

# CORN HYBRIDS COMPARED IN THE 1997 SEASON

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By:

Keith Dysinger, Susan M. Canty, James J. Kells,<sup>1</sup>

and

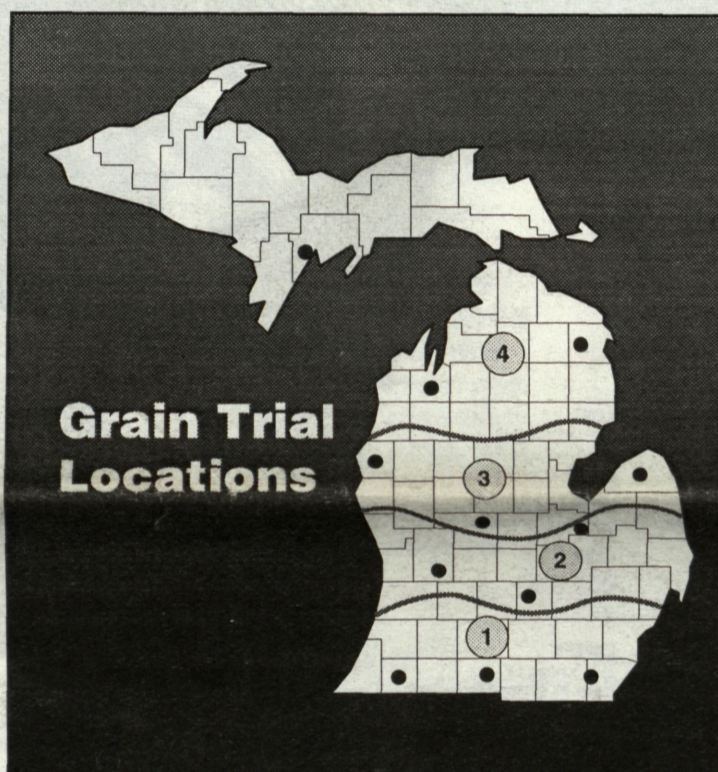
Michael Allen, David E. Main<sup>2</sup>

<sup>1</sup>Research assistant, research technician, and professor, Department of Crop and Soil Sciences.

<sup>2</sup>Professor and research assistant, Department of Animal Science.

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

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



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 Statistics 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, and Mason counties were irrigated.

In the field, hybrids are 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. Lodging measurements were made at harvest counting all plants broken below the ear. High lodging counts in Monroe County were due to a very high incidence of root lodging. Plots were harvested mechanically for both grain and silage. Moisture content, field weight and test weight were determined from shelled grain samples collected in automated test equipment mounted on a plot combine.

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 when harvest moistures exceed 30 percent. Test weight values should be used to determine relative rank and not as a precise weight.

Percent protein measured in the Monroe, Cass, Kent, and Ingham County trials (Zones 1 and 2) were calculated using percent nitrogen from hand picked grain samples. This analysis was funded by the Corn Marketing Program of Michigan.

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## Entries

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

Table 7 presents a list of all hybrids planted in the 1997 trials. At 12 locations, 245 hybrids from 33 seed companies were tested for grain production as 1,162 entries. The Delta County grain trial did not contain hybrids (labeled 4L in Table 7) with maturities later than 90 day. Zone 4 averages do not include Delta County. 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 growing degree days established from long-term weather records. Hybrids to be tested in each zone were entered in all three locations representing that zone. Hybrids tested at each location were assembled into an early and late group according to maturity ratings provided by the seed companies. Zone 4 had only one maturity 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.

## Growing Conditions

All yield trials were planted between April 25 and May 23. Mild weather and dry field conditions got the planting season off to an early start. The last week of April saw all locations in Zones 1 and 2 planted. Cold, wet weather delayed any further planting until the second and third week of May. Cold temperatures in May delayed emergence of early planted corn for three to four weeks. This resulted in poor emergence at several locations and is reflected in the percent stands reported in the tables. Growing degree day patterns in 1997 were generally below the long term averages for all locations resulting in the delayed maturity of the crop. Some hybrids did not reach full maturity, causing a later than

Continued on page 4



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# PERFORMANCE OF EARLY VS. LATE MATURING CORN HYBRIDS IN MICHIGAN

M.E. Jones, K. Dysinger, D.D. Harpstead<sup>1</sup>

The planting of full-season, or late maturing hybrids in Michigan is encouraged by their tendency to produce higher yields. Full-season hybrids can take advantage of the entire growing season available at a particular location. Shorter season hybrids reach physiological maturity sooner and generally yield less. Recent experience with cool, wet springs resulting in delayed planting and growing seasons that provided less growing degree days (GDD) than normal have caused corn producers to question the strategy of routinely planting full-season hybrids. While the full-season hybrids may yield more under these adverse conditions, they may have higher kernel moisture at harvest, which increases drying costs. Also, there may be a delay in getting the crop harvested, there may be quality losses, and there may be an increased possibility of frost damage if the hybrid has failed to reach physiological maturity.

## METHODS

We conducted an analysis to determine differences in grain yield, percent moisture at harvest, and net return (as affected by drying costs) between early, mid, and late maturing hybrids under growing conditions within four zones in Michigan. This allows us to determine if higher yielding full-season hybrids consistently produce higher net returns than earlier-maturing hybrids that tend to have lower percent moisture at harvest.

Data from Michigan corn hybrid performance trials conducted from 1990-1996 was compiled to produce three maturity groups for analysis of grain yield, percent moisture at harvest and net return. Over many years of hybrid testing in Michigan, four zones containing three locations each have been well established. These zones are based on GDD requirements gathered from long-term weather data. Zone 1 includes the southern two to three tiers of counties across the state, and GDD accumulations are highest in this zone. Early planted, full-season hybrids have high yield potential in this part of the state. As the zones move north, GDD accumulations rapidly decline, with Zone 4 having the least amount of GDD accumulation. *Designations of early-, mid-, and late-maturing hybrids were based on ratings from seed companies and from input by Extension agents and specialists familiar with production practices within each zone.* Table 1 lists the relative maturity ratings within each zone.

**Table 1. Relative maturity ratings of early-, mid-, and late-maturing hybrids within four zones in MI.**

|        | Early  | Mid     | Late    |
|--------|--------|---------|---------|
| Zone 1 | 96-104 | 105-108 | 109-113 |
| Zone 2 | 90-100 | 101-105 | 106-111 |
| Zone 3 | 85-95  | 96-100  | 101-107 |

Net returns were calculated using \$2.50/bu as a base corn price across all years. Net return = grain yield (bu/a adjusted to 15.5% moisture) minus drying costs (2.5 cents per point above 15%). For the purposes of this analysis, no other costs were determined.

Example net return calculation:

125 bu/a yield at 18% moisture, price of corn @ \$2.50/bu:

1) Drying cost = 18% moisture - 15% moisture = 3 X .025 = .075 X 125 bu = \$9.38

2) Net return = 125 bu X \$2.50 = \$312.50 - \$9.38 = \$303.12

## RESULTS

In growing seasons that were ideal for high yields, late-maturing hybrids produced higher yields and higher net returns, even though they also had higher percent moisture at harvest. This is shown in Table 2, which is data from 1994. The data also show that in cooler Zone 4, the late-maturing hybrids lose the advantage seen in the other three zones (Table 2).

In 1992, a year characterized by cool, wet springs, and less GDD accumulation than normal, late maturing hybrids did not fare well. Within each zone, not only did later hybrids have much higher percent moisture greatly increasing drying costs, but they generally had lower yields (Table 3).

Across all years, from 1990 to 1996, even though later-maturing hybrids yielded higher, they had significantly higher moisture. In two out of four zones, they produced less net return than the early-maturing hybrids (Table 4). All four zones produced less net return than the mid-maturing group. Table 5 contains 1997 data.

## Yield, moisture, and net returns of early-, mid-, and late maturing hybrids.

**Table 2. 1994**

|                  |                | Zone 1   | Zone 2 | Zone 3  | Zone 4 |
|------------------|----------------|----------|--------|---------|--------|
| Yield bu/A       | Maturity Group |          |        |         |        |
|                  | Early          | 188A*    | 182A   | 158A    | 163    |
|                  | Mid            | 199B     | 191B   | 169B    | 168    |
|                  | Late           | 205B     | 200C   | 200C    | 161    |
| Percent Moisture | Early          | 19.2A    | 20.7A  | 19.6A   | 25.0A  |
|                  | Mid            | 21.8B    | 25.7B  | 21.4B   | 27.4A  |
|                  | Late           | 24.0C    | 27.3C  | 24.4C   | 31.2B  |
| Net @ \$2.50/bu  | Maturity Group |          |        |         |        |
|                  | Early          | 451.29A  | 429.80 | 376.22A | 365.85 |
|                  | Mid            | 463.40AB | 426.59 | 395.28A | 368.17 |
|                  | Late           | 466.05B  | 439.54 | 403.35B | 338.10 |

**Table 3. 1992**

|                  |                | Zone 1  | Zone 2  | Zone 3  | Zone 4 |
|------------------|----------------|---------|---------|---------|--------|
| Yield bu/A       | Maturity Group |         |         |         |        |
|                  | Early          | 189     | 158     | 136A*   | 109    |
|                  | Mid            | 190     | 162     | 142B    | 116    |
|                  | Late           | 185     | 158     | 136A    | 112    |
| Percent Moisture | Early          | 25.4A   | 23.6A   | 28.8A   | 29.4A  |
|                  | Mid            | 28.1B   | 27.9B   | 32.0B   | 34.2B  |
|                  | Late           | 32.7C   | 33.3C   | 37.9C   | 36.8C  |
| Net @ \$2.50/bu  | Early          | 423.50A | 360.10A | 293.83A | 232.92 |
|                  | Mid            | 411.84A | 352.74A | 294.23A | 233.96 |
|                  | Late           | 380.75B | 322.08B | 261.86B | 218.80 |

**Table 4. 1990-1996**

|                  |                | Zone 1 | Zone 2 | Zone 3 | Zone 4  |
|------------------|----------------|--------|--------|--------|---------|
| Yield bu/A       | Maturity Group |        |        |        |         |
|                  | Early          | 165A*  | 162A   | 154A   | 115AB   |
|                  | Mid            | 172B   | 171B   | 159B   | 121A    |
|                  | Late           | 175B   | 175B   | 162B   | 111B    |
| Percent Moisture | Early          | 19.4A  | 20.8A  | 21.7A  | 26.0A   |
|                  | Mid            | 21.9B  | 24.3B  | 24.2B  | 29.0B   |
|                  | Late           | 24.6C  | 26.7C  | 28.2C  | 34.4C   |
| Net @ \$2.50/bu  | Early          | 393.08 | 381.36 | 360.66 | 256.96A |
|                  | Mid            | 399.99 | 387.20 | 362.89 | 261.06A |
|                  | Late           | 395.13 | 386.99 | 353.55 | 224.45B |

**Table 5. 1997**

|                  |                | Zone 1 | Zone 2 | Zone 3 | Zone 4 |
|------------------|----------------|--------|--------|--------|--------|
| Yield bu/A       | Maturity Group |        |        |        |        |
|                  | Early          | 154A   | 166A   | 159    | 103    |
|                  | Mid            | 169AB  | 173AB  | 164    | 99     |
|                  | Late           | 179B   | 180B   | 159    | 102    |
| Percent Moisture | Early          | 24.5A  | 25.0A  | 25.3A  | 31.2A  |
|                  | Mid            | 26.2B  | 28.7B  | 28.5B  | 34.1B  |
|                  | Late           | 27.6C  | 30.8C  | 32.3C  | 36.6C  |
| Net @ \$2.50/bu  | Early          | 347.3A | 322.4A | 357.0A | 215.8A |
|                  | Mid            | 374.7B | 374.1B | 355.3A | 199.6B |
|                  | Late           | 391.3B | 378.5B | 328.1B | 200.5B |

\*Within each zone, letters different from each other are significant at P = 0.05.

## SUMMARY

This study shows that, over seven years (1990-1996), mid- and late-maturing hybrids produced significantly higher yields than early-maturing hybrids. Both mid- and late-maturing hybrids had significantly higher moisture than early-maturing hybrids. There was no significant difference in the net returns in three out of four zones. *This means that the potential for higher net profits due to the yield advantage of late-maturing hybrids was offset by the higher drying costs for the high kernel moisture at harvest.* In all four zones, the greatest advantage was seen in the mid-maturity groups, which produced higher yields than the early-maturing hybrids; but without the high kernel moisture of the late-maturing hybrids.

High yielding, later-maturing hybrids that were developed for longer growing seasons than those experienced in Michigan may not be the best choice. *In individual years, under ideal growing conditions, later-maturing hybrids provide higher yields and net returns. However, over the course of several years which will include seasons that are less than ideal, there is no advantage in planting late-maturing hybrids.*

Proper hybrid selection is the key to not just high yields but, more importantly, to higher net returns. Based on the results from this data, producers are encouraged to consult with their seed dealer before selecting hybrids for a particular growing area of the state.

<sup>1</sup>Assistant Professor, Research Technician, and Professor Emeritus, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824.



Average of Monroe, Branch & Cass County EARLY trials  
One-, two-, three-year averages — 1997, 1996, 1995

