | 48.5 | 40.3 | 7.3 | 85.4 | 61.1 | 37.4 | 9.2 | 81.6 | 51.9 | 38.3 | 7.1 | 83.8 | 59.5 | 40.1 | 7.5 |
| PIONEER | 36H36 | 83.1 | 58.4 | 40.2 | 7.6 | – | – | – | – | – | – | – | – | 86.8 | 64.8 | 37.5 | 8.8 | 80.5 | 52.0 | 40.6 | 6.4 | 82.1 | 58.3 | 42.6 | 7.6 |
| PIONEER | 36K50 | 83.3 | 57.6 | 39.0 | 7.8 | – | – | – | – | – | – | – | – | 87.0 | 62.6 | 34.7 | 8.8 | 79.3 | 51.2 | 42.5 | 7.0 | 83.7 | 59.1 | 39.7 | 7.5 |
| PIONEER | 37R71 | 83.8 | 57.1 | 37.2 | 8.4 | – | – | – | – | – | – | – | – | 88.3 | 62.9 | 31.5 | 9.0 | 79.9 | 51.1 | 41.1 | 7.4 | 83.1 | 57.2 | 39.1 | 8.8 |
| RENK | RK543 | 84.1 | 56.5 | 36.5 | 7.5 | – | – | – | – | – | – | – | – | 85.8 | 57.5 | 33.5 | 8.2 | 83.5 | 56.7 | 38.0 | 6.8 | 82.9 | 55.2 | 38.0 | 7.4 |
| RENK | RK552 | 82.8 | 57.4 | 40.2 | 7.7 | – | – | – | – | – | – | – | – | 86.5 | 60.8 | 34.5 | 7.5 | 81.9 | 53.8 | 39.1 | 6.8 | 80.0 | 57.5 | 46.9 | 8.8 |
| TRELAY | 5004 | 82.9 | 56.7 | 39.1 | 8.0 | – | – | – | – | – | – | – | – | 87.6 | 64.0 | 34.4 | 8.7 | 79.7 | 51.7 | 42.2 | 8.0 | 81.4 | 54.5 | 40.8 | 7.4 |
| AVERAGE | | 83.0 | 57.0 | 39.3 | 7.8 | 80.2 | 50.3 | 39.6 | 7.6 | 79.5 | 49.3 | 40.3 | 7.3 | 85.4 | 59.5 | 36.1 | 8.3 | 80.7 | 53.0 | 41.0 | 6.9 | 82.9 | 58.4 | 40.8 | 8.1 |
| HIGHEST | | 84.9 | 61.1 | 43.2 | 8.5 | 81.5 | 51.9 | 40.7 | 7.7 | 79.9 | 50.0 | 40.3 | 7.3 | 87.6 | 64.9 | 46.1 | 9.8 | 84.3 | 57.1 | 46.3 | 8.1 | 86.5 | 63.3 | 46.9 | 10.2 |
| LOWEST | | 80.3 | 54.0 | 36.5 | 7.0 | 79.0 | 47.5 | 39.8 | 7.4 | 79.1 | 48.5 | 40.2 | 7.3 | 81.9 | 53.7 | 30.6 | 6.8 | 77.0 | 48.4 | 36.7 | 5.4 | 80.0 | 53.3 | 32.9 | 7.0 |
| LSD | | 2.5 | 4.1 | 4.5 | 1.2 | | | | | | | | | 1.3 | 3.9 | 0.7 | 0.5 | 1.1 | 2.5 | 0.6 | 0.3 | 1.2 | 3.6 | 0.7 | 0.4 |
| CV .05% | | 1.9 | 4.4 | 7.0 | 9.2 | | | | | | | | | 0.8 | 3.1 | 0.9 | 2.7 | 0.7 | 2.3 | 0.7 | 2.4 | 0.7 | 3.0 | 0.8 | 2.2 |

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

# Average of Ionia, Ingham & Huron County LATE In-vitro Analyses
# One-, two-, three-year averages — 1998, 1997, 1996

LATE TRIAL (104 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)

| HYBRID | | 1998 | | | | 2 YEAR AVG (97 / 98) | | | | 3 YEAR AVG (96 - 98) | | | | IONIA | | | | INGHAM | | | | HURON | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP |
| AGRIPRO | AP521 | 83.0 | 57.5 | 39.7 | 6.9 | – | – | – | – | – | – | – | – | 85.8 | 60.5 | 35.9 | 7.6 | 79.5 | 52.3 | 43.0 | 6.7 | 83.8 | 59.7 | 40.3 | 6.4 |
| AGRIPRO | AP9560 | 84.8 | 60.9 | 38.5 | 7.7 | 81.5 | 53.4 | 40.0 | 7.4 | – | – | – | – | 87.1 | 62.6 | 34.5 | 8.2 | 80.5 | 53.9 | 42.4 | 6.6 | 86.9 | 66.1 | 38.5 | 8.2 |
| BALDRIDGE | BH612 | 81.0 | 58.2 | 45.5 | 8.3 | – | – | – | – | – | – | – | – | 82.2 | 60.6 | 45.4 | 9.4 | 79.4 | 55.1 | 45.9 | 7.6 | 81.4 | 58.8 | 45.2 | 7.8 |
| CORN BELT | C567 | 85.9 | 61.1 | 36.3 | 7.0 | 81.1 | 52.3 | 39.3 | 7.1 | – | – | – | – | 87.7 | 61.5 | 31.9 | 7.8 | 82.3 | 55.1 | 39.5 | 6.1 | 87.6 | 66.8 | 37.5 | 7.0 |
| DAIRYLAND | STEALTH-1406 | 84.5 | 59.3 | 38.1 | 7.1 | 80.4 | 52.3 | 40.9 | 7.2 | – | – | – | – | 86.7 | 63.0 | 36.0 | 7.6 | 82.6 | 53.3 | 37.2 | 6.4 | 84.2 | 61.5 | 41.2 | 7.3 |
| DAIRYLAND | STEALTH-1407 | 84.4 | 59.0 | 37.2 | 6.6 | 81.3 | 52.1 | 39.6 | 7.0 | 78.3 | 47.1 | 40.7 | 6.9 | 85.4 | 59.7 | 36.1 | 6.6 | 81.4 | 52.2 | 38.8 | 5.9 | 86.3 | 65.0 | 36.8 | 7.3 |
| DAIRYLAND | STEALTH-1508 | 84.5 | 59.9 | 39.2 | 6.6 | 80.7 | 53.3 | 41.3 | 7.2 | – | – | – | – | 87.1 | 65.3 | 36.3 | 7.4 | 83.5 | 50.5 | 34.1 | 6.0 | 83.0 | 63.8 | 41.7 | 6.4 |
| GARST | 8524SB | 83.8 | 57.8 | 38.2 | 7.4 | – | – | – | – | – | – | – | – | 85.5 | 60.0 | 36.2 | 8.0 | 80.0 | 52.8 | 42.3 | 6.6 | 85.8 | 60.7 | 36.0 | 7.6 |
| GOLDEN HARVEST | Ex674 | 84.3 | 59.4 | 38.5 | 7.2 | – | – | – | – | – | – | – | – | 83.7 | 59.2 | 39.1 | 7.6 | 82.4 | 53.3 | 37.7 | 6.7 | 86.7 | 65.7 | 38.8 | 7.3 |
| GREAT LAKES | 5456 | 83.4 | 54.8 | 36.6 | 7.0 | – | – | – | – | – | – | – | – | 84.7 | 56.2 | 34.9 | 7.4 | 80.8 | 50.8 | 38.9 | 6.2 | 84.6 | 57.3 | 36.1 | 7.5 |
| GREAT LAKES | 5675 | 84.8 | 59.4 | 37.3 | 6.5 | – | – | – | – | – | – | – | – | 85.7 | 59.0 | 34.4 | 7.2 | 82.1 | 54.7 | 39.5 | 5.9 | 86.6 | 64.6 | 37.9 | 6.4 |
| GREAT LAKES | 5816 | 85.6 | 62.6 | 38.4 | 7.5 | 81.5 | 53.6 | 39.6 | 7.4 | 79.5 | 50.4 | 41.0 | 7.1 | 87.1 | 64.3 | 36.1 | 7.2 | 82.4 | 58.4 | 42.4 | 6.2 | 87.2 | 65.2 | 36.8 | 9.0 |
| LG SEEDS | LG2583 | 85.7 | 62.5 | 37.7 | 6.9 | 81.7 | 54.8 | 40.1 | 7.2 | – | – | – | – | 86.6 | 65.1 | 37.3 | 7.3 | 83.0 | 59.0 | 41.4 | 6.0 | 87.5 | 63.5 | 34.4 | 7.5 |