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|---------------------------|--------------|--|----|----|--------------|-----|-----|-------------|----|----|--------------|---------------|----|--------|-----|-------|---------------|------|----|-----|-------|-------------|------|------|-----|-----|-------|-------|----|------|-----|-----|-----|----|----|
|                           |              | % MOISTURE   |    |    | BUSHELS/ACRE |     |     | TEST WEIGHT |    |    | % STALK LODG |               |    | % PROT |     | % STD |               | TEST |    |     | % STD |             |      | TEST |     |     | % STD |       |    |      |     |     |     |    |    |
|                           |              | 1997   | Yr | 3  | 1997         | Yr  | 3   | 1997        | Yr | 3  | 1997         | Yr            | 3  | 1997   | Yr  | 3     | 1997          | Yr   | 3  | H2O | B/A   | WT          | SL   | PROT | STD | H2O | B/A   | WT    | SL | PROT | STD | H2O | B/A | WT | SL |
| AGRIPRO                   | AP-9400      | 25   | -- | -- | 159          | --  | --  | 53          | -- | -- | 9            | --            | -- | 6.8    | 97  | 27    | 154           | 52   | 16 | 7.3 | 100   | 25          | 161  | 53   | 5   | 90  | 24    | 162   | 53 | 4    | 6.2 | 100 |     |    |    |
| AGRIPRO                   | AP-9460      | 25   | 23 | -- | *170         | 159 | --  | 51          | 52 | -- | 13           | 8             | -- | 6.4    | 92  | 28    | 151           | 51   | 28 | 6.4 | 96    | 25          | 173  | 52   | 4   | 85  | 23    | *187  | 50 | 7    | 6.3 | 95  |     |    |    |
| ANDERSONS                 | PSX385       | 26   | -- | -- | 164          | --  | --  | 50          | -- | -- | 7            | --            | -- | 6.7    | 98  | 28    | 148           | 50   | 15 | 6.4 | 99    | 26          | 173  | 50   | 3   | 96  | 25    | 171   | 50 | 2    | 6.9 | 99  |     |    |    |
| ANDERSONS                 | NC5501       | 27   | 25 | 23 | 161          | 151 | 159 | 52          | 53 | 54 | 5            | 5             | 5  | 6.8    | 95  | 28    | 146           | 52   | 6  | 6.9 | 93    | 27          | 168  | 52   | 5   | 92  | 26    | 171   | 53 | 4    | 6.7 | 99  |     |    |    |
| ASGROW                    | RX490        | 24   | -- | -- | 149          | --  | --  | 55          | -- | -- | 6            | --            | -- | 7.1    | 89  | 24    | 136           | 55   | 10 | 7.2 | 90    | 25          | 168  | 54   | 4   | 84  | 23    | 144   | 55 | 2    | 7.0 | 93  |     |    |    |
| ASGROW                    | RX530        | 24   | -- | -- | 154          | --  | --  | 53          | -- | -- | 5            | --            | -- | 8.4    | 99  | 26    | 140           | 52   | 8  | 8.5 | 100   | 24          | 169  | 53   | 4   | 98  | 22    | 151   | 54 | 3    | 8.3 | 100 |     |    |    |
| ASGROW                    | RX601        | 25   | 23 | -- | 152          | 147 | --  | 53          | 53 | -- | 7            | 5             | -- | 6.6    | 95  | 27    | 147           | 53   | 5  | 6.9 | 97    | 25          | 162  | 54   | 5   | 91  | 24    | 147   | 53 | 11   | 6.3 | 97  |     |    |    |
| BAYSIDE                   | Super 105    | 26   | -- | -- | *171         | --  | --  | 52          | -- | -- | 9            | --            | -- | 7.0    | 91  | 28    | 150           | 52   | 18 | 7.7 | 89    | 25          | *180 | 52   | 6   | 88  | 26    | *183  | 51 | 4    | 6.3 | 95  |     |    |    |
| BECK'S                    | 5105         | 26   | 23 | -- | *176         | 167 | --  | 51          | 51 | -- | 16           | 10            | -- | 7.3    | 98  | 28    | *162          | 51   | 38 | 7.4 | 95    | 26          | *195 | 52   | 7   | 100 | 25    | *173  | 50 | 3    | 7.1 | 100 |     |    |    |
| BECK'S                    | 5305         | 28   | 25 | 24 | **184        | 176 | 183 | 51          | 52 | 53 | 15           | 9             | 7  | 7.0    | 97  | 29    | *166          | 51   | 36 | 7.6 | 96    | 27          | *195 | 52   | 5   | 96  | 26    | *190  | 51 | 6    | 6.3 | 100 |     |    |    |
| BECK'S                    | Ex2279       | 28   | -- | -- | *173         | --  | --  | 49          | -- | -- | 7            | --            | -- | 6.5    | 97  | 30    | *162          | 50   | 16 | 6.5 | 97    | 27          | *190 | 49   | 1   | 98  | 26    | 167   | 49 | 4    | 6.4 | 96  |     |    |    |
| CALLAHAN                  | C7842X       | 25   | -- | -- | 147          | --  | --  | 52          | -- | -- | 8            | --            | -- | 7.6    | 89  | 27    | 135           | 52   | 16 | 8.1 | 100   | 25          | 163  | 53   | 5   | 83  | 24    | 144   | 52 | 4    | 7.0 | 84  |     |    |    |
| CALLAHAN                  | C7849X       | 26   | -- | -- | 161          | --  | --  | 51          | -- | -- | 14           | --            | -- | 7.2    | 97  | 28    | 154           | 51   | 28 | 7.9 | 100   | 25          | 161  | 52   | 6   | 94  | 25    | 169   | 51 | 7    | 6.4 | 99  |     |    |    |
| CARGILL                   | 3677         | 24   | 21 | -- | 149          | 140 | --  | 55          | 56 | -- | 9            | 8             | -- | 7.0    | 98  | 23    | 131           | 56   | 15 | 7.3 | 99    | 24          | 162  | 55   | 4   | 99  | 24    | 155   | 54 | 6    | --  | 97  |     |    |    |
| CARGILL                   | 4127         | 23   | 21 | 19 | 154          | 147 | 153 | 56          | 56 | 57 | 6            | 6             | 5  | 6.9    | 100 | 24    | *162          | 60   | 5  | 7.1 | 100   | 23          | 157  | 54   | 8   | 100 | 22    | 143   | 53 | 4    | 6.6 | 99  |     |    |    |
| CARGILL                   | 4277         | 25   | 23 | 21 | 156          | 149 | 156 | 53          | 54 | 55 | 10           | 7             | 6  | 7.3    | 100 | 25    | 143           | 53   | 14 | 7.8 | 100   | 25          | 162  | 53   | 9   | 100 | 24    | 162   | 53 | 7    | 6.8 | 99  |     |    |    |
| CORNBELT                  | C555         | 26   | -- | -- | 162          | --  | --  | 51          | -- | -- | 12           | --            | -- | 6.7    | 98  | 28    | 145           | 51   | 24 | 6.9 | 99    | 26          | 174  | 52   | 6   | 96  | 25    | 166   | 51 | 7    | 6.5 | 100 |     |    |    |
| COUNTRYMARK COOP          | 546          | 26   | 23 | -- | 147          | 145 | --  | 52          | 52 | -- | 6            | 4             | -- | 7.4    | 93  | 27    | 137           | 52   | 11 | 7.6 | 92    | 26          | 151  | 52   | 3   | 85  | 25    | 152   | 53 | 2    | 7.2 | 100 |     |    |    |
| COUNTRYMARK COOP          | 5308         | 25   | -- | -- | 152          | --  | --  | 54          | -- | -- | 6            | --            | -- | 7.8    | 93  | 26    | 151           | 53   | 3  | 7.9 | 87    | 24          | 148  | 54   | 8   | 97  | 24    | 156   | 54 | 6    | 7.6 | 95  |     |    |    |
| CROW'S                    | 200          | 25   | 22 | -- | 158          | 149 | --  | 53          | 53 | -- | 9            | 6             | -- | 8.5    | 98  | 26    | 144           | 53   | 14 | 8.6 | 95    | 25          | 172  | 53   | 8   | 98  | 25    | 157   | 53 | 4    | 8.3 | 100 |     |    |    |
| CROW'S                    | 365          | 27   | 24 | 22 | 167          | 153 | 155 | 52          | 51 | 53 | 6            | 6             | 6  | 7.4    | 96  | 27    | *161          | 52   | 8  | 7.6 | 96    | 27          | 166  | 51   | 7   | 92  | 26    | *175  | 52 | 3    | 7.1 | 100 |     |    |    |
| CROW'S                    | 366          | 26   | -- | -- | 163          | --  | --  | 53          | -- | -- | 8            | --            | -- | 7.4    | 94  | 26    | 150           | 53   | 12 | 6.9 | 100   | 26          | 177  | 52   | 6   | 92  | 25    | 162   | 53 | 4    | 7.9 | 91  |     |    |    |
| DAIRYLAND                 | STEALTH 1406 | 27   | -- | -- | 164          | --  | --  | 51          | -- | -- | 13           | --            | -- | 6.9    | 92  | 28    | 151           | 51   | 29 | 7.4 | 95    | 26          | 172  | 50   | 8   | 87  | 25    | 170   | 51 | 3    | 6.4 | 93  |     |    |    |
| DAIRYLAND                 | STEALTH 1407 | 25   | 23 | 21 | 153          | 148 | 154 | 52          | 52 | 54 | 12           | 8             | 6  | 6.6    | 96  | 25    | 139           | 52   | 26 | 7.1 | 100   | 25          | 159  | 52   | 6   | 89  | 25    | 163   | 51 | 4    | 6.1 | 100 |     |    |    |
| DEKALB                    | DK471        | 21   | 19 | -- | 140          | 141 | --  | 54          | 54 | -- | 8            | 7             | -- | 6.7    | 96  | 21    | 125           | 56   | 13 | 6.8 | 100   | 22          | 139  | 52   | 5   | 94  | 21    | 156   | 53 | 6    | 6.6 | 95  |     |    |    |
| DEKALB                    | DK477        | 21   | 19 | -- | 131          | 127 | --  | 54          | 55 | -- | 5            | 6             | -- | 7.8    | 99  | 21    | 127           | 56   | 4  | 7.9 | 99    | 22          | 149  | 52   | 7   | 101 | 19    | 118   | 53 | 3    | 7.6 | 98  |     |    |    |
| DEKALB                    | DK493        | 21   | 19 | 18 | 142          | 145 | 152 | 54          | 54 | 56 | 6            | 6             | 5  | 7.7    | 92  | 21    | 130           | 56   | 8  | 6.9 | 99    | 23          | 141  | 52   | 2   | 80  | 21    | 153   | 53 | 8    | 8.4 | 96  |     |    |    |
| DEKALB                    | DK527        | 24   | 22 | 20 | 138          | 141 | 149 | 52          | 53 | 55 | 15           | 11            | 10 | 7.4    | 95  | 24    | 134           | 53   | 30 | 7.8 | 100   | 25          | 137  | 51   | 6   | 84  | 25    | 142   | 51 | 9    | 6.9 | 100 |     |    |    |
| DEKALB                    | DK546        | 25   | 23 | 21 | 164          | 160 | 166 | 52          | 53 | 54 | 11           | 7             | 5  | 7.9    | 87  | 26    | 149           | 51   | 23 | 7.6 | 93    | 25          | *180 | 53   | 6   | 84  | 24    | 161   | 52 | 3    | 8.1 | 85  |     |    |    |
| DEKALB                    | DK566        | 25   | 23 | -- | *177         | 166 | --  | 52          | 52 | -- | 5            | 4             | -- | 7.2    | 98  | 26    | *159          | 52   | 8  | 7.7 | 100   | 25          | *180 | 52   | 4   | 96  | 26    | **193 | 52 | 3    | 6.6 | 97  |     |    |    |
| GARST                     | 8640         | 24   | -- | -- | 162          | --  | --  | 52          | -- | -- | 12           | --            | -- | 6.9    | 92  | 25    | 150           | 53   | 30 | 7.1 | 100   | 24          | 157  | 53   | 4   | 81  | 23    | *177  | 51 | 3    | 6.6 | 94  |     |    |    |
| GEN-TECH                  | 1026         | 26   | -- | -- | 149          | --  | --  | 51          | -- | -- | 5            | --            | -- | 6.9    | 98  | 27    | 140           | 52   | 6  | 7.4 | 100   | 25          | 155  | 52   | 6   | 94  | 25    | 151   | 51 | 2    | 6.4 | 99  |     |    |    |
| GEN-TECH                  | 1047         | 27   | -- | -- | *169         | --  | --  | 51          | -- | -- | 18           | --            | -- | 6.5    | 92  | 29    | 152           | 51   | 44 | 6.9 | 92    | 26          | 175  | 51   | 6   | 91  | 25    | *179  | 50 | 3    | 6.1 | 94  |     |    |    |
| GEN-TECH                  | 1064         | 27   | 25 | 23 | *170         | 159 | 165 | 52          | 53 | 54 | 5            | 5             | 4  | 6.4    | 99  | 29    | *163          | 52   | 8  | 6.6 | 99    | 27          | 162  | 51   | 4   | 97  | 26    | *184  | 53 | 4    | 6.1 | 100 |     |    |    |
| GOLDEN HARVEST            | H-2349       | 23   | -- | -- | 138          | --  | --  | 52          | -- | -- | 23           | --            | -- | 8.1    | 98  | 25    | 111           | 53   | 55 | 8.2 | 100   | 23          | 155  | 53   | 8   | 93  | 22    | 149   | 52 | 5    | 7.9 | 100 |     |    |    |
| GOLDEN HARVEST            | H-2441       | 25   | -- | -- | 153          | --  | --  | 51          | -- | -- | 8            | --            | -- | 7.4    | 96  | 26    | 146           | 52   | 14 | 7.8 | 99    | 24          | 152  | 51   | 6   | 90  | 25    | 163   | 51 | 4    | 6.9 | 100 |     |    |    |
| GREAT LAKES               | 4848         | 23   | -- | -- | 155          | --  | --  | 54          | -- | -- | 2            | --            | -- | 7.2    | 98  | 24    | 147           | 54   | 3  | 7.7 | 98    | 23          | 175  | 54   | 3   | 98  | 22    | 145   | 54 | 2    | 6.7 | 98  |     |    |    |
| GREAT LAKES               | 4929         | 25   | -- | -- | 160          | --  | --  | 54          | -- | -- | 5            | --            | -- | 7.2    | 98  | 25    | *157          | 54   | 10 | 7.6 | 99    | 24          | 157  | 55   | 4   | 93  | 25    | 167   | 53 | 2    | 6.8 | 100 |     |    |    |
| GREAT LAKES               | 5715         | 25   | -- | -- | 162          | --  | --  | 54          | -- | -- | 4            | --            | -- | 7.6    | 91  | 26    | 154           | 54   | 6  | 8.5 | 91    | 25          | 175  | 54   | 2   | 92  | 25    | 157   | 53 | 4    | 6.6 | 91  |     |    |    |
| GRIES                     | GSF-4203     | 27   | 23 | -- | *171         | 164 | --  | 51          | 51 | -- | 8            | 6             | -- | 6.8    | 94  | 28    | *169          | 51   | 17 | 6.9 | 97    | 26          | 164  | 51   | 3   | 88  | 26    | *180  | 50 | 5    | 6.6 | 96  |     |    |    |
| GUTWEIN                   | 2350         | 26   | 23 | -- | 157          | 144 | --  | 54          | 55 | -- | 5            | 5             | -- | 7.5    | 95  | 27    | *165          | 53   | 4  | 7.8 | 100   | 26          | 158  | 54   | 1   | 86  | 24    | 149   | 55 | 10   | 7.1 | 99  |     |    |    |
| GUTWEIN                   | 2400         | 26   | 23 | -- | *181         | 167 | --  | 51          | 51 | -- | 8            | 6             | -- | 6.0    | 95  | 28    | **172         | 51   | 17 | 6.6 | 97    | 26          | *181 | 52   | 3   | 90  | 26    | *191  | 50 | 5    | 5.4 | 97  |     |    |    |
| GUTWEIN                   | Ex632        | 26   | -- | -- | 146          | --  | --  | 52          | -- | -- | 4            | --            | -- | 7.3    | 93  | 27    | 143           | 53   | 5  | 7.5 | 89    | 26          | 168  | 53   | 3   | 97  | 25    | 126   | 52 | 3    | 7.0 | 94  |     |    |    |
| GUTWEIN                   | Ex641        | 26   | -- | -- | *17          |     |     |             |    |    |              |               |    |        |     |       |               |      |    |     |       |             |      |      |     |     |       |       |    |      |     |     |     |    |    |



Average of Monroe, Branch & Cass County LATE trials  
One-, two-, three-year averages — 1997, 1996, 1995