| MYCOGEN | TMF108 | 83.0 | 59.1 | 41.5 | 6.2 | – | – | – | – | – | – | – | – | 82.2 | 59.2 | 43.7 | 6.6 | 81.1 | 55.0 | 42.1 | 5.5 | 85.7 | 63.2 | 38.7 | 6.5 |
| MYCOGEN | TMF114 | 80.7 | 56.7 | 44.7 | 5.9 | – | – | – | – | – | – | – | – | 80.2 | 58.6 | 47.7 | 6.3 | 81.4 | 53.0 | 39.6 | 6.2 | 80.6 | 58.5 | 46.7 | 5.1 |
| PAYCO | 746 | 85.1 | 60.9 | 38.0 | 7.1 | – | – | – | – | – | – | – | – | 85.7 | 63.8 | 39.4 | 8.4 | 82.3 | 54.2 | 38.7 | 5.2 | 87.4 | 64.8 | 35.8 | 7.6 |
| PIONEER | 33V08 | 83.8 | 59.7 | 40.1 | 6.6 | 79.9 | 51.6 | 41.2 | 6.9 | – | – | – | – | 84.2 | 59.3 | 38.8 | 6.9 | 80.6 | 56.8 | 45.0 | 4.9 | 86.6 | 63.1 | 36.4 | 7.9 |
| PIONEER | 33Y18 | 81.8 | 57.5 | 42.6 | 6.4 | – | – | – | – | – | – | – | – | 82.5 | 59.4 | 42.5 | 7.0 | 79.6 | 53.9 | 44.4 | 6.0 | 83.3 | 59.1 | 40.8 | 6.1 |
| RENK | RK775 | 81.4 | 56.1 | 42.4 | 6.6 | 79.3 | 49.3 | 40.3 | 7.2 | – | – | – | – | 85.0 | 58.4 | 35.7 | 7.2 | 76.4 | 57.3 | 55.3 | 5.0 | 82.9 | 52.7 | 36.1 | 7.5 |
| RENK | RK778 | 84.1 | 59.1 | 38.7 | 7.2 | – | – | – | – | – | – | – | – | 86.3 | 63.0 | 37.0 | 7.8 | 80.1 | 53.7 | 43.1 | 6.4 | 85.8 | 60.5 | 35.9 | 7.3 |
| RENK | RK864 | 84.9 | 60.1 | 37.7 | 7.2 | 81.6 | 52.1 | 38.3 | 7.3 | 79.7 | 49.9 | 40.2 | 7.0 | 84.1 | 59.5 | 39.0 | 8.2 | 83.6 | 56.1 | 37.5 | 6.0 | 87.1 | 64.7 | 36.5 | 7.3 |
| TERRA | TR1066 | 83.0 | 58.8 | 41.5 | 6.7 | – | – | – | – | – | – | – | – | 83.3 | 58.2 | 40.5 | 7.6 | 82.4 | 58.7 | 42.5 | 5.6 | 83.2 | 59.5 | 41.6 | 6.8 |
| TRELAY | 9700 | 83.2 | 59.7 | 41.1 | 6.4 | – | – | – | – | – | – | – | – | 84.4 | 62.0 | 41.0 | 7.1 | 80.2 | 53.7 | 42.8 | 6.1 | 85.0 | 63.3 | 40.5 | 6.1 |
| AVERAGE | | 83.8 | 59.1 | 39.6 | 6.9 | 80.9 | 52.5 | 40.0 | 7.2 | 79.2 | 49.1 | 40.6 | 7.0 | 84.9 | 60.8 | 38.2 | 7.5 | 81.2 | 54.5 | 41.5 | 6.1 | 85.2 | 62.1 | 38.9 | 7.1 |
| HIGHEST | | 85.9 | 62.6 | 45.5 | 8.3 | 81.7 | 54.8 | 41.3 | 7.4 | 79.7 | 50.4 | 41.0 | 7.1 | 87.7 | 65.3 | 47.7 | 9.4 | 83.6 | 59.0 | 55.3 | 7.6 | 87.6 | 66.8 | 46.7 | 9.0 |
| LOWEST | | 80.7 | 54.8 | 36.3 | 5.9 | 79.3 | 49.3 | 38.3 | 6.9 | 78.3 | 47.1 | 40.2 | 6.9 | 80.2 | 56.2 | 31.9 | 6.3 | 79.4 | 50.5 | 34.1 | 4.9 | 80.6 | 57.3 | 34.4 | 5.1 |
| LSD | | 2.4 | 4.1 | 5.9 | 1.0 | | | | | | | | | 1.0 | 2.6 | 0.6 | 0.5 | 1.1 | 2.5 | 0.8 | 0.3 | 1.1 | 3.1 | 0.5 | 0.3 |
| CV .05% | | 1.7 | 4.2 | 9.0 | 8.4 | | | | | | | | | 0.5 | 2.0 | 0.8 | 3.0 | 0.6 | 2.3 | 0.9 | 2.8 | 0.6 | 2.4 | 0.7 | 2.2 |

## Table 6B NORTHERN MICHIGAN ZONE 4

# Average of Alpena & Missaukee County In-vitro Analyses
# One-, two-, three-year averages — 1998, 1997, 1996

| HYBRID | | 1998 | | | | 2 YEAR AVG (97 / 98) | | | | 3 YEAR AVG (96 - 98) | | | | ALPENA | | | | MISSAUKEE | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAND | VARIETY | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP | % DMD | % FD | % NDF | % CP |
| BAYSIDE | Super 88 | 82.6 | 58.6 | 42.4 | 7.8 | – | – | – | – | – | – | – | – | 84.5 | 64.4 | 43.6 | 7.4 | 80.7 | 52.8 | 41.1 | 8.2 |
| DAIRYLAND | STEALTH-1195 | 81.8 | 60.0 | 45.2 | 7.8 | 79.5 | 54.4 | 44.9 | 7.7 | 77.3 | 50.4 | 45.5 | 7.6 | 85.2 | 64.7 | 42.0 | 7.7 | 78.4 | 55.3 | 48.4 | 7.8 |
| DAIRYLAND | STEALTH-1289 | 82.5 | 60.0 | 43.7 | 8.0 | 79.6 | 53.5 | 44.0 | 8.1 | 78.2 | 59.7 | 43.4 | 7.9 | 85.1 | 64.1 | 41.6 | 7.9 | 79.8 | 55.8 | 45.7 | 8.0 |
| GEERTSON | GS998 | 84.8 | 63.9 | 42.0 | 8.6 | – | – | – | – | – | – | – | – | 86.9 | 66.9 | 39.5 | 7.7 | 82.7 | 60.9 | 44.4 | 9.5 |
| GREAT LAKES | 3362 | 80.6 | 55.4 | 43.0 | 8.0 | 77.8 | 50.5 | 44.5 | 7.9 | 76.5 | 48.1 | 44.9 | 7.8 | 84.6 | 60.8 | 39.2 | 8.3 | 76.5 | 50.0 | 46.8 | 7.7 |
| GREAT LAKES | 4563 | 82.2 | 60.2 | 44.0 | 8.0 | – | – | – | – | – | – | – | – | 86.3 | 65.8 | 39.8 | 8.0 | 78.1 | 54.6 | 48.1 | 7.9 |
| GREAT LAKES | 4758 | 79.6 | 55.5 | 43.6 | 8.1 | – | – | – | – | – | – | – | – | 84.8 | 62.8 | 40.8 | 8.4 | 74.4 | 48.1 | 46.3 | 7.8 |
| LG SEEDS | LG2367 | 84.7 | 61.7 | 40.6 | 6.8 | – | – | – | – | – | – | – | – | 85.4 | 66.0 | 43.0 | 6.5 | 83.9 | 57.4 | 38.1 | 7.0 |
| LG SEEDS | LG2448 | 82.0 | 57.8 | 42.4 | 8.0 | 79.7 | 52.8 | 43.0 | 7.9 | 78.5 | 50.1 | 43.0 | 7.5 | 85.1 | 62.3 | 39.5 | 8.5 | 78.8 | 53.3 | 45.3 | 7.4 |
| MYCOGEN | TMF94 | 83.2 | 60.8 | 42.9 | 7.0 | – | – | – | – | – | – | – | – | 85.0 | 64.0 | 41.6 | 6.6 | 81.3 | 57.6 | 44.2 | 7.4 |
| MYCOGEN | TMF2202 | 82.7 | 60.5 | 44.0 | 8.3 | – | – | – | – | – | – | – | – | 84.1 | 63.4 | 43.6 | 7.9 | 81.3 | 57.6 | 44.3 | 8.6 |
| PIONEER | 37M81 | 83.4 | 58.2 | 39.5 | 7.9 | 80.6 | 52.8 | 40.9 | 7.9 | – | – | – | – | 85.9 | 62.0 | 37.0 | 8.0 | 80.9 | 54.3 | 41.9 | 7.7 |
| PIONEER | 38W36 | 81.0 | 56.5 | 43.7 | 7.8 | – | – | – | – | – | – | – | – | 82.4 | 58.8 | 42.7 | 7.4 | 79.5 | 54.1 | 44.7 | 8.1 |
| PIONEER | 38D66 | 84.7 | 59.7 | 38.5 | 7.3 | – | – | – | – | – | – | – | – | 86.2 | 64.3 | 39.4 | 7.0 | 83.1 | 55.0 | 37.5 | 7.6 |
| RENK | RK366 | 83.5 | 59.2 | 40.5 | 7.8 | – | – | – | – | – | – | – | – | 85.0 | 62.9 | 40.5 | 7.2 | 81.9 | 55.4 | 40.5 | 8.3 |
| RENK | RK376 | 80.9 | 54.7 | 42.0 | 7.7 | 78.9 | 50.4 | 42.4 | 7.7 | – | – | – | – | 84.9 | 60.5 | 38.5 | 7.9 | 76.8 | 48.8 | 45.4 | 7.5 |
| RENK | RK552 | 83.1 | 57.8 | 40.1 | 7.9 | – | – | – | – | – | – | – | – | 84.6 | 61.7 | 40.3 | 8.0 | 81.6 | 53.8 | 39.8 | 7.7 |
| TERRA | E968 | 82.3 | 57.7 | 41.7 | 7.4 | – | – | – | – | – | – | – | – | 84.3 | 61.0 | 40.2 | 7.1 | 80.3 | 54.3 | 43.1 | 7.7 |
| AVERAGE | | 82.5 | 58.8 | 42.2 | 7.8 | 79.4 | 52.4 | 43.3 | 7.9 | 77.6 | 52.1 | 44.2 | 7.7 | 85.0 | 63.1 | 40.7 | 7.6 | 80.0 | 54.4 | 43.6 | 7.9 |
| HIGHEST | | 84.8 | 63.9 | 45.2 | 8.6 | 80.6 | 54.4 | 44.9 | 8.1 | 78.5 | 59.7 | 45.5 | 7.9 | 86.9 | 66.9 | 43.6 | 8.5 | 83.9 | 60.9 | 48.4 | 9.5 |
| LOWEST | | 79.6 | 54.7 | 38.5 | 6.8 | 77.8 | 50.4 | 40.9 | 7.7 | 76.5 | 48.1 | 43.0 | 7.5 | 82.4 | 58.8 | 37.0 | 6.5 | 74.4 | 48.1 | 37.5 | 7.0 |
| LSD | | 3.6 | 3.8 | 5.6 | 1.1 | | | | | | | | | 3.6 | 9.2 | 0.6 | 0.3 | 1.5 | 2.7 | 1.0 | 0.5 |
| CV .05% | | 2.1 | 3.1 | 6.3 | 6.6 | | | | | | | | | 2.0 | 6.9 | 0.7 | 2.1 | 0.9 | 2.3 | 1.0 | 2.8 |