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

| HYBRID<br>(Brand-Variety) | % MOISTURE |    |      | BUSHELS/ACRE |     |     | TEST WEIGHT |    |    | % STALK LODG |    |      | % PROI |    | MONROE COUNTY |      |    |    |      | BRANCH COUNTY |     |      |    |    | CASS COUNTY |     |      |     |    |     |      |
|---------------------------|------------|----|------|--------------|-----|-----|-------------|----|----|--------------|----|------|--------|----|---------------|------|----|----|------|---------------|-----|------|----|----|-------------|-----|------|-----|----|-----|------|
|                           | 1997       | Yr | 3    | 2            | 3   | Yr  | 1997        | Yr | 3  | 2            | 3  | 1997 | Yr     | 3  | H2O           | B/A  | WT | SL | PROT | STD           | H2O | B/A  | WT | SL | PROT        | STD | H2O  | B/A | WT | SL  | PROT |
| AGRIPRO AP-9560           | 27         | 25 | 24   | *185         | 177 | 184 | 51          | 52 | 53 | 9            | 6  | 5    | 6.9    | 96 | 29            | *173 | 52 | 20 | 7.7  | 97            | 28  | *194 | 52 | 5  | 92          | 26  | *189 | 51  | 3  | 6.0 | 99   |
| ANDERSONS NC5801          | 28         | 25 | --   | 178          | 167 | --  | 51          | 50 | -- | 6            | 5  | --   | 6.5    | 97 | 30            | *176 | 51 | 12 | 6.3  | 98            | 27  | 174  | 51 | 1  | 93          | 26  | 184  | 51  | 6  | 6.6 | 99   |
| ASGROW RX670              | 27         | -- | --   | *184         | --  | --  | 52          | -- | -- | 5            | -- | --   | 6.7    | 99 | 28            | *184 | 52 | 6  | 6.0  | 98            | 27  | *192 | 52 | 5  | 100         | 25  | 178  | 51  | 5  | 7.3 | 100  |
| BECK'S 5405               | 29         | 25 | 24   | *180         | 172 | 181 | 51          | 50 | 52 | 7            | 6  | 5    | 7.5    | 99 | 31            | *179 | 51 | 13 | 7.8  | 98            | 28  | 187  | 51 | 4  | 100         | 27  | 173  | 51  | 4  | 7.1 | 99   |
| BECK'S Ex5505 Bt          | 30         | -- | --   | *180         | --  | --  | 51          | -- | -- | 5            | -- | --   | 6.5    | 98 | 31            | 161  | 51 | 10 | 6.7  | 96            | 30  | *199 | 52 | 2  | 97          | 28  | 179  | 51  | 4  | 6.3 | 100  |
| CALLAHAN C7557            | 28         | 25 | 24   | 173          | 168 | 176 | 51          | 51 | 52 | 10           | 7  | 6    | 6.7    | 96 | 31            | 169  | 51 | 22 | 6.5  | 100           | 28  | 186  | 51 | 5  | 88          | 26  | 166  | 51  | 3  | 6.9 | 99   |
| CALLAHAN C7658            | 28         | 25 | 24   | *179         | 172 | 182 | 51          | 51 | 53 | 9            | 6  | 5    | 6.6    | 93 | 29            | 165  | 51 | 22 | 6.8  | 96            | 28  | *194 | 52 | 3  | 90          | 26  | 176  | 51  | 3  | 6.3 | 92   |
| CARGILL 5677              | 25         | 23 | 21   | 175          | 161 | 165 | 53          | 54 | 55 | 6            | 5  | 6    | 7.7    | 96 | 25            | 160  | 53 | 10 | 8.4  | 95            | 26  | 184  | 53 | 5  | 96          | 25  | 181  | 53  | 4  | 6.9 | 97   |
| CARGILL 6303              | 27         | 24 | 22   | 169          | 165 | 168 | 52          | 52 | 54 | 4            | 3  | 3    | 7.3    | 98 | 28            | 160  | 52 | 7  | 8.3  | 96            | 26  | 180  | 53 | 4  | 98          | 25  | 167  | 51  | 2  | 6.3 | 100  |
| CARGILL 6327              | 27         | 24 | 23   | *179         | 160 | 167 | 52          | 52 | 54 | 4            | 4  | 3    | 7.1    | 98 | 29            | *171 | 52 | 4  | 7.2  | 98            | 27  | 186  | 53 | 5  | 99          | 26  | 179  | 52  | 3  | 7.0 | 98   |
| CORNBELT C588             | 28         | 25 | --   | *182         | 176 | --  | 52          | 52 | -- | 11           | 7  | --   | 7.3    | 98 | 30            | 168  | 51 | 25 | 7.6  | 98            | 28  | *199 | 52 | 4  | 96          | 26  | 179  | 51  | 4  | 6.9 | 99   |
| COUNTRYMARK COOP 5458     | 25         | -- | --   | 172          | --  | --  | 53          | -- | -- | 6            | -- | --   | 7.6    | 99 | 25            | 156  | 54 | 10 | 7.3  | 101           | 26  | 186  | 52 | 5  | 98          | 25  | 172  | 53  | 3  | 7.8 | 98   |
| CROW'S 496                | 28         | 25 | --   | *182         | 168 | --  | 51          | 50 | -- | 9            | 7  | --   | 7.0    | 97 | 29            | *180 | 51 | 21 | 6.5  | 97            | 27  | 185  | 51 | 4  | 96          | 27  | 180  | 51  | 4  | 7.5 | 97   |
| DAIRYLAND STEALTH 1409    | 25         | -- | --   | 149          | --  | --  | 52          | -- | -- | 3            | -- | --   | 7.3    | 97 | 26            | 157  | 53 | 4  | 7.2  | 96            | 26  | 164  | 53 | 2  | 98          | 24  | 125  | 52  | 2  | 7.3 | 98   |
| DAIRYLAND STEALTH 1410    | 28         | 25 | --   | 169          | 161 | --  | 51          | 51 | -- | 8            | 6  | --   | 6.5    | 92 | 29            | *172 | 52 | 15 | 7.0  | 96            | 28  | 164  | 52 | 5  | 84          | 26  | 171  | 51  | 3  | 6.0 | 96   |
| DAIRYLAND STEALTH 1412    | 28         | 25 | 24   | *183         | 182 | 184 | 52          | 52 | 53 | 4            | 3  | 3    | 6.4    | 95 | 30            | *172 | 52 | 6  | 6.4  | 98            | 27  | *198 | 53 | 2  | 91          | 26  | 180  | 51  | 4  | 6.4 | 95   |
| DEKALB DK595              | 26         | -- | --   | 171          | --  | --  | 53          | -- | -- | 6            | -- | --   | 6.9    | 93 | 28            | 170  | 51 | 12 | 7.1  | 93            | 27  | 176  | 53 | 2  | 92          | 23  | 167  | 54  | 2  | 6.6 | 95   |
| DEKALB DK604              | 26         | 23 | --   | 171          | 167 | --  | 52          | 52 | -- | 12           | 8  | --   | 7.9    | 97 | 27            | 165  | 51 | 30 | 8.6  | 97            | 27  | *196 | 52 | 4  | 95          | 23  | 151  | 52  | 2  | 7.2 | 99   |
| DEKALB DK607              | 25         | -- | --   | 175          | --  | --  | 51          | -- | -- | 10           | -- | --   | 7.7    | 94 | 25            | 156  | 51 | 16 | 7.8  | 96            | 25  | 181  | 51 | 4  | 91          | 24  | *187 | 51  | 9  | 7.6 | 96   |
| DEKALB DK618              | 27         | -- | --   | *180         | --  | --  | 52          | -- | -- | 7            | -- | --   | 7.4    | 94 | 28            | *173 | 52 | 15 | 7.8  | 98            | 28  | *191 | 53 | 5  | 94          | 26  | 176  | 52  | 2  | 6.9 | 90   |
| GARST 8464                | 29         | -- | --   | 174          | --  | --  | 51          | -- | -- | 4            | -- | --   | 6.9    | 93 | 30            | 165  | 52 | 8  | 7.4  | 92            | 29  | 180  | 52 | 2  | 93          | 28  | 176  | 51  | 2  | 6.4 | 94   |
| GOLDEN HARVEST H-2495     | 27         | 24 | 23   | 171          | 165 | 172 | 52          | 52 | 53 | 2            | 2  | 2    | 7.1    | 96 | 27            | 170  | 52 | 2  | 7.7  | 99            | 26  | 168  | 52 | 3  | 89          | 26  | 173  | 51  | 1  | 6.4 | 100  |
| GOLDEN HARVEST H-2515     | 28         | 26 | --   | *189         | 178 | --  | 51          | 51 | -- | 11           | 7  | --   | 6.7    | 96 | 29            | *174 | 52 | 26 | 7.4  | 96            | 28  | 190  | 51 | 6  | 94          | 26  | *202 | 51  | 2  | 5.9 | 99   |
| GREAT LAKES 5849          | 27         | 25 | --   | 177          | 170 | --  | 52          | 52 | -- | 4            | 5  | --   | 7.1    | 95 | 28            | *177 | 51 | 6  | 8.4  | 99            | 28  | 168  | 52 | 3  | 88          | 25  | *185 | 53  | 4  | 5.8 | 97   |
| GUTWEIN 2520              | 28         | 26 | --   | 177          | 175 | --  | 51          | 51 | -- | 10           | 6  | --   | 6.2    | 99 | 29            | 161  | 51 | 20 | 7.0  | 100           | 29  | *192 | 52 | 7  | 97          | 26  | 180  | 51  | 3  | 5.4 | 99   |
| LG Seeds LG 2539          | 26         | 24 | --   | 178          | 169 | --  | 51          | 51 | -- | 9            | 6  | --   | 6.9    | 98 | 28            | 167  | 51 | 18 | 7.0  | 96            | 26  | *191 | 52 | 8  | 100         | 24  | 177  | 50  | 2  | 6.7 | 99   |
| LG Seeds LG 2571          | 28         | -- | --   | 159          | --  | --  | 52          | -- | -- | 3            | -- | --   | 7.3    | 83 | 28            | 149  | 52 | 5  | 7.2  | 88            | 29  | 163  | 52 | 3  | 77          | 27  | 166  | 52  | 2  | 7.3 | 85   |
| LG Seeds LG 2583          | 28         | 25 | 24   | *186         | 176 | 181 | 51          | 51 | 52 | 8            | 6  | 5    | 6.6    | 98 | 29            | *174 | 51 | 16 | 6.5  | 99            | 28  | *200 | 51 | 5  | 97          | 26  | 184  | 51  | 3  | 6.6 | 97   |
| MIDWEST GENETIC G7636     | 28         | -- | --   | *182         | --  | --  | 52          | -- | -- | 7            | -- | --   | 6.6    | 96 | 29            | *174 | 52 | 11 | 7.3  | 97            | 28  | 189  | 52 | 8  | 96          | 27  | 182  | 51  | 3  | 5.8 | 96   |
| MYCOGEN 2725              | 28         | 25 | --   | *186         | 175 | --  | 52          | 52 | -- | 7            | 5  | --   | 6.4    | 94 | 30            | *178 | 52 | 9  | 6.7  | 91            | 27  | *192 | 52 | 5  | 93          | 27  | *187 | 51  | 8  | 6.1 | 98   |
| NK Brand 4494             | 28         | 25 | 23   | 178          | 166 | 175 | 52          | 53 | 53 | 7            | 5  | 5    | 6.8    | 98 | 29            | *175 | 53 | 12 | 6.6  | 96            | 29  | 183  | 53 | 3  | 98          | 26  | 176  | 52  | 6  | 6.9 | 100  |
| NK Brand N6800            | 28         | -- | --   | 172          | --  | --  | 53          | -- | -- | 9            | -- | --   | 7.6    | 95 | 28            | 159  | 53 | 16 | 7.5  | 92            | 29  | *192 | 54 | 3  | 95          | 26  | 164  | 53  | 8  | 7.6 | 99   |
| PAYCO 834                 | 28         | 25 | 24   | 177          | 174 | 182 | 51          | 52 | 53 | 10           | 6  | 5    | 7.3    | 98 | 29            | 166  | 51 | 24 | 7.8  | 98            | 29  | 188  | 52 | 3  | 99          | 26  | 176  | 51  | 2  | 6.8 | 98   |
| PFISTER 2650              | 28         | 25 | 23   | *184         | 177 | 186 | 51          | 53 | 54 | 12           | 7  | 6    | 6.9    | 96 | 28            | 169  | 51 | 27 | 7.4  | 101           | 27  | 189  | 52 | 5  | 89          | 27  | *197 | 51  | 3  | 6.3 | 99   |
| PIONEER 3335              | 29         | 27 | --   | *185         | 167 | --  | 54          | 53 | -- | 6            | 6  | --   | 6.3    | 96 | 31            | 165  | 53 | 5  | 6.2  | 95            | 30  | *199 | 54 | 4  | 92          | 27  | *191 | 54  | 9  | 6.4 | 100  |
| PIONEER 33190             | 29         | -- | --   | *185         | --  | --  | 54          | -- | -- | 10           | -- | --   | 6.7    | 95 | 29            | *176 | 54 | 25 | 6.5  | 98            | 30  | 187  | 55 | 5  | 92          | 28  | *193 | 54  | 0  | 6.9 | 96   |
| PIONEER 33V08             | 28         | -- | --   | *188         | --  | --  | 53          | -- | -- | 3            | -- | --   | 7.2    | 99 | 27            | *179 | 53 | 7  | 7.3  | 99            | 30  | *208 | 53 | 2  | 98          | 26  | 176  | 52  | 0  | 7.1 | 100  |
| PIONEER 3491              | 27         | 24 | --   | *182         | 168 | --  | 52          | 53 | -- | 16           | 9  | --   | 6.9    | 97 | 27            | 159  | 51 | 37 | 7.3  | 94            | 27  | *195 | 52 | 8  | 98          | 25  | *194 | 52  | 2  | 6.4 | 100  |
| PIONEER 34681             | 26         | -- | --   | *185         | --  | --  | 52          | -- | -- | 6            | -- | --   | 7.7    | 98 | 27            | 166  | 52 | 12 | 8.3  | 99            | 26  | 189  | 53 | 4  | 95          | 25  | *200 | 52  | 3  | 7.1 | 99   |
| PIONEER 34R06             | 27         | -- | --   | *182         | --  | --  | 52          | -- | -- | 6            | -- | --   | 6.9    | 98 | 30            | *177 | 52 | 13 | 7.5  | 99            | 26  | *199 | 53 | 1  | 95          | 27  | 170  | 52  | 3  | 6.2 | 100  |
| RENK RK696                | 25         | 23 | 21   | 151          | 149 | 157 | 51          | 52 | 54 | 3            | 4  | 3    | 6.8    | 96 | 26            | 155  | 53 | 3  | 6.8  | 97            | 26  | 165  | 52 | 6  | 95          | 24  | 132  | 50  | 1  | 6.7 | 97   |
| RENK RK708                | 26         | 23 | 21   | 155          | 149 | 152 | 51          | 51 | 53 | 8            | 5  | 5    | 6.6    | 93 | 26            | 137  | 51 | 17 | 7.2  | 93            | 26  | 187  | 51 | 4  | 95          | 25  | 141  | 50  | 2  | 5.9 | 90   |
| RENK RK775                | 26         | -- | --   | *179         | --  | --  | 51          | -- | -- | 7            | -- | --   | 6.3    | 91 | 29            | *178 | 52 | 14 | 7.0  | 93            | 25  | *194 | 52 | 4  | 92          | 26  | 164  | 50  | 3  | 5.6 | 87   |
| RENK RK835                | 27         | 25 | 23   | *188         | 172 | 178 | 52          | 52 | 53 | 10           | 7  | 6    | 7.2    | 98 | 29            | *173 | 51 | 25 | 7.2  | 97            | 27  | *212 | 52 | 3  | 98          | 26  | 179  | 51  | 3  | 7.1 | 99   |
| RENK RK864                | 28         | 26 | 24</ |              |     |     |             |    |    |              |    |      |        |    |               |      |    |    |      |               |     |      |    |    |             |     |      |     |    |     |      |