DMD = DRY MATTER DIGESTIBILITY (higher percentage means greater energy content)
FD = FIBER DIGESTIBILITY (the measure of the degree of fermentation 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 8 INDEX FOR 1998 CORN HYBRIDS COMPARED

| TABLE 1E/L | TABLE 2E/L | TABLE 3E/L | TABLE 4A | TABLE 4B | TABLE 5E/L | TABLE 6 | TABLE 7 |
|---|---|---|---|---|---|---|---|
| MONROE | KENT | HURON | ALPENA | DELTA SILAGE | IONIA | ALPENA | ALGER |
| BRANCH-IRR | INGHAM | MONTCALM-IRR | GRAND TRAVERSE | | INGHAM | MISSAUKEE | |
| CASS-IRR | SAGINAW | MASON-IRR | DELTA GRAIN | | HURON | | |

There were 303 hybrids from 37 seed companies entered in 1,376 county tests in the 1998 Michigan Corn Performance Trials. Numbers within parentheses refers to the Table in which the hybrid appears. The map shows the zones where the hybrids were entered. Early and late hybrids are designated by an E or L respectively. Company names used in association with hybrid numbers refer to the brand and the numbers are the variety (hybrid) designation.

**AgriPro Seeds, Inc.**
AGRIPRO AP5907 (5L)
AGRIPRO AP9195 (2E)
AGRIPRO AP9272 (5E)
AGRIPRO AP9300 (2E)
AGRIPRO AP9313 (2E)
AGRIPRO AP9340 (1E)
AGRIPRO AP9363 (1E)
AGRIPRO AP9560 (5L)
AGRIPRO AP9568 (1L)

**The Andersons**
ANDERSONS NC5401 (2L)
ANDERSONS NC5801 (1L)

**Asgrow Seed Company**
ASGROW RX352 (3E)
ASGROW RX355 (3E)
ASGROW RX456 (2E)
ASGROW RX490 (2L,5E)
ASGROW RX492 (2E)
ASGROW RX505BT (1E)
ASGROW RX530 (2L*)
ASGROW RX587 (1E)
ASGROW RX601 (1E)

**Baldridge Hybrids**
BALDRIDGE BH-510 (5E)
BALDRIDGE BH-612 (5L)

**Bayside Seeds**
BAYSIDE Super 75 (4A,4B)
BAYSIDE Super 88 (2E,3E,5E,6)
BAYSIDE Super 91 (3E)
BAYSIDE Super 93 (2E,3E)
BAYSIDE Super 95 (3E)
BAYSIDE Super 97 (3E)
BAYSIDE Super 99 (2E)
BAYSIDE Super 100 (2E,3L)
BAYSIDE Super 101 (2E)
BAYSIDE Super 105 (1E)
BAYSIDE 1792 (2E,3E)

**Beck's Superior Hybrids**
BECK'S 5105 (1E)
BECK'S 5305 (1E)
BECK'S 5360 (1L)
BECK'S 5405 (1L)
BECK'S 5414 (1E)
BECK'S X5505Bt (1L)

**Bio Gene**
BIO GENE BG090 (3E)
BIO GENE BG095 (2E)
BIO GENE BG105 (2L)
BIO GENE BG307 (1L)
BIO GENE BG309 (1L)

**Brown Seed Farms**
BROWN BR1680 (4A,4B)
BROWN BR5140 (3L)
BROWN BR6850 (2L)
BROWN BR7050 (1L)

***Callahan Seeds***
CALLAHAN 7526XS (5E)
CALLAHAN 7658 (1L)
CALLAHAN 7737 (2E,3E)
CALLAHAN 7741 (2E,3L)
CALLAHAN 7847X (1E)
CALLAHAN 7938X (2E,3E,5E)
CALLAHAN 7939X (2E,3L)
CALLAHAN 7941X (5E)
CALLAHAN 7942X (1E,2L)
CALLAHAN 7946X (1E)

**Cargill Hybrid Seeds**
CARGILL XB227 (7)
CARGILL 1527 (7)
CARGILL 1877 (4A,4B,7)
CARGILL FQ2411 (7)
CARGILL 2827 (3E)
CARGILL 3677 (2E,3L)
CARGILL 4111 (1E)
CARGILL 4127 (3L)
CARGILL 6303 (2L)
CARGILL 6888 (1L)

**Corn Belt Hybrids**
CORN BELT C 467 (3E)
CORN BELT C 498 (3L)
CORN BELT C 555 (1E)
CORN BELT C 567 (2L,5L)
CORN BELT C 588 (1L)
CORN BELT EXP 5258 (2E)
CORN BELT EXP 5388 (1E)
CORN BELT EXP 5998 (1L)

**Countrymark Cooperative, Inc.**
COUNTRYMARK CO-OP 447 (2L*)
COUNTRYMARK CO-OP 627 (1L)
COUNTRYMARK CO-OP 3858 (3E,4B)
COUNTRYMARK CO-OP 3969 (3L,4B)
COUNTRYMARK CO-OP 4949 (2L,3L)
COUNTRYMARK CO-OP 5308 (1E,2L)