**Average of Kent, Ingham & Saginaw County EARLY trials  
One-, two-, three-year averages — 1997, 1996, 1995**

| EARLY TRIAL (102 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)) |              | % MOISTURE |    |    |      |     |     | BUSHELS/ACRE |    |    |   |    |    | TEST WEIGHT % STALK LODG |    |    |      |    |   | % PROT |    | KENT COUNTY |      |    |    |      |     |    |      |    |   | INGHAM COUNTY |    |      |    |    |     |      |      |    |   | SAGINAW COUNTY |    |      |    |    |     |    |     |      |   |     |  |    |  |
|--|--------------|------------|----|----|------|-----|-----|--------------|----|----|---|----|----|--------------------------|----|----|------|----|---|--------|----|-------------|------|----|----|------|-----|----|------|----|---|---------------|----|------|----|----|-----|------|------|----|---|----------------|----|------|----|----|-----|----|-----|------|---|-----|--|----|--|
| HYBRID<br>(Brand-Variety)  |              | 1997       |    | Yr |      | Yr  |     | 1997         |    | Yr |   | Yr |    | 1997                     |    | Yr |      | Yr |   | 1997   |    | Yr          |      | Yr |    | 1997 |     | Yr |      | Yr |   | 1997          |    | Yr   |    | Yr |     | 1997 |      | Yr |   | Yr             |    | 1997 |    | Yr |     | Yr |     | 1997 |   | Yr  |  | Yr |  |
|  |              | 2          | 3  | 2  | 3    | 2   | 3   | 2            | 3  | 2  | 3 | 2  | 3  | 2                        | 3  | 2  | 3    | 2  | 3 | 2      | 3  | 2           | 3    | 2  | 3  | 2    | 3   | 2  | 3    | 2  | 3 | 2             | 3  | 2    | 3  | 2  | 3   | 2    | 3    | 2  | 3 | 2              | 3  | 2    | 3  | 2  | 3   |    |     |      |   |     |  |    |  |
| AGRIPRO  | AP-9300      | 25         | 23 | -- | 168  | 158 | --  | 52           | 52 | -- | 1 | 5  | -- | 8.6                      | 88 | 25 | 177  | 53 | 0 | 9.4    | 88 | 24          | 169  | 53 | 2  | 7.7  | 96  | 27 | 156  | 50 | 1 | 8.0           | 27 | 156  | 50 | 1  | 8.0 | 27   | 156  | 50 | 1 | 8.0            | 27 | 156  | 50 | 1  | 8.0 | 27 | 156 | 50   | 1 | 8.0 |  |    |  |
| AGRIPRO  | AP-9363      | 28         | 25 | -- | *172 | 158 | --  | 51           | 51 | -- | 2 | 5  | -- | 9.4                      | 84 | 29 | *185 | 52 | 3 | 10.2   | 74 | 26          | *186 | 52 | 3  | 8.6  | 93  | 28 | 147  | 50 | 1 | 8.5           | 28 | 147  | 50 | 1  | 8.5 | 28   | 147  | 50 | 1 | 8.5            | 28 | 147  | 50 | 1  | 8.5 | 28 | 147 | 50   | 1 | 8.5 |  |    |  |
| ANDERSONS  | NC5490       | 26         | 22 | -- | 157  | 150 | --  | 52           | 52 | -- | 5 | 14 | -- | 9.9                      | 78 | 27 | 157  | 52 | 7 | 10.3   | 64 | 24          | 163  | 53 | 6  | 9.4  | 88  | 26 | 151  | 50 | 2 | 8.3           | 29 | 139  | 49 | 1  | 7.9 | 29   | 139  | 49 | 1 | 7.9            | 29 | 139  | 49 | 1  | 7.9 | 29 | 139 | 49   | 1 | 7.9 |  |    |  |
| ANDERSONS  | NC5501       | 30         | 29 | -- | 149  | 147 | --  | 51           | 50 | -- | 2 | 3  | -- | 8.6                      | 79 | 31 | 134  | 53 | 1 | 8.9    | 64 | 32          | 175  | 52 | 5  | 8.3  | 95  | 29 | 139  | 49 | 1 | 7.9           | 22 | 134  | 53 | 2  | 7.9 | 22   | 134  | 53 | 2 | 7.9            | 22 | 134  | 53 | 2  | 7.9 | 22 | 134 | 53   | 2 | 7.9 |  |    |  |
| BAYSIDE  | Super 85     | 22         | -- | -- | 136  | --  | --  | 54           | -- | -- | 3 | -- | -- | 8.8                      | 78 | 24 | 139  | 54 | 2 | 9.4    | 74 | 22          | 136  | 54 | 6  | 8.1  | 81  | 22 | 134  | 53 | 2 | 7.9           | 22 | 134  | 53 | 2  | 7.9 | 22   | 134  | 53 | 2 | 7.9            | 22 | 134  | 53 | 2  | 7.9 | 22 | 134 | 53   | 2 | 7.9 |  |    |  |
| BAYSIDE  | Super 88     | 23         | -- | -- | 158  | --  | --  | 53           | -- | -- | 4 | -- | -- | 10.6                     | 90 | 25 | 167  | 53 | 3 | 10.8   | 80 | 20          | 151  | 54 | 8  | 10.3 | 97  | 24 | 156  | 52 | 2 | 8.4           | 24 | 156  | 52 | 2  | 8.4 | 24   | 156  | 52 | 2 | 8.4            | 24 | 156  | 52 | 2  | 8.4 | 24 | 156 | 52   | 2 | 8.4 |  |    |  |
| BAYSIDE  | Super 95     | 25         | -- | -- | 168  | --  | --  | 51           | -- | -- | 4 | -- | -- | 8.9                      | 91 | 25 | *186 | 52 | 5 | 9.8    | 93 | 23          | 166  | 52 | 4  | 8.0  | 95  | 26 | 153  | 48 | 3 | 8.4           | 26 | 153  | 48 | 3  | 8.4 | 26   | 153  | 48 | 3 | 8.4            | 26 | 153  | 48 | 3  | 8.4 |    |     |      |   |     |  |    |  |
| BAYSIDE  | Super 99     | 27         | -- | -- | *176 | --  | --  | 52           | -- | -- | 2 | -- | -- | 9.5                      | 82 | 28 | 173  | 52 | 3 | 10.2   | 70 | 26          | 175  | 52 | 3  | 8.8  | 93  | 27 | *180 | 52 | 1 | 8.4           | 27 | *180 | 52 | 1  | 8.4 | 27   | *180 | 52 | 1 | 8.4            | 27 | *180 | 52 | 1  | 8.4 |    |     |      |   |     |  |    |  |
| BAYSIDE  | 1792         | 24         | 21 | -- | *171 | 158 | --  | 52           | 53 | -- | 2 | 4  | -- | 8.2                      | 92 | 24 | *194 | 52 | 0 | 9.2    | 88 | 22          | 158  | 53 | 5  | 7.2  | 100 | 25 | 162  | 51 | 2 | 8.8           | 27 | *162 | 51 | 2  | 8.8 | 27   | *162 | 51 | 2 | 8.8            | 27 | *162 | 51 | 2  | 8.8 |    |     |      |   |     |  |    |  |
| BAYSIDE  | 1796         | 26         | 23 | 22 | 163  | 154 | 158 | 52           | 52 | 54 | 7 | 12 | 11 | 8.4                      | 88 | 27 | *181 | 53 | 5 | 8.9    | 79 | 25          | 165  | 52 | 9  | 7.8  | 98  | 27 | 163  | 50 | 5 | 8.6           | 27 | 163  | 50 | 5  | 8.6 | 27   | 163  | 50 | 5 | 8.6            |    |      |    |    |     |    |     |      |   |     |  |    |  |
| BAYSIDE  | 1798         | 27         | 25 | -- | *175 | 161 | --  | 51           | 51 | -- | 3 | 5  | -- | 9.6                      | 92 | 28 | *189 | 52 | 2 | 10.6   | 83 | 26          | 173  | 52 | 6  | 8.5  | 97  | 28 | *163 | 50 | 1 | 8.9           | 28 | *163 | 50 | 1  | 8.9 | 28   | *163 | 50 | 1 | 8.9            |    |      |    |    |     |    |     |      |   |     |  |    |  |
| BLANEY   | 2088         | 26         | 22 | 22 | 152  | 150 | 154 | 51           | 52 | 53 | 8 | 8  | 9  | 8.7                      | 86 | 26 | 177  | 52 | 7 | 9.3    | 77 | 23          | 157  | 53 | 11 | 8.1  | 99  | 27 | 123  | 49 | 6 | 8.1           | 27 | 123  | 49 | 6  | 8.1 | 27   | 123  | 49 | 6 | 8.1            |    |      |    |    |     |    |     |      |   |     |  |    |  |
| BLANEY   | 2110         | 25         | 23 | -- | 155  | 151 | --  | 52           | 53 | -- | 2 | 3  | -- | 8.5                      | 83 | 25 | 156  | 53 | 2 | 9.1    | 80 | 25          | 161  | 53 | 2  | 7.9  | 91  | 26 | 147  | 50 | 1 | 7.9           | 26 | 147  | 50 | 1  | 7.9 | 26   | 147  | 50 | 1 | 7.9            |    |      |    |    |     |    |     |      |   |     |  |    |  |
| BROWN  | BR5140       | 26         | -- | -- | *172 | --  | --  | 53           | -- | -- | 3 | -- | -- | 8.2                      | 80 | 27 | *179 | 53 | 5 | 8.9    | 74 | 25          | 170  | 53 | 3  | 7.4  | 86  | 27 | *167 | 52 | 1 | 8.8           | 27 | *167 | 52 | 1  | 8.8 | 27   | *167 | 52 | 1 | 8.8            |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CALLAHAN   | C7737        | 26         | -- | -- | *171 | --  | --  | 53           | -- | -- | 2 | -- | -- | 9.3                      | 88 | 26 | 165  | 53 | 2 | 10.1   | 81 | 25          | *181 | 53 | 3  | 8.4  | 96  | 26 | *166 | 52 | 3 | 8.9           | 26 | *166 | 52 | 3  | 8.9 | 26   | *166 | 52 | 3 | 8.9            |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CALLAHAN   | C7738        | 26         | 24 | -- | 158  | 153 | --  | 52           | 53 | -- | 2 | 3  | -- | 8.8                      | 89 | 25 | 165  | 53 | 3 | 9.7    | 83 | 25          | 159  | 54 | 2  | 7.8  | 96  | 27 | 151  | 50 | 1 | 8.7           | 27 | 151  | 50 | 1  | 8.7 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CALLAHAN   | C7741        | 28         | 25 | -- | *179 | 163 | --  | 50           | 51 | -- | 2 | 7  | -- | 10.0                     | 85 | 28 | *184 | 51 | 2 | 10.3   | 83 | 26          | *180 | 52 | 3  | 9.6  | 92  | 29 | *172 | 49 | 1 | 7.9           | 29 | *172 | 49 | 1  | 7.9 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CALLAHAN   | C7830X       | 23         | -- | -- | 147  | --  | --  | 53           | -- | -- | 1 | -- | -- | 8.9                      | 85 | 25 | 146  | 53 | 0 | 9.1    | 67 | 22          | 146  | 55 | 2  | 8.6  | 98  | 24 | 148  | 52 | 2 | 8.9           | 24 | 148  | 52 | 2  | 8.9 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CALLAHAN   | C7836X       | 25         | -- | -- | 169  | --  | --  | 53           | -- | -- | 3 | -- | -- | 8.8                      | 80 | 26 | 171  | 53 | 2 | 9.1    | 73 | 23          | 168  | 55 | 5  | 8.5  | 89  | 26 | *166 | 52 | 3 | 8.9           | 26 | *166 | 52 | 3  | 8.9 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CARGILL  | 3677         | 25         | -- | -- | *175 | --  | --  | 54           | -- | -- | 2 | -- | -- | 9.0                      | 90 | 25 | *196 | 54 | 3 | 10.0   | 81 | 24          | 166  | 55 | 1  | 8.0  | 100 | 25 | 162  | 52 | 0 | 8.8           | 25 | 162  | 52 | 0  | 8.8 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CORNBELT   | C533         | 28         | -- | -- | 160  | --  | --  | 50           | -- | -- | 4 | -- | -- | 8.0                      | 92 | 30 | 171  | 52 | 3 | 8.7    | 85 | 26          | 155  | 51 | 5  | 7.3  | 100 | 28 | 153  | 49 | 6 | 9.1           | 28 | 153  | 49 | 6  | 9.1 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| COUNTRYMARK COOP   | 447          | 28         | 25 | -- | 169  | 163 | --  | 51           | 52 | -- | 2 | 6  | -- | 9.0                      | 92 | 29 | 177  | 53 | 1 | 10.0   | 88 | 27          | 168  | 52 | 4  | 8.0  | 99  | 28 | *163 | 50 | 2 | 8.8           | 28 | *163 | 50 | 2  | 8.8 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| COUNTRYMARK COOP   | 3858         | 24         | -- | -- | 162  | --  | --  | 53           | -- | -- | 1 | -- | -- | 8.8                      | 80 | 24 | 170  | 53 | 1 | 9.4    | 76 | 23          | 163  | 53 | 1  | 8.2  | 86  | 25 | 154  | 51 | 1 | 7.7           | 25 | 154  | 51 | 1  | 7.7 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CROW'S   | 172          | 24         | -- | -- | 168  | --  | --  | 53           | -- | -- | 2 | -- | -- | 8.3                      | 89 | 24 | *182 | 53 | 3 | 8.6    | 85 | 24          | 159  | 54 | 2  | 8.0  | 94  | 24 | *163 | 51 | 2 | 8.7           | 24 | *163 | 51 | 2  | 8.7 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| CROW'S   | 200          | 27         | 25 | -- | *180 | 164 | --  | 52           | 51 | -- | 2 | 7  | -- | 9.2                      | 90 | 28 | *192 | 53 | 4 | 9.9    | 85 | 26          | *183 | 53 | 2  | 8.4  | 96  | 28 | 159  | 50 | 1 | 8.8           | 28 | 159  | 50 | 1  | 8.8 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DAIRYLAND  | STEALTH 1401 | 25         | 23 | -- | 167  | 159 | --  | 52           | 53 | -- | 1 | 2  | -- | 9.4                      | 84 | 25 | 176  | 53 | 1 | 10.3   | 82 | 25          | 163  | 53 | 1  | 8.4  | 87  | 26 | 161  | 50 | 1 | 8.4           | 26 | 161  | 50 | 1  | 8.4 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DAIRYLAND  | STEALTH 1496 | 23         | -- | -- | *171 | --  | --  | 53           | -- | -- | 2 | -- | -- | 8.7                      | 81 | 24 | *179 | 53 | 2 | 9.5    | 74 | 23          | 176  | 54 | 3  | 7.8  | 91  | 24 | 158  | 51 | 2 | 7.9           | 24 | 158  | 51 | 2  | 7.9 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DEKALB   | DK385B       | 23         | -- | -- | 154  | --  | --  | 56           | -- | -- | 3 | -- | -- | 8.8                      | 90 | 24 | 158  | 55 | 2 | 9.3    | 79 | 20          | 154  | 57 | 6  | 8.3  | 99  | 24 | 150  | 55 | 1 | 9.3           | 24 | 150  | 55 | 1  | 9.3 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DEKALB   | DK431        | 22         | -- | -- | 159  | --  | --  | 54           | -- | -- | 4 | -- | -- | 9.2                      | 89 | 22 | 160  | 54 | 3 | 9.4    | 90 | 21          | 155  | 56 | 7  | 8.9  | 95  | 24 | 161  | 52 | 2 | 8.3           | 24 | 161  | 52 | 2  | 8.3 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DEKALB   | DK442        | 24         | 21 | 20 | 157  | 149 | 152 | 52           | 53 | 54 | 3 | 10 | 9  | 9.7                      | 84 | 25 | 163  | 52 | 2 | 10.5   | 76 | 22          | 161  | 54 | 6  | 8.8  | 92  | 25 | 145  | 51 | 1 | 8.5           | 25 | 145  | 51 | 1  | 8.5 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DEKALB   | DK471        | 26         | 22 | 21 | *173 | 163 | 166 | 52           | 52 | 53 | 5 | 7  | 7  | 9.8                      | 88 | 27 | 178  | 52 | 5 | 11.4   | 83 | 24          | 171  | 53 | 4  | 8.1  | 95  | 27 | *172 | 50 | 5 | 8.7           | 27 | *172 | 50 | 5  | 8.7 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DEKALB   | DK477        | 24         | 22 | -- | 169  | 161 | --  | 52           | 53 | -- | 1 | 6  | -- | 9.8                      | 86 | 25 | 170  | 52 | 2 | 11.0   | 78 | 21          | 173  | 54 | 1  | 8.5  | 99  | 26 | *163 | 50 | 0 | 8.1           | 26 | *163 | 50 | 0  | 8.1 |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |
| DEKALB   | DK493        | 26         | 23 | 22 | *178 | 164 | 169 | 51           | 51 | 53 | 4 | 4  | 4  | 9.3                      | 84 | 26 | 177  | 52 | 5 | 10.6   | 75 |             |      |    |    |      |     |    |      |    |   |               |    |      |    |    |     |      |      |    |   |                |    |      |    |    |     |    |     |      |   |     |  |    |  |



**Average of Kent, Ingham & Saginaw County LATE trials  
One-, two-, three-year averages — 1997, 1996, 1995**

LATE TRIAL (103 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING))

| HYBRID<br>(Brand-Variety) | % MOISTURE |    |      |      |      |     | BUSHELS/ACRE |    |      |    |      |    | TEST WEIGHT % STALK LODG % |    |         |      |      |     | KENT COUNTY |    |      |      |      |     | INGHAM COUNTY |     |         |      |      |    | SAGINAW COUNTY |    |      |    |      |    |      |    |   |  |   |  |
|---------------------------|------------|----|------|------|------|-----|--------------|----|------|----|------|----|----------------------------|----|---------|------|------|-----|-------------|----|------|------|------|-----|---------------|-----|---------|------|------|----|----------------|----|------|----|------|----|------|----|---|--|---|--|
|                           | 2          |    | 3    |      | 3    |     | 2            |    | 3    |    | 2    |    | 3                          |    | 2       |      | 3    |     | 2           |    | 3    |      | 2    |     | 3             |     | 2       |      | 3    |    | 2              |    | 3    |    | 2    |    | 3    |    | 2 |  | 3 |  |
|                           | 1997       | Yr | 1997 | Yr   | 1997 | Yr  | 1997         | Yr | 1997 | Yr | 1997 | Yr | 1997                       | Yr | 1997    | Yr   | 1997 | Yr  | 1997        | Yr | 1997 | Yr   | 1997 | Yr  | 1997          | Yr  | 1997    | Yr   | 1997 | Yr | 1997           | Yr | 1997 | Yr | 1997 | Yr | 1997 | Yr |   |  |   |  |
| AGRIPRO AP-9400           | 30         | 27 | --   | *186 | 171  | --  | 51           | 51 | --   | 3  | 6    | -- | 7.9                        | 88 | 30      | *209 | 52   | 3   | 7.6         | 91 | 28   | 177  | 51   | 3   | 8.2           | 95  | 32      | 173  | 49   | 2  | 78             |    |      |    |      |    |      |    |   |  |   |  |
| AGRIPRO AP-9460           | 30         | 27 | --   | *185 | 168  | --  | 50           | 50 | --   | 3  | 5    | -- | 8.2                        | 90 | 31      | *200 | 51   | 4   | 8.3         | 87 | 27   | 173  | 51   | 1   | 8.1           | 94  | 31      | *181 | 49   | 4  | 88             |    |      |    |      |    |      |    |   |  |   |  |
| BAYSIDE Super 105         | 30         | -- | --   | *182 | --   | --  | 50           | -- | --   | 3  | --   | -- | 8.7                        | 82 | 32      | 191  | 51   | 3   | 9.7         | 81 | 27   | 180  | 51   | 2   | 7.6           | 90  | 31      | 173  | 49   | 4  | 75             |    |      |    |      |    |      |    |   |  |   |  |
| BROWN BR6850              | 29         | -- | --   | *183 | --   | --  | 51           | -- | --   | 3  | --   | -- | 8.8                        | 86 | 31      | 173  | 51   | 3   | 9.2         | 71 | 27   | *191 | 51   | 4   | 8.3           | 97  | 31      | *184 | 49   | 3  | 90             |    |      |    |      |    |      |    |   |  |   |  |
| CARGILL 4127              | 27         | -- | --   | 169  | --   | --  | 52           | -- | --   | 5  | --   | -- | 9.4                        | 91 | 28      | 177  | 53   | 4   | 9.8         | 94 | 24   | *182 | 53   | 6   | --            | 98  | 30      | 148  | 49   | 4  | 81             |    |      |    |      |    |      |    |   |  |   |  |
| CARGILL 4277              | 30         | 26 | 26   | 168  | 160  | 165 | 51           | 51 | 52   | 4  | 6    | 6  | 9.3                        | 87 | 32      | 179  | 52   | 5   | 9.9         | 85 | 27   | 171  | 52   | 4   | 8.7           | 99  | 32      | 154  | 48   | 3  | 78             |    |      |    |      |    |      |    |   |  |   |  |
| CARGILL 5677              | 30         | -- | --   | *189 | --   | --  | 50           | -- | --   | 5  | --   | -- | 9.6                        | 92 | 29      | *205 | 52   | 3   | 10.3        | 89 | 28   | *195 | 51   | 5   | 8.9           | 95  | 32      | 168  | 48   | 5  | 93             |    |      |    |      |    |      |    |   |  |   |  |
| CARGILL 6303              | 31         | 28 | 28   | *183 | 170  | 173 | 51           | 51 | 51   | 2  | 3    | 3  | 8.8                        | 92 | 33      | 184  | 51   | 2   | 10.0        | 87 | 28   | *183 | 51   | 3   | 7.5           | 98  | 32      | *181 | 49   | 0  | 91             |    |      |    |      |    |      |    |   |  |   |  |
| CORNBELT C567             | 29         | 27 | --   | *186 | 172  | --  | 50           | 50 | --   | 3  | 4    | -- | 8.0                        | 86 | 31      | *198 | 52   | 3   | 8.0         | 76 | 27   | *186 | 51   | 2   | 7.9           | 97  | 31      | 172  | 49   | 5  | 85             |    |      |    |      |    |      |    |   |  |   |  |
| COUNTRYMARK COOP 546      | 30         | 27 | --   | 157  | 151  | --  | 50           | 50 | --   | 3  | 8    | -- | 8.1                        | 80 | 30      | 164  | 52   | 3   | 8.4         | 70 | 27   | 156  | 51   | 6   | 7.8           | 98  | 32      | 150  | 48   | 0  | 73             |    |      |    |      |    |      |    |   |  |   |  |
| COUNTRYMARK COOP 5308     | 29         | -- | --   | 168  | --   | --  | 51           | -- | --   | 2  | --   | -- | 9.2                        | 78 | 30      | 185  | 52   | 1   | 10.0        | 75 | 26   | 166  | 52   | 5   | 8.4           | 87  | 32      | 152  | 49   | 2  | 71             |    |      |    |      |    |      |    |   |  |   |  |
| CROW'S 366                | 31         | -- | --   | 175  | --   | --  | 50           | -- | --   | 5  | --   | -- | 9.3                        | 91 | 32      | 176  | 52   | 4   | 9.9         | 89 | 28   | *185 | 51   | 6   | 8.6           | 99  | 33      | 166  | 48   | 4  | 84             |    |      |    |      |    |      |    |   |  |   |  |
| CROW'S 395                | 31         | -- | --   | 178  | --   | --  | 51           | -- | --   | 3  | --   | -- | 8.7                        | 84 | 33      | 185  | 52   | 6   | 9.5         | 72 | 28   | 174  | 51   | 3   | 7.8           | 97  | 32      | 175  | 48   | 1  | 83             |    |      |    |      |    |      |    |   |  |   |  |
| DAIRYLAND STEALTH 1406    | 29         | -- | --   | *190 | --   | --  | 51           | -- | --   | 5  | --   | -- | 8.3                        | 87 | 30      | *217 | 52   | 5   | 8.7         | 79 | 27   | *183 | 51   | 4   | --            | 95  | 30      | 169  | 49   | 4  | 88             |    |      |    |      |    |      |    |   |  |   |  |
| DAIRYLAND STEALTH 1410    | 32         | 30 | --   | *187 | 176  | --  | 51           | 50 | --   | 2  | 8    | -- | 8.5                        | 83 | 31**218 | 54   | 2    | 9.1 | 80          | 31 | *183 | 51   | 1    | 7.9 | 92            | 35  | 161     | 48   | 3    | 78 |                |    |      |    |      |    |      |    |   |  |   |  |
| DEKALB DK546              | 29         | 28 | 27   | 174  | 164  | 170 | 51           | 50 | 52   | 4  | 5    | 4  | 8.8                        | 80 | 30      | 167  | 52   | 5   | 9.8         | 68 | 27   | 180  | 51   | 7   | 7.8           | 96  | 31      | 175  | 49   | 1  | 76             |    |      |    |      |    |      |    |   |  |   |  |
| GARST 8640                | 27         | 25 | --   | 178  | 163  | --  | 51           | 52 | --   | 4  | 6    | -- | 9.1                        | 82 | 28      | 188  | 52   | 4   | 8.9         | 75 | 25   | 180  | 51   | 3   | 9.3           | 91  | 29      | 166  | 49   | 3  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| GOLDEN HARVEST H-2441     | 28         | -- | --   | 171  | --   | --  | 51           | -- | --   | 3  | --   | -- | 8.7                        | 91 | 27      | 178  | 52   | 3   | 8.6         | 93 | 26   | 172  | 51   | 6   | 8.7           | 100 | 32      | 164  | 49   | 1  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| GREAT LAKES 5715          | 30         | 27 | --   | 174  | 163  | --  | 52           | 52 | --   | 2  | 6    | -- | 9.6                        | 84 | 29      | 177  | 53   | 4   | 10.4        | 83 | 27   | *183 | 52   | 2   | 8.7           | 88  | 32      | 161  | 50   | 0  | 81             |    |      |    |      |    |      |    |   |  |   |  |
| GRIES GSF-4203            | 30         | 26 | --   | *187 | 170  | --  | 51           | 51 | --   | 3  | 5    | -- | 9.0                        | 85 | 30      | *207 | 52   | 3   | 10.0        | 82 | 28   | 177  | 51   | 4   | 7.9           | 95  | 31      | *176 | 49   | 3  | 77             |    |      |    |      |    |      |    |   |  |   |  |
| GUTWEIN 2400              | 30         | 27 | --   | *187 | 167  | --  | 51           | 50 | --   | 4  | 6    | -- | 8.1                        | 85 | 32      | 194  | 52   | 5   | 8.4         | 89 | 28   | *194 | 51   | 3   | 7.8           | 90  | 31      | 173  | 49   | 5  | 77             |    |      |    |      |    |      |    |   |  |   |  |
| LG Seeds LG 2537          | 29         | -- | --   | *184 | --   | --  | 52           | -- | --   | 3  | --   | -- | 8.5                        | 88 | 29      | 194  | 52   | 3   | 9.2         | 87 | 27   | *184 | 52   | 4   | 7.8           | 98  | 31      | 174  | 51   | 1  | 80             |    |      |    |      |    |      |    |   |  |   |  |
| LG Seeds LG 2539          | 30         | 26 | --   | *186 | 168  | --  | 51           | 50 | --   | 3  | 4    | -- | 8.0                        | 87 | 32      | *200 | 52   | 2   | 8.9         | 75 | 27   | *183 | 51   | 4   | 7.1           | 99  | 31      | 174  | 49   | 3  | 86             |    |      |    |      |    |      |    |   |  |   |  |
| MYCOGEN 2674              | 29         | -- | --   | 169  | --   | --  | 52           | -- | --   | 2  | --   | -- | 8.9                        | 86 | 29      | 180  | 52   | 2   | 9.6         | 85 | 28   | 171  | 52   | 3   | 8.1           | 89  | 32      | 157  | 50   | 1  | 86             |    |      |    |      |    |      |    |   |  |   |  |
| NK Brand 4394             | 31         | 28 | 27   | 161  | 156  | 169 | 51           | 51 | 52   | 1  | 4    | 3  | 8.6                        | 81 | 30      | 176  | 52   | 0   | 8.8         | 82 | 29   | 174  | 52   | 0   | 8.4           | 92  | 35      | 133  | 48   | 1  | 68             |    |      |    |      |    |      |    |   |  |   |  |
| NK Brand N52-B2           | 29         | -- | --   | *184 | --   | --  | 53           | -- | --   | 1  | --   | -- | 7.6                        | 88 | 28      | *199 | 54   | 1   | 8.1         | 86 | 28   | *191 | 53   | 1   | 7.0           | 99  | 32      | 164  | 51   | 1  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| PAYCO 646                 | 29         | 25 | --   | 175  | 162  | --  | 51           | 51 | --   | 3  | 8    | -- | 8.7                        | 86 | 29      | 187  | 52   | 2   | 9.7         | 84 | 26   | *191 | 52   | 4   | 7.6           | 95  | 31      | 149  | 49   | 1  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| PIONEER 3491              | 29         | 27 | --   | *188 | 175  | --  | 51           | 51 | --   | 3  | 5    | -- | 8.0                        | 81 | 30      | 186  | 53   | 4   | 8.8         | 76 | 28   | *187 | 51   | 3   | 7.1           | 92  | 30**192 | 49   | 3    | 75 |                |    |      |    |      |    |      |    |   |  |   |  |
| PIONEER 34G81             | 29         | -- | --   | *190 | --   | --  | 51           | -- | --   | 2  | --   | -- | 7.7                        | 89 | 29      | *206 | 53   | 2   | 7.4         | 88 | 27   | *189 | 51   | 3   | 7.9           | 100 | 30      | *177 | 50   | 1  | 80             |    |      |    |      |    |      |    |   |  |   |  |
| PIONEER 34R06             | 31         | -- | --   | *187 | --   | --  | 52           | -- | --   | 2  | --   | -- | 8.4                        | 88 | 32      | *208 | 53   | 1   | 8.6         | 89 | 29   | *191 | 52   | 1   | 8.2           | 96  | 32      | 164  | 49   | 4  | 78             |    |      |    |      |    |      |    |   |  |   |  |
| PIONEER 35N05             | 29         | -- | --   | 176  | --   | --  | 52           | -- | --   | 0  | --   | -- | 7.8                        | 90 | 30      | 179  | 53   | 0   | 7.9         | 85 | 26   | *187 | 54   | 0   | 7.6           | 99  | 30      | 163  | 50   | 0  | 86             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK641                | 29         | 25 | --   | 171  | 161  | --  | 51           | 51 | --   | 2  | 8    | -- | 9.1                        | 86 | 30      | 172  | 52   | 3   | 9.2         | 84 | 27   | *185 | 52   | 3   | 8.9           | 100 | 31      | 157  | 49   | 1  | 75             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK671                | 28         | -- | --   | 154  | --   | --  | 50           | -- | --   | 4  | --   | -- | 8.3                        | 91 | 29      | 179  | 51   | 5   | 8.2         | 88 | 25   | 140  | 50   | 3   | 8.4           | 96  | 29      | 143  | 49   | 3  | 90             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK672                | 28         | 24 | --   | 167  | 152  | --  | 51           | 52 | --   | 2  | 6    | -- | 8.2                        | 82 | 30      | 174  | 52   | 2   | 7.9         | 76 | 25   | 163  | 51   | 4   | 8.4           | 94  | 28      | 165  | 51   | 1  | 77             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK696                | 29         | 25 | --   | 169  | 151  | --  | 50           | 51 | --   | 3  | 6    | -- | 7.9                        | 86 | 30      | 186  | 51   | 1   | 8.1         | 80 | 26   | 167  | 51   | 4   | 7.7           | 100 | 31      | 153  | 49   | 3  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK708                | 29         | 26 | 25   | 173  | 168  | 173 | 50           | 50 | 52   | 3  | 5    | 5  | 7.5                        | 77 | 29      | *196 | 51   | 4   | 7.6         | 79 | 27   | 173  | 51   | 4   | 7.3           | 88  | 32      | 152  | 47   | 2  | 63             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK728                | 29         | -- | --   | 149  | --   | --  | 51           | -- | --   | 4  | --   | -- | 8.6                        | 84 | 29      | 153  | 52   | 3   | 8.8         | 76 | 27   | 156  | 52   | 4   | 8.4           | 99  | 31      | 137  | 48   | 4  | 78             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK775                | 29         | -- | --   | *183 | --   | --  | 50           | -- | --   | 4  | --   | -- | 8.3                        | 86 | 30      | 193  | 52   | 4   | 8.8         | 81 | 27   | *185 | 51   | 5   | 7.7           | 90  | 30      | 172  | 48   | 3  | 87             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK818                | 31         | -- | --   | 178  | --   | --  | 51           | -- | --   | 1  | --   | -- | 8.7                        | 83 | 32      | 190  | 52   | 1   | 9.2         | 85 | 28   | 180  | 52   | 2   | 8.2           | 85  | 33      | 163  | 50   | 1  | 80             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK835                | 32         | 30 | 29   | 177  | 169  | 178 | 50           | 50 | 52   | 4  | 6    | 5  | 8.3                        | 83 | 33      | 185  | 52   | 6   | 8.6         | 78 | 30   | *194 | 51   | 2   | 7.9           | 94  | 34      | 151  | 48   | 3  | 76             |    |      |    |      |    |      |    |   |  |   |  |
| RENK RK864                | 32         | 29 | 29   | *193 | 182  | 185 | 51           | 50 | 51   | 3  | 3    | 3  | 7.7                        | 82 | 32      | *203 | 52   | 3   | 7.4         | 69 | 31   | *193 | 51   | 2   | 7.9           | 95  | 33      | *183 | 49   | 2  | 81             |    |      |    |      |    |      |    |   |  |   |  |
| RUPP XR1688               | 29         | 27 | 26   | 164  | 150  | 157 | 51           | 52 | 52   | 3  | 8    | 6  | 8.7                        | 73 | 29      | 168  | 52   | 2   | 8.5         | 64 | 27   | 157  | 52   | 4   | 8.9           | 83  | 32      | 167  | 49   | 2  | 73             |    |      |    |      |    |      |    |   |  |   |  |
| RUPP XR1698               | 30         | 26 | --   | 174  | 165  | --  | 51           | 51 | --   | 3  | 5    | -- | 8.0                        | 82 | 32      | 179  | 52   | 3   | 7.7         | 75 | 27   | 171  | 51   | 2   | 8.3           | 90  | 30      | 171  | 49   | 5  | 80             |    |      |    |      |    |      |    |   |  |   |  |
| SUNSTAR 4408              | 32         | -- | --   | 175  | --   | --  | 50           | -- | --   | 2  | --   | -- | 7.8                        | 72 | 33      | 190  | 52   | 2   | 7.9         | 66 | 31   | 173  | 51   | 2   | 7.6           | 75  | 33      | 163  | 48   | 2  | 76             |    |      |    |      |    |      |    |   |  |   |  |
| SUNSTAR 4409              | 32         | -- | --   | 173  | --   | --  | 50           | -- | --   | 2  | --   | -- | 8.3                        | 78 | 33      | 170  | 52   | 2   | 8.6         | 67 | 30   | *186 | 51   | 3   | 7.9           | 88  | 34      | 163  | 48   | 2  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| SUNSTAR 4706              | 30         | -- | --   | *184 | --   | --  | 50           | -- | --   | 4  | --   | -- | 8.1                        | 84 | 32      | 186  | 51   | 4   | 8.2         | 71 | 27   | *192 | 51   | 2   | 8.0           | 93  | 30      | 175  | 49   | 5  | 88             |    |      |    |      |    |      |    |   |  |   |  |
| TERRA E1047               | 29         | -- | --   | *187 | --   | --  | 50           | -- | --   | 4  | --   | -- | 7.9                        | 84 | 29      | *209 | 52   | 5   | 8.0         | 84 | 28   | *183 | 50   | 2   | 7.8           | 88  | 30      | 169  | 49   | 5  | 79             |    |      |    |      |    |      |    |   |  |   |  |
| TERRA TR1066              | 31         | -- | --   | *185 | --   | --  | 49           | -- | --   | 2  | --   | -- | 9.9                        | 84 | 32      | 193  | 50   | 1   | 10.6        | 80 | 28   | *191 | 51   | 5   | 9.2           | 95  | 32      | 172  | 48   | 1  | 78             |    |      |    |      |    |      |    |   |  |   |  |
| TERRA TR1087              | 33         | 30 | 29   | 178  | 170  | 178 | 50           | 50 | 51   | 2  | 4    | 4  | 8.3                        | 86 | 35      | 190  | 51   | 2   | 8.0         | 86 | 30   | *193 | 51   | 3   | 8.6           | 94  | 34      | 151  | 48   | 3  | 78             |    |      |    |      |    |      |    |   |  |   |  |
| TERRA TR1088              | 34         | -- | --   | 179  | --   | --  | 48           | -- | --   | 3  | --   | -- |                            |    |         |      |      |     |             |    |      |      |      |     |               |     |         |      |      |    |                |    |      |    |      |    |      |    |   |  |   |  |