**Crow's Hybrid Corn Company**
CROW'S 200 (1E,2E)
CROW'S 365 (1L*)
CROW'S 366 (1L*,2L)
CROW'S 492 (1L)
CROW'S 496 (1L)

**Dairyland Seed Company, Inc.**
DAIRYLAND STEALTH-1195 (6)
DAIRYLAND STEALTH-1203 (3L,5E)
DAIRYLAND STEALTH-1289 (6)
DAIRYLAND STEALTH-1297 (2E,3L*,5E)
DAIRYLAND STEALTH-1401 (2E,3L)
DAIRYLAND STEALTH-1402 (1E)
DAIRYLAND STEALTH-1406 (1E,2L,5L)
DAIRYLAND STEALTH-1407 (5L)
DAIRYLAND STEALTH-1410 (2L)
DAIRYLAND STEALTH-1412 (1L)
DAIRYLAND STEALTH-1496 (2E,3E,4B,5E)
DAIRYLAND STEALTH-1500 (3L,5E)
DAIRYLAND STEALTH-1505 (1E)
DAIRYLAND STEALTH-1508 (5L)
DAIRYLAND STEALTH-1509 (2L)
DAIRYLAND STEALTH-1595 (3E)
DAIRYLAND DST-10208 (2L,5E)
DAIRYLAND DST-10212 (5E)

**Dekalb Genetics Corporation**
DEKALB DK355 (2E,3E,4A,4B)
DEKALB DK365 (2E,3E,4A,4B)
DEKALB DK385B (2E,3E,4A,4B)
DEKALB DK405 (2E,3E,4A,4B)
DEKALB DK417 (2E,3E,4B)
DEKALB DK440 (2E,3E,4B)
DEKALB DK471 (1E,2E,3E)
DEKALB DK477 (1E,2E,3E)
DEKALB DK493BtX (1E,2E,3L)
DEKALB DK525 (1E,2L,3L)
DEKALB DK537 (1E,2L,3L)
DEKALB DK551 (1E,2L,3L)
DEKALB DK585 (1L,2L)
DEKALB DK595BtX (1L,2L)
DEKALB DK618BtX (1L)

**Fontanelle**
FONTANELLE F4193 (1E)
FONTANELLE F4997 (1L)
FONTANELLE F5306 (1L)

**Garst Seed Co.**
GARST N5542 (1E)
GARST 8524 SB (5L)
GARST 8640 (1E,2L)
GARST 8707 (5E)
GARST 8766 (2E)
GARST 8780 HpH (2E,3L)
GARST 8830 (2E,3E)

**Geertson Seed Farm**
GEERTSON GS998 (3L,6)
GEERTSON GS1067 (2L)
GEERTSON GS1117 (1L)

**Genesis Ag Ltd.**
GENESIS 1904 (1E)
GENESIS 1909 (1L)
GENESIS 1996 (2E)
GENESIS 2900 (2E)
GENESIS 2903 (2L)
GENESIS 2990 (3E)
GENESIS 2995 (2E)
GENESIS 2999 (2E)

**Golden Harvest**
GOLDEN HARVEST Ex674 (1E,5L)
GOLDEN HARVEST Ex685 (1E)
GOLDEN HARVEST Ex816 (2E,3E)
GOLDEN HARVEST H-2309 (2E,3E)
GOLDEN HARVEST H-2382 (2E,3L,5E)
GOLDEN HARVEST H-2495 (1L)

**Great Lakes Hybrids, Inc.**
GREAT LAKES 3362 (4A,4B,6)
GREAT LAKES 3807 (3E,4A,4B)
GREAT LAKES 4526 (3E,4B)
GREAT LAKES 4563 (6)
GREAT LAKES 4758 (1E,2E,3E,4B,6)
GREAT LAKES 4848 (2E,3L,5E)
GREAT LAKES 5322 (1E,2L,3L)
GREAT LAKES 5456 (1E,5L)
GREAT LAKES 5675 (5L)
GREAT LAKES 5715 (1E,2L)
GREAT LAKES 5816 (1L,2L,5L)
GREAT LAKES 5849 (1L)

**Gries Seed Farms, Inc.**
GRIES GSF-2285 (2E,3E)
GRIES GSF-4203 (1E,2L)

**Gutwein Seed**
GUTWEIN EX 799 (1L)
GUTWEIN 2066 (2E)
GUTWEIN 2087 (2E)
GUTWEIN 2110 (2E)
GUTWEIN 2400 (1E)
GUTWEIN 2424 (1E,2L)
GUTWEIN 2520 (1L)

**AgriBiotech, Inc.**
HYTEST HT4310 (3E)
HYTEST HT4395 (3E)
HYTEST HT4404 (2E)
HYTEST BH4531 (2L)
HYTEST BH4602 (1E,2L)
HYTEST HT4680 (1L)
HYTEST HTX7512 (1L)

**Jung Farms, Inc.**
JUNG 2232 (4A,4B))
JUNG 2285 (4A,4B)
JUNG 2488 (3E)
JUNG 2577 (3L)

**LG Seeds**
LG SEEDS LG2367 (4A,4B,6)
LG SEEDS LG2408 (4A,4B)
LG SEEDS LG2421 (3E)
LG SEEDS LG2442 (3E)
LG SEEDS LG2448 (6)
LG SEEDS LG2473 (2E,3E)
LG SEEDS LG2483 (2E,3L)
LG SEEDS LG2499 (2E,3L,5E)
LG SEEDS LG2512 (2L)
LG SEEDS LG2530 (2L)
LG SEEDS LG2539 (2L)
LG SEEDS LG2583 (1L,5L)
LG SEEDS LG2587 (1L)

**Midwest Seed Genetics**
M/W GENETICS G6970 (3E)
M/W GENETICS G6980 (2E)
M/W GENETICS G7010 (2E,3E)
M/W GENETICS G7118 (3L)
M/W GENETICS G7380 (5E)
M/W GENETICS G7610 (1L)
M/W GENETICS G7636 (1L)

**Mycogen Plant Sciences**
MYCOGEN TMF94 (6)
MYCOGEN TMF100 (5E)
MYCOGEN TMF108 (5L)
MYCOGEN TMF114 (5L)
MYCOGEN 2110 (4A,4B)
MYCOGEN TMF2202 (6)
MYCOGEN 2250 (4A,4B)
MYCOGEN 2395 (3E)
MYCOGEN 2420 (3E)
MYCOGEN 2500 (3L)
MYCOGEN 2545 (2E)
MYCOGEN 2598 (1E,2L)
MYCOGEN 2620 (2L)
MYCOGEN 2725 (1L)
MYCOGEN X28700(1L)

**Novartis Seeds, Inc.**
NK BRAND MAX21 (1E,2L)
NK BRAND MAX40 (7)
NK BRAND MAX86 (3E)
NK BRAND MAX454 (1L)
NK BRAND N15-B4 (7)
NK BRAND N3030Bt (3E)
NK BRAND N4446 (2E,3L)
NK BRAND N4640Bt (2L,3L)
NK BRAND NX5297 (1E,2L)
NK BRAND N6800Bt (1L)

**Garst Seed Co.**
PAYCO 468 (5E)
PAYCO 607 (2E,3L)
PAYCO 746 (5L)
PAYCO 834 (1L)

**Pfister Hybrid Corn Co.**
PFISTER 2015 (1E)
PFISTER 2025 (1E)
PFISTER 2650 (1L)

**Pioneer Hi-Bred International, Inc.**
PIONEER 33V08 (1L,2L,5L)
PIONEER 33Y18 (1L,5L)
PIONEER 34E79 (1L)
PIONEER 34G81 (1L,2L)
PIONEER 35N05 (1E,2L,3L)
PIONEER 3573 (3L,5E)
PIONEER 36G32 (2E,3L)
PIONEER 36H36 (1E,2E,3L,5E)
PIONEER 36K50 (1E,5E)
PIONEER 3730 (2E)
PIONEER 37R71 (2E,3L,5E)
PIONEER 37M81 (2E,3E,6)
PIONEER 38P05 (3E)
PIONEER 38W36 (3E,4B,6)
PIONEER 38D66 (4B,6)
PIONEER 3893 (7)
PIONEER 3941 (7)
PIONEER 39K72 (7)

**Renk Seed Company, Inc.**
RENK RK221 (4A,4B)
RENK RK272 (4A,4B)
RENK RK277 (4A,4B)
RENK RK366 (4A,4B,6)
RENK RK376 (4A,4B,6)
RENK RK450 (3E)
RENK RK543 (2E,3L,5E)
RENK RK546 (3E)
RENK RK552 (2E,3E,5E,6)
RENK RK611 (2E,3L)
RENK RK641 (1E)
RENK RK681 (2L,3L)
RENK RK691 (1E,2L)
RENK RK775 (2L,5L)
RENK RK778 (1L,2L,5L)
RENK RK818 (1L,2L)
RENK RK835 (1L)
RENK RK864 (1L,2L,5L)

**Rupp Seeds, Inc.**
RUPP XR 1357 (3E)
RUPP XR 1522 (2E,3E)
RUPP XR 1599 (2E,3L)
RUPP XR 1682 (1E,2L)
RUPP XR 1688 (1E,2L)
RUPP XR 1698 (1E,2L)
RUPP XR 1733 (1L)

**Sunstar Hybrids**
SUNSTAR 4408 (1L)
SUNSTAR 4409 (1L)
SUNSTAR 4706 (1E)

**Terra International, Inc.**
TERRA E858 (4A,4B)
TERRA TR906 (4A,4B)
TERRA E958 (3E)
TERRA E968 (3E,6)
TERRA E987 (1E,2E,3L)
TERRA E989 (1E,2E,3L)
TERRA TR1008BT (1E,2E,3L)
TERRA TR1047 (1E,2L,3L)
TERRA TR1058BT (1E,2L)
TERRA TR1066 (1E,2L,5L)
TERRA TR1087 (1L,2L)
TERRA TR1097 (1L,2L)
TERRA TR1106 (1L,2L)

**Trelay, Inc.**
TRELAY 1003 (4A,4B)
TRELAY 1007 (4A,4B)
TRELAY 2006 (4A,4B)
TRELAY 3700 (3E)
TRELAY 4002 (2E,3E)
TRELAY 4600 (2E,3E)
TRELAY 5004 (2E,3L,5E)
TRELAY 7002 (1E,2L)
TRELAY 8002 (1L)
TRELAY 9700 (1L,5L)
TRELAY 9095 (1L)

**Wolf River Valley**
WOLF RIVER VALLEY 9373 (7)

*These hybrids have changed maturity groups in the indicated tables. Two and three year averages were calculated from different tables.