Average of Huron, Montcalm & Mason County EARLY trials  
One-, two-, three-year averages — 1997, 1996, 1995

| EARLY TRIAL (97 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)) |            |    |    |              |     |     |             |    |    |              |    |    |       | HURON COUNTY |      |    |       |       | MONTCALM COUNTY |      |       |       |         | MASON COUNTY |       |     |     |     |
|---|------------|----|----|--------------|-----|-----|-------------|----|----|--------------|----|----|-------|--------------|------|----|-------|-------|-----------------|------|-------|-------|---------|--------------|-------|-----|-----|-----|
| HYBRID<br>(Brand-Variety)   | % MOISTURE |    |    | BUSHELS/ACRE |     |     | TEST WEIGHT |    |    | % STALK LODG |    |    | % STD | % H2O        | TEST |    | % STD | % H2O | TEST            |      | % STD | % H2O | TEST    |              | % STD |     |     |     |
|   | 1997       | Yr | Yr | 1997         | Yr  | Yr  | 1997        | Yr | Yr | 1997         | Yr | Yr |       |              | B/A  | WT |       |       | B/A             | WT   |       |       | B/A     | WT           |       | B/A | WT  | B/A |
| BAYSIDE Super 85  | 24         | -- | -- | 146          | --  | --  | 52          | -- | -- | 5            | -- | -- | 91    | 23           | 135  | 51 | 9     | 92    | 24              | 148  | 52    | 3     | 90      | 23           | 156   | 51  | 3   | 90  |
| BAYSIDE Super 88  | 25         | -- | -- | 154          | --  | --  | 52          | -- | -- | 5            | -- | -- | 99    | 25           | 137  | 51 | 5     | 99    | 25              | 164  | 51    | 8     | 100     | 24           | 160   | 52  | 2   | 99  |
| BAYSIDE Super 95  | 27         | -- | -- | *167         | --  | --  | 49          | -- | -- | 6            | -- | -- | 98    | 27           | 145  | 49 | 5     | 99    | 28              | 174  | 49    | 7     | 100     | 27           | *183  | 49  | 6   | 94  |
| BAYSIDE 1792  | 26         | 25 | -- | *176         | 160 | --  | 50          | 49 | -- | 3            | 4  | -- | 100   | 24           | 141  | 50 | 6     | 100   | 26              | *184 | 50    | 4     | 100     | 27           | *202  | 51  | 0   | 100 |
| BAYSIDE 1796  | 27         | 26 | 24 | 157          | 150 | 155 | 49          | 49 | 52 | 14           | 10 | 8  | 99    | 27           | 135  | 48 | 20    | 99    | 28              | 163  | 50    | 13    | 100     | 26           | 173   | 51  | 7   | 97  |
| CALLAHAN C7737  | 29         | -- | -- | *180         | --  | --  | 51          | -- | -- | 2            | -- | -- | 100   | 29           | *155 | 50 | 2     | 100   | 29**190         | 50   | 1     | 100   | 29      | *195         | 52    | 4   | 100 |     |
| CALLAHAN C7830X   | 25         | -- | -- | 151          | --  | --  | 51          | -- | -- | 3            | -- | -- | 98    | 26           | 141  | 49 | 2     | 100   | 26              | 153  | 51    | 1     | 100     | 24           | 160   | 51  | 5   | 93  |
| CALLAHAN C7836X   | 27         | -- | -- | 159          | --  | --  | 51          | -- | -- | 3            | -- | -- | 91    | 26           | 141  | 51 | 4     | 87    | 28              | 163  | 50    | 3     | 91      | 25           | 174   | 52  | 2   | 95  |
| CARGILL 2927  | 26         | 25 | 23 | 158          | 147 | 151 | 51          | 50 | 52 | 7            | 6  | 6  | 99    | 24           | 136  | 51 | 14    | 98    | 27              | 159  | 51    | 7     | 100     | 27           | 179   | 51  | 1   | 100 |
| CORNBELT C454   | 26         | -- | -- | 146          | --  | --  | 51          | -- | -- | 2            | -- | -- | 93    | 26           | 139  | 49 | 2     | 100   | 26              | 150  | 51    | 2     | 100     | 25           | 149   | 51  | 3   | 80  |
| COUNTRYMARK COOP 1682   | 24         | -- | -- | 150          | --  | --  | 53          | -- | -- | 3            | -- | -- | 99    | 23           | 126  | 52 | 6     | 98    | 24              | 157  | 53    | 1     | 100     | 23           | 168   | 53  | 2   | 97  |
| COUNTRYMARK COOP 3858   | 26         | -- | -- | 163          | --  | --  | 50          | -- | -- | 5            | -- | -- | 82    | 25           | 149  | 50 | 8     | 80    | 26              | *176 | 50    | 5     | 86      | 26           | 164   | 51  | 2   | 81  |
| DAIRYLAND STEALTH 1297  | 28         | 27 | -- | *171         | 159 | --  | 51          | 50 | -- | 4            | 4  | -- | 98    | 29           | *161 | 50 | 6     | 98    | 29              | 165  | 51    | 4     | 100     | 28           | *188  | 51  | 2   | 97  |
| DAIRYLAND STEALTH 1496  | 26         | -- | -- | *174         | --  | --  | 50          | -- | -- | 3            | -- | -- | 90    | 25           | *155 | 50 | 6     | 88    | 27              | *178 | 50    | 3     | 98      | 26           | *190  | 51  | 1   | 85  |
| DAIRYLAND STEALTH 1595  | 26         | -- | -- | 155          | --  | --  | 51          | -- | -- | 2            | -- | -- | 98    | 26           | 133  | 50 | 1     | 100   | 26              | 156  | 51    | 3     | 98      | 25           | 177   | 51  | 2   | 96  |
| DEKALB DK345  | 24         | -- | -- | 144          | --  | --  | 56          | -- | -- | 4            | -- | -- | 95    | 24           | 121  | 56 | 7     | 100   | 24              | 160  | 57    | 4     | 100     | 25           | 150   | 55  | 3   | 85  |
| DEKALB DK352  | 22         | -- | -- | 145          | --  | --  | 55          | -- | -- | 3            | -- | -- | 96    | 22           | 124  | 54 | 5     | 100   | 22              | 154  | 55    | 2     | 100     | 22           | 157   | 54  | 2   | 89  |
| DEKALB DK365  | 24         | -- | -- | 153          | --  | --  | 54          | -- | -- | 6            | -- | -- | 98    | 23           | 130  | 53 | 12    | 98    | 25              | 161  | 54    | 5     | 99      | 25           | 167   | 53  | 2   | 96  |
| DEKALB DK385B   | 25         | -- | -- | 165          | --  | --  | 55          | -- | -- | 3            | -- | -- | 96    | 24           | 145  | 55 | 4     | 100   | 25              | 173  | 55    | 3     | 100     | 25           | 176   | 54  | 2   | 89  |
| DEKALB DK431  | 24         | -- | -- | *171         | --  | --  | 53          | -- | -- | 4            | -- | -- | 99    | 25           | 153  | 52 | 5     | 100   | 25              | *179 | 52    | 4     | 100     | 23           | *183  | 53  | 2   | 97  |
| DEKALB DK442  | 26         | 25 | 23 | *170         | 159 | 161 | 51          | 49 | 52 | 6            | 6  | 5  | 98    | 26           | 147  | 50 | 8     | 97    | 26              | *177 | 51    | 6     | 100     | 25           | *186  | 52  | 4   | 97  |
| DEKALB DK471  | 28         | 26 | 24 | *173         | 162 | 165 | 50          | 49 | 52 | 4            | 4  | 4  | 99    | 27           | *167 | 50 | 5     | 100   | 29              | 171  | 49    | 5     | 100     | 27           | *182  | 51  | 3   | 96  |
| DEKALB DK477  | 27         | 25 | -- | 165          | 162 | --  | 50          | 50 | -- | 3            | 2  | -- | 97    | 26           | *156 | 51 | 6     | 100   | 27              | *179 | 50    | 3     | 100     | 28           | 160   | 51  | 1   | 92  |
| GARST 8830  | 26         | -- | -- | *176         | --  | --  | 50          | -- | -- | 4            | -- | -- | 99    | 25           | 148  | 50 | 6     | 99    | 27              | 175  | 50    | 5     | 100     | 27**203      | 51    | 1   | 97  |     |
| GOLDEN HARVEST H-2292   | 26         | 25 | 23 | 146          | 136 | 140 | 50          | 49 | 52 | 2            | 3  | 3  | 99    | 27           | 143  | 50 | 3     | 100   | 27              | 145  | 50    | 2     | 100     | 24           | 151   | 51  | 1   | 97  |
| GREAT LAKES 3362  | 23         | -- | -- | 149          | --  | --  | 51          | -- | -- | 4            | -- | -- | 97    | 23           | 128  | 51 | 6     | 97    | 23              | 146  | 51    | 3     | 97      | 23           | 174   | 51  | 2   | 99  |
| GREAT LAKES 4563  | 27         | -- | -- | *170         | --  | --  | 50          | -- | -- | 3            | -- | -- | 95    | 26           | *157 | 50 | 3     | 96    | 28              | 166  | 51    | 4     | 96      | 27           | *187  | 51  | 2   | 94  |
| GRIES GSF-EX1000  | 26         | -- | -- | 152          | --  | --  | 51          | -- | -- | 2            | -- | -- | 99    | 26           | 139  | 50 | 3     | 99    | 25              | 157  | 52    | 2     | 100     | 26           | 161   | 51  | 1   | 98  |
| GRIES GSF-2393  | 26         | -- | -- | 144          | --  | --  | 52          | -- | -- | 5            | -- | -- | 95    | 26           | 136  | 51 | 10    | 93    | 27              | 144  | 52    | 5     | 98      | 26           | 154   | 52  | 1   | 93  |
| GUTWEIN Ex515   | 27         | -- | -- | *171         | --  | --  | 50          | -- | -- | 3            | -- | -- | 98    | 25           | 147  | 50 | 5     | 98    | 27              | 170  | 50    | 4     | 100     | 27           | *197  | 51  | 1   | 96  |
| GUTWEIN Ex620   | 27         | -- | -- | 154          | --  | --  | 50          | -- | -- | 6            | -- | -- | 93    | 26           | 126  | 50 | 10    | 96    | 29              | 174  | 50    | 5     | 100     | 28           | 162   | 51  | 1   | 84  |
| GUTWEIN Ex717   | 25         | -- | -- | 162          | --  | --  | 52          | -- | -- | 2            | -- | -- | 99    | 26           | 145  | 51 | 1     | 100   | 26              | 160  | 51    | 3     | 100     | 25           | *181  | 53  | 3   | 97  |
| JUNG 2460   | 25         | -- | -- | 157          | --  | --  | 51          | -- | -- | 1            | -- | -- | 99    | 26           | 139  | 50 | 1     | 100   | 26              | 161  | 51    | 1     | 100     | 24           | 172   | 52  | 1   | 96  |
| JUNG 2488   | 27         | -- | -- | *173         | --  | --  | 49          | -- | -- | 6            | -- | -- | 99    | 27           | 148  | 49 | 10    | 100   | 27              | 175  | 49    | 5     | 100     | 27           | *196  | 50  | 4   | 97  |
| LG Seeds LG 2442  | 26         | -- | -- | *170         | --  | --  | 50          | -- | -- | 4            | -- | -- | 99    | 25           | 149  | 49 | 5     | 98    | 27              | 171  | 50    | 4     | 99      | 27           | *190  | 50  | 2   | 99  |
| LG Seeds LG 2448  | 28         | 25 | -- | 155          | 150 | --  | 49          | 48 | -- | 3            | 3  | -- | 92    | 28           | 138  | 49 | 5     | 91    | 27              | 158  | 49    | 4     | 92      | 28           | 167   | 50  | 0   | 94  |
| LG Seeds LG 2473  | 29         | -- | -- | *183         | --  | --  | 51          | -- | -- | 3            | -- | -- | 99    | 29**168      | 51   | 4  | 100   | 29    | *178            | 50   | 2     | 98    | 30**203 | 52           | 2     | 98  |     |     |
| MIDWEST GENETIC G6970   | 27         | -- | -- | 166          | --  | --  | 50          | -- | -- | 5            | -- | -- | 97    | 26           | *156 | 50 | 6     | 100   | 28              | 173  | 50    | 4     | 100     | 27           | 169   | 51  | 6   | 92  |
| MYCOGEN 2458  | 26         | -- | -- | 156          | --  | --  | 50          | -- | -- | 1            | -- | -- | 94    | 27           | 154  | 49 | 1     | 96    | 26              | 163  | 51    | 1     | 97      | 24           | 152   | 51  | 2   | 89  |
| NK Brand NX2105   | 24         | -- | -- | 152          | --  | --  | 54          | -- | -- | 5            | -- | -- | 91    | 23           | 129  | 53 | 8     | 100   | 25              | 158  | 54    | 3     | 94      | 24           | 168   | 54  | 4   | 80  |
| NK Brand 2138X  | 25         | -- | -- | 159          | --  | --  | 54          | -- | -- | 3            | -- | -- | 89    | 26           | 149  | 53 | 6     | 91    | 26              | *186 | 55    | 1     | 96      | 25           | 141   | 53  | 1   | 81  |
| NK Brand N2555  | 25         | -- | -- | 163          | --  | --  | 55          | -- | -- | 7            | -- | -- | 98    | 24           | 144  | 55 | 13    | 100   | 26              | 162  | 55    | 5     | 100     | 26           | *184  | 55  | 2   | 94  |
| PAYCO 413   | 26         | 25 | 22 | 163          | 155 | 156 | 49          | 48 | 51 | 5            | 5  | 4  | 99    | 26           | 134  | 48 | 7     | 99    | 27              | 170  | 49    | 4     | 100     | 25           | *185  | 50  | 2   | 97  |
| PIONEER 3752  | 27         | 27 | 24 | *168         | 159 | 162 | 52          | 51 | 53 | 3            | 4  | 4  | 87    | 27           | 153  | 52 | 6     | 86    | 28              | 175  | 52    | 1     | 93      | 27           | 175   | 53  | 3   | 82  |
| PIONEER 37M81   | 27         | -- | -- | *178         | --  | --  | 49          | -- | -- | 6            | -- | -- | 99    | 26           | *157 | 49 | 9     | 100   | 28              | *188 | 49    | 3     | 100     | 27           | *188  | 50  | 5   | 96  |
| RENK RK546  | 27         | 25 | 23 | *170         | 160 | 162 | 50          | 49 | 51 | 4            | 4  | 4  | 96    | 26           | *157 | 50 | 4     | 97    | 28              | 174  | 50    | 4     | 99      | 28           | 179   | 51  | 3   | 92  |
| RENK RK552  | 26         | -- | -- | *172         | --  | --  | 51          | -- | -- | 4            | -- | -- | 96    | 25           | 144  | 49 | 7     | 99    | 27              | *177 | 51    | 4     | 100     | 26           | *194  | 52  | 2   | 88  |
| RUPP X7-302   | 25         | -- | -- | 148          | --  | --  | 51          | -- | -- | 3            | -- | -- | 96    | 26           | 136  | 51 | 2     | 99    | 26              | 160  | 51    | 2     | 100     | 25           | 148   | 52  | 5   | 89  |
| RUPP XR1528   | 26         | 26 | -- | 166          | 158 | --  | 51          | 49 | -- | 4            | 5  | -- | 100   | 26           | 141  | 49 | 6     | 99    | 27              | 172  | 51    | 3     | 100     | 26           | *186  | 52  | 4   | 100 |
| TERRA TR906   | 23         | -- | -- | 162          | --  | --  | 52          | -- | -- | 5            | -- | -- | 99    | 23           | 140  | 51 | 9     | 100   | 24              | 150  | 53    | 5     | 100     | 22           | *196  | 53  | 2   | 97  |
| TERRA TR966   | 26         | -- | -- |              |     |     |             |    |    |              |    |    |       |              |      |    |       |       |                 |      |       |       |         |              |       |     |     |     |



Average of Huron, Montcalm & Mason County LATE trials  
One-, two-, three-year averages — 1997, 1996, 1995

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

| HYBRID<br>(Brand-Variety)    | % MOISTURE |    | BUSHEL/ACRE |      | TEST WEIGHT |     | % STALK LODG |    | %  | HURON COUNTY |    |      |     |    | MONTCALM COUNTY |      |    |     |    | MASON COUNTY |    |   |     |     |      |    |     |     |
|------------------------------|------------|----|-------------|------|-------------|-----|--------------|----|----|--------------|----|------|-----|----|-----------------|------|----|-----|----|--------------|----|---|-----|-----|------|----|-----|-----|
|                              | 2          | 3  | 2           | 3    | 2           | 3   | 2            | 3  |    | STD          | %  | TEST | %   | %  | %               | TEST | %  | %   | %  | TEST         | %  | % |     |     |      |    |     |     |
|                              | 1997       | Yr | 1997        | Yr   | 1997        | Yr  | 1997         | Yr |    |              |    |      |     |    |                 |      |    |     |    |              |    |   | H2O | B/A | WT   | SL | H2O | B/A |
| BAYSIDE Super 99             | 31         | -- | --          | *164 | --          | --  | 50           | -- | -- | 3            | -- | --   | 97  | 28 | 147             | 50   | 5  | 93  | 31 | *178         | 50 | 1 | 97  | 32  | 167  | 51 | 1   | 100 |
| BROWN BR5140                 | 30         | -- | --          | *168 | --          | --  | 50           | -- | -- | 4            | -- | --   | 91  | 29 | 141             | 50   | 8  | 94  | 30 | *171         | 50 | 4 | 82  | 31  | *191 | 51 | 1   | 97  |
| CALLAHAN C7738               | 30         | 28 | --          | 142  | 145         | --  | 49           | 48 | -- | 2            | 2  | --   | 93  | 28 | 136             | 49   | 2  | 94  | 30 | 149          | 49 | 1 | 94  | 31  | 142  | 50 | 2   | 91  |
| CALLAHAN C7741               | 33         | 30 | --          | *172 | 164         | --  | 48           | 48 | -- | 3            | 3  | --   | 98  | 30 | *151            | 49   | 4  | 99  | 32 | *171         | 48 | 4 | 95  | 35  | *195 | 49 | 2   | 99  |
| CARGILL 3677                 | 27         | 26 | 24          | *171 | 162         | 164 | 52           | 50 | 53 | 3            | 3  | 3    | 95  | 27 | 144             | 51   | 3  | 97  | 28 | *177         | 51 | 4 | 100 | 27  | *193 | 52 | 1   | 89  |
| CARGILL 3797                 | 28         | 27 | 24          | *164 | 159         | 161 | 51           | 50 | 52 | 3            | 3  | 3    | 97  | 27 | 127             | 51   | 6  | 96  | 29 | *170         | 51 | 4 | 99  | 27  | *194 | 52 | 0   | 95  |
| CARGILL 4127                 | 29         | 28 | 25          | *162 | 154         | 159 | 50           | 49 | 51 | 4            | 3  | 3    | 100 | 29 | 143             | 50   | 3  | 100 | 29 | *172         | 50 | 7 | 100 | 30  | 170  | 50 | 2   | 99  |
| CARGILL 4177                 | 32         | 31 | 28          | 152  | 152         | 162 | 48           | 47 | 49 | 5            | 4  | 5    | 96  | 31 | 130             | 48   | 6  | 93  | 32 | *173         | 47 | 4 | 100 | 34  | 153  | 49 | 4   | 95  |
| CARGILL 4277                 | 32         | -- | --          | *159 | --          | --  | 49           | -- | -- | 2            | -- | --   | 98  | 30 | 146             | 50   | 2  | 99  | 32 | 164          | 48 | 2 | 100 | 34  | 167  | 49 | 2   | 94  |
| CORNBELT C498                | 30         | -- | --          | *168 | --          | --  | 50           | -- | -- | 2            | -- | --   | 98  | 28 | *155            | 50   | 2  | 96  | 29 | *173         | 49 | 2 | 100 | 32  | *176 | 50 | 1   | 100 |
| COUNTRYMARK COOP 4048        | 31         | -- | --          | 153  | --          | --  | 51           | -- | -- | 3            | -- | --   | 99  | 31 | 141             | 50   | 6  | 97  | 30 | 153          | 52 | 2 | 100 | 32  | 165  | 52 | 1   | 99  |
| DAIRYLAND STEALTH 1203       | 30         | 29 | 26          | *158 | 156         | 159 | 47           | 46 | 49 | 6            | 6  | 6    | 97  | 27 | 141             | 47   | 14 | 100 | 32 | *167         | 46 | 6 | 100 | 29  | 167  | 48 | 0   | 90  |
| DAIRYLAND STEALTH 1401       | 30         | 28 | --          | *163 | 157         | --  | 49           | 48 | -- | 1            | 2  | --   | 97  | 28 | *159            | 49   | 3  | 98  | 30 | *171         | 49 | 0 | 99  | 33  | 160  | 50 | 0   | 94  |
| DAIRYLAND STEALTH 1402       | 31         | -- | --          | *159 | --          | --  | 49           | -- | -- | 2            | -- | --   | 96  | 29 | *149            | 49   | 3  | 96  | 31 | *180         | 48 | 2 | 97  | 34  | 147  | 49 | 1   | 95  |
| DAIRYLAND STEALTH 1406       | 34         | -- | --          | *158 | --          | --  | 48           | -- | -- | 5            | -- | --   | 93  | 30 | *157            | 49   | 5  | 96  | 34 | 158          | 46 | 6 | 99  | 38  | 159  | 48 | 6   | 85  |
| DAIRYLAND STEALTH 1500       | 30         | -- | --          | *156 | --          | --  | 51           | -- | -- | 4            | -- | --   | 99  | 29 | 137             | 50   | 4  | 100 | 30 | *168         | 51 | 2 | 100 | 31  | 162  | 51 | 5   | 96  |
| DEKALB DK493                 | 28         | 27 | 24          | *165 | 160         | 166 | 50           | 48 | 50 | 2            | 2  | 3    | 96  | 28 | *163            | 49   | 2  | 100 | 28 | *175         | 50 | 4 | 100 | 28  | 158  | 50 | 1   | 89  |
| DEKALB DK527                 | 33         | 31 | 27          | *162 | 157         | 166 | 50           | 49 | 50 | 6            | 4  | 4    | 97  | 30 | *152            | 50   | 6  | 95  | 33 | 164          | 48 | 3 | 100 | 35  | 170  | 51 | 7   | 98  |
| DEKALB DK546                 | 35         | 33 | --          | *163 | 154         | --  | 48           | 48 | -- | 3            | 3  | --   | 94  | 32 | *153            | 48   | 5  | 91  | 36 | 161          | 48 | 2 | 100 | 36  | *174 | 49 | 2   | 92  |
| GARST 8771                   | 30         | 27 | --          | *160 | 157         | --  | 49           | 48 | -- | 3            | 3  | --   | 98  | 30 | 141             | 49   | 5  | 96  | 29 | *174         | 48 | 2 | 100 | 31  | 163  | 49 | 2   | 99  |
| GARST 8780Hph                | 29         | -- | --          | *166 | --          | --  | 49           | -- | -- | 3            | -- | --   | 99  | 26 | 142             | 49   | 5  | 99  | 28 | *175         | 49 | 1 | 100 | 31  | *180 | 49 | 4   | 97  |
| GOLDEN HARVEST H-2349        | 30         | -- | --          | *159 | --          | --  | 49           | -- | -- | 7            | -- | --   | 98  | 29 | *153            | 49   | 11 | 100 | 30 | 145          | 49 | 6 | 100 | 30  | *178 | 50 | 3   | 94  |
| GOLDEN HARVEST H-2382        | 29         | 28 | 26          | *161 | 151         | 155 | 51           | 50 | 52 | 4            | 5  | 4    | 98  | 29 | 146             | 50   | 5  | 99  | 29 | 161          | 51 | 4 | 100 | 30  | *176 | 51 | 4   | 95  |
| GREAT LAKES 4848             | 30         | 28 | --          | *168 | 148         | --  | 50           | 48 | -- | 3            | 3  | --   | 100 | 29 | *154            | 49   | 5  | 100 | 29 | *169         | 49 | 4 | 100 | 31  | *180 | 50 | 1   | 100 |
| GREAT LAKES 4929             | 29         | 28 | --          | *164 | 156         | --  | 49           | 49 | -- | 2            | 3  | --   | 99  | 28 | *152            | 50   | 3  | 100 | 30 | *183         | 49 | 2 | 100 | 30  | 159  | 50 | 1   | 98  |
| GRIES GSF-4203               | 34         | 32 | --          | *164 | 160         | --  | 48           | 48 | -- | 5            | 3  | --   | 93  | 30 | *158            | 50   | 3  | 91  | 33 | 158          | 47 | 4 | 100 | 40  | *177 | 48 | 7   | 89  |
| JUNG 2544                    | 32         | 29 | --          | 152  | 153         | --  | 48           | 48 | -- | 2            | 4  | --   | 98  | 30 | 133             | 48   | 4  | 99  | 31 | 161          | 48 | 2 | 99  | 35  | 162  | 49 | 1   | 97  |
| JUNG 2577                    | 31         | -- | --          | *158 | --          | --  | 50           | -- | -- | 4            | -- | --   | 98  | 29 | 140             | 50   | 8  | 100 | 33 | 162          | 49 | 3 | 100 | 32  | *174 | 51 | 2   | 95  |
| LG Seeds LG 2483             | 32         | -- | --          | *164 | --          | --  | 48           | -- | -- | 2            | -- | --   | 96  | 31 | *150            | 48   | 4  | 94  | 32 | 158          | 47 | 1 | 98  | 32  | *185 | 48 | 1   | 95  |
| LG Seeds LG 2499             | 33         | 30 | --          | *160 | 155         | --  | 48           | 48 | -- | 2            | 3  | --   | 98  | 32 | 142             | 49   | 4  | 99  | 33 | *167         | 48 | 3 | 100 | 35  | *171 | 49 | 0   | 97  |
| MIDWEST GENETIC G7118        | 31         | -- | --          | *163 | --          | --  | 50           | -- | -- | 2            | -- | --   | 97  | 31 | *148            | 49   | 3  | 97  | 28 | *173         | 50 | 4 | 99  | 33  | 169  | 51 | 0   | 96  |
| PAYCO 6071                   | 29         | -- | --          | *163 | --          | --  | 49           | -- | -- | 3            | -- | --   | 100 | 29 | 147             | 49   | 6  | 100 | 27 | *169         | 50 | 3 | 100 | 30  | *174 | 50 | 0   | 99  |
| PAYCO 635                    | 29         | -- | --          | *156 | --          | --  | 49           | -- | -- | 8            | -- | --   | 92  | 29 | *150            | 49   | 13 | 89  | 30 | *169         | 49 | 5 | 96  | 28  | 149  | 48 | 7   | 92  |
| PIONEER 3573                 | 33         | 32 | 28          | *160 | 150         | 159 | 49           | 48 | 50 | 4            | 3  | 4    | 99  | 30 | 144             | 49   | 4  | 100 | 33 | 163          | 48 | 3 | 100 | 35  | *172 | 49 | 4   | 97  |
| PIONEER 36K27                | 33         | -- | --          | *170 | --          | --  | 49           | -- | -- | 2            | -- | --   | 100 | 32 | *164            | 50   | 0  | 100 | 33 | 166          | 48 | 0 | 100 | 36  | *179 | 50 | 5   | 101 |
| PIONEER 3730                 | 30         | 28 | --          | *171 | 168         | --  | 51           | 50 | -- | 5            | 4  | --   | 98  | 29 | *156            | 50   | 8  | 100 | 29 | *178         | 51 | 4 | 100 | 31  | *179 | 51 | 3   | 94  |
| RENK RK671                   | 32         | -- | --          | 149  | --          | --  | 49           | -- | -- | 7            | -- | --   | 99  | 30 | 126             | 48   | 15 | 100 | 31 | 158          | 48 | 5 | 100 | 35  | 164  | 50 | 0   | 98  |
| RENK RK672                   | 32         | 30 | --          | 153  | 153         | --  | 50           | 49 | -- | 4            | 4  | --   | 97  | 30 | 143             | 50   | 7  | 93  | 34 | 160          | 49 | 4 | 100 | 32  | 156  | 51 | 1   | 97  |
| RUPP XR1599                  | 30         | -- | --          | 153  | --          | --  | 49           | -- | -- | 2            | -- | --   | 88  | 29 | 146             | 49   | 3  | 88  | 29 | 160          | 49 | 4 | 89  | 30  | 154  | 50 | 0   | 87  |
| RUPP XR1688                  | 34         | 32 | 29          | 148  | 140         | 149 | 48           | 48 | 50 | 2            | 2  | 2    | 91  | 31 | 143             | 49   | 5  | 91  | 33 | 151          | 47 | 2 | 92  | 37  | 150  | 49 | 0   | 90  |
| SUNSTAR 4408                 | 38         | -- | --          | 152  | --          | --  | 48           | -- | -- | 2            | -- | --   | 80  | 36 | *149            | 49   | 1  | 81  | 37 | 157          | 47 | 2 | 82  | 41  | 149  | 49 | 3   | 77  |
| SUNSTAR 4409                 | 37         | -- | --          | 151  | --          | --  | 48           | -- | -- | 5            | -- | --   | 93  | 36 | 146             | 48   | 3  | 93  | 39 | 153          | 47 | 4 | 98  | 37  | 154  | 49 | 7   | 88  |
| SUNSTAR 4706                 | 34         | -- | --          | *168 | --          | --  | 48           | -- | -- | 4            | -- | --   | 96  | 32 | *161            | 49   | 3  | 97  | 33 | 164          | 47 | 4 | 97  | 37  | *179 | 48 | 4   | 94  |
| TERRA E987                   | 30         | -- | --          | 154  | --          | --  | 50           | -- | -- | 3            | -- | --   | 90  | 29 | *151            | 50   | 6  | 86  | 31 | *172         | 49 | 1 | 91  | 31  | 137  | 49 | 2   | 93  |
| TERRA TR1026                 | 29         | 27 | --          | *160 | 153         | --  | 49           | 48 | -- | 2            | 2  | --   | 98  | 28 | *149            | 49   | 2  | 100 | 29 | *170         | 49 | 2 | 100 | 31  | 160  | 50 | 1   | 95  |
| TERRA E1047                  | 34         | -- | --          | *159 | --          | --  | 48           | -- | -- | 4            | -- | --   | 94  | 30 | *158            | 50   | 5  | 93  | 33 | 165          | 47 | 3 | 96  | 37  | 154  | 48 | 4   | 93  |
| TRELA 5004                   | 31         | -- | --          | *166 | --          | --  | 50           | -- | -- | 3            | -- | --   | 100 | 29 | *153            | 50   | 4  | 100 | 31 | *167         | 50 | 5 | 100 | 32  | *178 | 51 | 1   | 99  |
| AVERAGE                      | 31         | 29 | 26          | 160  | 162         | 160 | 49           | 48 | 51 | 3            | 3  | 4    | 96  | 30 | 147             | 49   | 5  | 96  | 31 | 166          | 49 | 3 | 98  | 33  | 167  | 50 | 2   | 94  |
| HIGHEST                      | 38         | 33 | 29          | 172  | 168         | 166 | 52           | 50 | 53 | 8            | 6  | 6    | 100 | 36 | 164             | 51   | 15 | 100 | 39 | 183          | 52 | 7 | 100 | 41  | 195  | 52 | 7   | 100 |
| LOWEST                       | 27         | 26 | 24          | 142  | 140         | 149 | 47           | 46 | 49 | 1            | 2  | 2    | 80  | 26 | 126             | 47   | 0  | 81  | 27 | 145          | 46 | 0 | 82  | 27  | 137  | 48 | 0   | 77  |
| Least Significant Difference | 2          |    |             | 16   |             |     | 1            |    |    |              |    |      |     | 3  | 16              | 2    |    |     | 2  | 16           | 1  |   |     | 3   | 24   | 1  |     |     |
| Coefficient of Variance      | 4          |    |             | 6    |             |     | 1            |    |    |              |    |      |     | 7  | 7               | 2    |    |     | 5  | 7            | 1  |   |     | 5   | 10   | 1  |     |     |