## COMPANIES WITH HYBRIDS ENTERED IN 1998 TRIALS

| BRAND | COMPANY NAME AND ADDRESS |
|---|---|
| AGRIPRO | Agripro Seeds Inc., 4850 W. CR 350N., Danville, IN 46122 |
| ANDERSONS | The Andersons,480 W Dusse Dr., Maumee, OH 43537 |
| ASGROW | Asgrow Seed Company, P.O. Box 7570, DesMoines, IA 50322-7570 |
| BALDRIDGE | Baldridge Hybrids, P.O. Box 99, Cherry Fork, OH 45618 |
| BAYSIDE | Bayside Seeds, 464 E. Munger Rd., Munger, MI 48747 |
| BECK'S | Beck's Superior Hybrids, 6767 E. 276th St., Atlanta, IN 46031 |
| BIO GENE | Bio Gene 5491 Tri County Hwy., Sardinia, OH 45171 |
| BROWN | Brown Seed Farms, P.O. Box 540, Dewitt, MI 48820 |
| CALLAHAN | Callahan Seeds, 1122 E. 169th St., Westfield, IN 46074 |
| CARGILL | Cargill Hybrid Seeds, P.O. Box 5645, Minneapolis, MN 55440 |
| CORN BELT | Corn Belt Hybrids, P.O. Box 95, St. Marys, OH 45885 |
| COUNTRYMARK COOP | Countrymark Cooperative, Inc., 1701 Towanda Ave., Bloomington, IL 61701 |
| CROW'S | Crow's Hybrid Corn Co., P.O. Box 306, Milford, IL 60953 |

| BRAND | COMPANY NAME AND ADDRESS |
|---|---|
| DAIRYLAND | Dairyland Seed Co, Inc., P.O. Box 958, West Bend, WI 53095-0958 |
| DEKALB | Dekalb Genetics Corp., 3100 Sycamore Rd., Dekalb, IL 60115 |
| FONTANELLE | Fontanelle, 294 Crescent Dr., Portland, MI 48875 |
| GARST | Garst Seed Co., 9877 W. Britton Rd., Laingsburg, MI 48848 |
| GEERTSON | Geertson Seed Farms, 1665 Burroughs Rd, Adrian, OR 97901 |
| GENESIS | Genesis Ag Ltd., P.O. Box 21085, Lansing, MI 48909 |
| GOLDEN HARVEST | Golden Harvest, P.O. Box 248, Pekin, IL 61555 |
| GREAT LAKES | Great Lakes Hybrids, P.O. Box 637, Ovid, MI 48866 |
| GRIES | Gries Seed Farms, Inc., 2348 N. Fifth St., Fremont, OH 43420 |
| GUTWEIN | Gutwein Seeds, Rt. 1 Box 40, Francesville, IN 47946 |
| HYTEST | AgriBiotech, Inc., 120 Corporate Park Dr., Henderson, NV 89014 |
| JUNG | Jung Seed Genetics, 341 S. High St., Randolph, WI 53956 |

| BRAND | COMPANY NAME AND ADDRESS |
|---|---|
| LG SEEDS | LG Seeds, P.O. Box 457, Windfall, IN 46076 |
| MIDWEST GENETICS | Midwest Seed Genetics, P.O. Box 518, Carroll, IA 51401 |
| MYCOGEN | Mycogen Seeds, P.O. Box 21428, St. Paul, MN 55121-1428 |
| NOVARTIS | Novartis Seeds, Inc., 12275 S. Sherman Lake Dr., Augusta, MI 49012 |
| PAYCO | Garst Seed Co., 9877 W. Britton Rd, Laingsburg, MI 48848 |
| PFISTER | Pfister Hybrid Corn Co., P.O. Box 187, El Paso, IL 61738 |
| PIONEER | Pioneer Hi-Bred International Inc., PO Box 756, Bryan, OH 43506-0756 |
| RENK | Renk Seed Co., R-2 6800 Wilburn Rd., Sun Prairie, WI 53590 |
| RUPP | Rupp Seed, Inc., 17919 Co. Rd. B, Wauseon, OH 43567 |
| SUNSTAR | Sunstar Hybrids, 14993 State Rd. 17, Culver, IN 46511-9642 |
| TERRA | Terra Industries Inc., P.O. Box 6000, Sioux City, IA 51102-6000 |
| TRELAY | Trelay Seed Co.,11623 State Rd. 80, Livingston, WI 53554 |

# How Many Times Has Corn Touched Your Life Today?


ANTIBIOTICS • ASPIRIN • BABY FOODS • CHEWING GUM • BEVERAGES, CARBONATED •

FRUIT DRINKS • ICE CREAM, WATER ICES AND SHERBERTS • BAKERY PRODUCTS • DAIRY

PRODUCTS • DOUGHNUTS (CAKE, YEAST) • PIE FILLING • PEANUT BUTTER • PICKLES AND


PICKLE PRODUCTS • VEGETABLES, CANNED • SOAPS • STRAWS (DRINKING) • BREAKFAST FOODS

You'll find corn in just about every aspect of your life. That's because corn and corn-based products can be found in more than 4,000 different products. It's found in everything from chewing gum to clean burning fuels and pain relievers.

Expanding innovative uses like these will help us grow corn to $40 billion at the farm gate by the year 2002. Corn is not only America's top crop, it's our remarkable renewable resource and it touches your life everyday.

**Corn Marketing Program of Michigan**

**CHECK-OFF DOLLARS AT WORK**