\* NOT SIGNIFICANTLY DIFFERENT FROM THE TOP YIELDING HYBRID IN 1997  
\*\* TOP YIELDING HYBRID IN 1997

Table A

Temperature, Precipitation, and Growing Degree Day Summary  
1997 Growing Season

| COUNTY        |      | MAY  |      |      | JUNE |      |       | JULY |      |       | AUGUST |      |      | SEPTEMBER |      |      | SEASON |       |       |
|---------------|------|------|------|------|------|------|-------|------|------|-------|--------|------|------|-----------|------|------|--------|-------|-------|
|               |      | OBS. | NORM | DEV. | OBS. | NORM | DEV.  | OBS. | NORM | DEV.  | OBS.   | NORM | DEV. | OBS.      | NORM | DEV. | OBS.   | NORM  | DEV.  |
| MONROE ZONE 1 | TEMP | 52.9 | 58.3 | -5.4 | 69.2 | 67.8 | 1.4   | 71.6 | 71.7 | -0.1  | 67.9   | 69.9 | -2.0 | 62.9      | 62.6 | 0.3  | 64.9   | 66.1  | -1.2  |
|               | PPT  | 3.12 | 3.04 | .08  | 3.10 | 3.30 | -0.20 | 1.57 | 3.73 | -2.16 | 3.52   | 3.20 | 0.32 | 3.10      | 3.10 | 0.48 | 14.41  | 15.89 | -1.48 |
|               | GDD  | 218  | 353  | -135 | 572  | 542  | 30    | 661  | 658  | 3     | 560    | 616  | -56  | 425       | 425  | -7   | 2436   | 2601  | -165  |
| BRANCH        | TEMP | 50.4 | 5    |      |      |      |       |      |      |       |        |      |      |           |      |      |        |       |       |



Average of Alpena & Grand Traverse County Trials Plus Delta County Data  
One-, two-, three-year averages — 1997, 1996, 1995

| HYBRID<br>(Brand-Variety)    | % MOISTURE |    | BUSHEL/ACRE |      | TEST WEIGHT |     |      | % STALK LODG |    |      | %  | ALPENA COUNTY |     |      |      |     | GRAND TRAVERSE COUNTY |     |      |      |     | DELTA COUNTY |     |      |      |     |    |     |     |
|------------------------------|------------|----|-------------|------|-------------|-----|------|--------------|----|------|----|---------------|-----|------|------|-----|-----------------------|-----|------|------|-----|--------------|-----|------|------|-----|----|-----|-----|
|                              | 1997       | Yr | Yr          | 1997 | Yr          | Yr  | 1997 | Yr           | Yr | 1997 |    | Yr            | Yr  | STD  | H2O  | B/A | WT                    | SL  | STD  | H2O  | B/A | WT           | SL  | STD  | H2O  | B/A | WT | SL  | STD |
|                              | 2          | 3  | 2           | 3    | 2           | 3   | 2    | 3            | 2  | 3    |    | 2             | 3   | 2    | 2    | 2   | 2                     | 2   | 2    | 2    | 2   | 2            | 2   | 2    | 2    | 2   | 2  | 2   | 2   |
| BAYSIDE Super 79             | 29         | 26 | --          | 100  | 105         | --  | 49   | 49           | -- | 1    | 11 | --            | 100 | 29   | 108  | 48  | 2                     | 100 | 29   | 92   | 49  | 0            | 100 | 27   | *106 | 46  | 16 | 99  |     |
| BAYSIDE Super 85             | 32         | -- | --          | *103 | --          | --  | 47   | --           | -- | 1    | -- | --            | 81  | 30   | *113 | 46  | 1                     | 85  | 33   | 93   | 47  | 1            | 77  | 28   | 96   | 43  | 9  | 91  |     |
| BROWN BR1680                 | 30         | -- | --          | *111 | --          | --  | 48   | --           | -- | 0    | -- | --            | 100 | 30   | *122 | 47  | 0                     | 100 | 30   | *99  | 49  | 0            | 100 | 27   | 85   | 45  | 3  | 100 |     |
| CARGILL 1877                 | 30         | 27 | --          | *107 | 109         | --  | 52   | 53           | -- | 1    | 14 | --            | 100 | 29   | *123 | 53  | 1                     | 100 | 31   | 91   | 52  | 1            | 100 | 26   | 98   | 50  | 4  | 99  |     |
| CARGILL 2827                 | 31         | 29 | --          | 94   | 106         | --  | 49   | 50           | -- | 2    | 6  | --            | 100 | 31   | *114 | 49  | 2                     | 100 | 31   | 74   | 49  | 1            | 100 | --   | --   | --  | -- | --  |     |
| CARGILL 2927                 | 36         | -- | --          | 89   | --          | --  | 48   | --           | -- | 2    | -- | --            | 99  | 36   | 97   | 46  | 2                     | 97  | 37   | 81   | 49  | 2            | 100 | --   | --   | --  | -- | --  |     |
| CARGILL 3677                 | 36         | -- | --          | *109 | --          | --  | 47   | --           | -- | 1    | -- | --            | 99  | 36   | *118 | 46  | 2                     | 97  | 36   | *99  | 49  | 0            | 100 | --   | --   | --  | -- | --  |     |
| COUNTRYMARK COOP 1682        | 33         | -- | --          | 97   | --          | --  | 47   | --           | -- | 1    | -- | --            | 98  | 30   | *110 | 47  | 1                     | 96  | 35   | 84   | 48  | 1            | 100 | 28   | 70   | 45  | 6  | 100 |     |
| DAIRYLAND STEALTH 1289       | 34         | 30 | 28          | 95   | 101         | 121 | 45   | 46           | 48 | 1    | 6  | 5             | 100 | 34   | *112 | 44  | 2                     | 99  | 34   | 77   | 46  | 0            | 100 | 32   | 100  | 44  | 9  | 100 |     |
| DAIRYLAND STEALTH 1496       | 34         | -- | --          | *110 | --          | --  | 47   | --           | -- | 1    | -- | --            | 90  | 35   | *115 | 46  | 1                     | 87  | 34   | *106 | 48  | 0            | 92  | --   | --   | --  | -- | --  |     |
| DEKALB DK345                 | 32         | -- | --          | 96   | --          | --  | 49   | --           | -- | 0    | -- | --            | 98  | 31   | *112 | 48  | 0                     | 98  | 32   | 80   | 50  | 0            | 98  | 28   | 101  | 48  | 4  | 100 |     |
| DEKALB DK352                 | 30         | -- | --          | 100  | --          | --  | 49   | --           | -- | 1    | -- | --            | 99  | 28   | *113 | 48  | 2                     | 97  | 31   | 87   | 49  | 1            | 100 | 25   | 97   | 47  | 4  | 100 |     |
| DEKALB DK365                 | 31         | -- | --          | *107 | --          | --  | 48   | --           | -- | 1    | -- | --            | 97  | 30   | *118 | 48  | 2                     | 93  | 32   | *96  | 48  | 0            | 100 | 29   | *112 | 45  | 6  | 100 |     |
| DEKALB DK3858                | 32         | -- | --          | *113 | --          | --  | 49   | --           | -- | 0    | -- | --            | 97  | 30   | *121 | 48  | 0                     | 93  | 34   | *104 | 50  | 0            | 100 | 28   | *110 | 46  | 4  | 100 |     |
| DEKALB DK431                 | 34         | -- | --          | *106 | --          | --  | 46   | --           | -- | 1    | -- | --            | 98  | 31   | *112 | 46  | 1                     | 96  | 36   | *101 | 46  | 1            | 100 | --   | --   | --  | -- | --  |     |
| GOLDEN HARVEST H-2265        | 34         | -- | --          | 95   | --          | --  | 48   | --           | -- | 0    | -- | --            | 91  | 34   | 99   | 46  | 1                     | 89  | 34   | 91   | 50  | 0            | 92  | 33   | 94   | 44  | 3  | 94  |     |
| GOLDEN HARVEST H-2279        | 33         | 30 | 28          | 94   | 105         | 121 | 48   | 49           | 52 | 2    | 6  | 5             | 93  | 32   | 99   | 47  | 3                     | 99  | 35   | 90   | 50  | 0            | 87  | --   | --   | --  | -- | --  |     |
| GREAT LAKES 3362             | 30         | 27 | --          | 100  | 110         | --  | 46   | 46           | -- | 0    | 7  | --            | 97  | 30   | 103  | 45  | 0                     | 100 | 31   | *96  | 46  | 0            | 93  | 28   | 86   | 43  | 8  | 98  |     |
| GREAT LAKES 4038             | 32         | 29 | --          | 97   | 103         | --  | 47   | 46           | -- | 0    | 2  | --            | 99  | 30   | 99   | 46  | 0                     | 97  | 34   | 94   | 47  | 0            | 100 | 31   | 95   | 43  | 3  | 100 |     |
| GREAT LAKES 4563             | 38         | -- | --          | 97   | --          | --  | 45   | --           | -- | 1    | -- | --            | 90  | 40   | 104  | 45  | 2                     | 92  | 37   | 91   | 45  | 0            | 86  | --   | --   | --  | -- | --  |     |
| JUNG 2232                    | 28         | 26 | --          | 101  | 103         | --  | 48   | 48           | -- | 3    | 10 | --            | 100 | 28   | 103  | 48  | 5                     | 100 | 28   | *98  | 49  | 2            | 100 | 26   | 104  | 46  | 11 | 100 |     |
| JUNG 2340                    | 31         | -- | --          | 100  | --          | --  | 48   | --           | -- | 2    | -- | --            | 100 | 31   | 106  | 47  | 4                     | 100 | 32   | 93   | 49  | 0            | 100 | 29   | 92   | 45  | 6  | 100 |     |
| JUNG 2406                    | 34         | 30 | --          | 99   | 104         | --  | 45   | 46           | -- | 2    | 7  | --            | 100 | 34   | *113 | 44  | 2                     | 99  | 34   | 85   | 47  | 3            | 100 | 33** | 119  | 44  | 10 | 100 |     |
| JUNG 2430                    | 38         | -- | --          | 100  | --          | --  | 46   | --           | -- | 1    | -- | --            | 97  | 38   | 108  | 45  | 3                     | 99  | 38   | 91   | 47  | 0            | 95  | --   | --   | --  | -- | --  |     |
| LG Seeds LG 2392             | 38         | 33 | --          | 94   | 110         | --  | 47   | 47           | -- | 2    | 3  | --            | 98  | 37   | 105  | 46  | 3                     | 95  | 38   | 82   | 47  | 0            | 100 | 34   | 79   | 45  | 7  | 94  |     |
| LG Seeds LG 2408             | 36         | -- | --          | 94   | --          | --  | 44   | --           | -- | 0    | -- | --            | 99  | 36   | 103  | 43  | 0                     | 98  | 35   | 86   | 45  | 0            | 100 | 41   | 90   | 42  | 4  | 100 |     |
| MYCOGEN 2250                 | 34         | 30 | --          | *104 | 112         | --  | 48   | 49           | -- | 2    | 7  | --            | 100 | 34   | *114 | 47  | 2                     | 99  | 34   | *95  | 48  | 1            | 100 | 29   | 98   | 46  | 14 | 100 |     |
| PIONEER 37M81                | 36         | -- | --          | *112 | --          | --  | 45   | --           | -- | 1    | -- | --            | 99  | 35   | *120 | 45  | 2                     | 98  | 37   | *103 | 46  | 0            | 99  | --   | --   | --  | -- | --  |     |
| PIONEER 3893                 | 32         | 28 | 26**        | 116  | 123         | 136 | 48   | 49           | 51 | 2    | 8  | 6             | 97  | 30** | 124  | 47  | 2                     | 97  | 33** | 109  | 48  | 2            | 97  | 27   | 102  | 46  | 6  | 100 |     |
| PIONEER 3936                 | 28         | 24 | --          | *109 | 112         | --  | 51   | 52           | -- | 3    | 5  | --            | 89  | 27   | *115 | 50  | 4                     | 87  | 30   | *103 | 51  | 2            | 90  | 26   | 57   | 48  | 23 | 99  |     |
| RENK RK133                   | 31         | -- | --          | 100  | --          | --  | 46   | --           | -- | 1    | -- | --            | 99  | 30   | 104  | 46  | 0                     | 99  | 31   | *97  | 47  | 1            | 99  | 31   | 76   | 42  | 4  | 98  |     |
| RENK RK272                   | 29         | -- | --          | *103 | --          | --  | 46   | --           | -- | 1    | -- | --            | 95  | 30   | 106  | 45  | 2                     | 94  | 29   | *100 | 48  | 0            | 96  | 28   | 98   | 44  | 4  | 100 |     |
| RENK RK376                   | 32         | -- | --          | *104 | --          | --  | 46   | --           | -- | 2    | -- | --            | 98  | 31   | 107  | 45  | 3                     | 98  | 33   | *101 | 47  | 0            | 97  | 30   | *105 | 43  | 7  | 100 |     |
| RENK RK546                   | 37         | -- | --          | *103 | --          | --  | 46   | --           | -- | 1    | -- | --            | 93  | 38   | 102  | 45  | 2                     | 91  | 36   | *103 | 47  | 0            | 94  | --   | --   | --  | -- | --  |     |
| TERRA TR906                  | 31         | 26 | --          | *103 | 108         | --  | 46   | 47           | -- | 2    | 7  | --            | 98  | 29   | *110 | 45  | 2                     | 96  | 32   | *95  | 46  | 1            | 100 | 28   | *109 | 43  | 3  | 98  |     |
| TERRA TR966                  | 39         | 37 | --          | 90   | 99          | --  | 47   | 46           | -- | 1    | 3  | --            | 99  | 38   | 104  | 45  | 1                     | 99  | 39   | 76   | 48  | 0            | 99  | --   | --   | --  | -- | --  |     |
| TRELAY 1003                  | 29         | -- | --          | *109 | --          | --  | 48   | --           | -- | 1    | -- | --            | 99  | 30   | *115 | 48  | 2                     | 97  | 29   | *102 | 48  | 1            | 100 | 26   | *115 | 46  | 11 | 100 |     |
| AVERAGE                      | 33         | 29 | 27          | 102  | 107         | 124 | 47   | 48           | 50 | 1    | 7  | 5             | 97  | 32   | 110  | 47  | 2                     | 96  | 33   | 93   | 48  | 1            | 97  | 29   | 96   | 45  | 7  | 99  |     |
| HIGHEST                      | 39         | 33 | 28          | 116  | 123         | 136 | 52   | 53           | 52 | 3    | 14 | 6             | 100 | 38   | 124  | 50  | 5                     | 100 | 39   | 109  | 52  | 3            | 100 | 41   | 119  | 50  | 23 | 100 |     |
| LOWEST                       | 28         | 26 | 26          | 89   | 99          | 121 | 44   | 46           | 48 | 0    | 2  | 5             | 81  | 27   | 97   | 44  | 0                     | 85  | 28   | 74   | 45  | 0            | 77  | 25   | 57   | 42  | 3  | 91  |     |
| Least Significant Difference |            |    | 14          |      |             |     | 1    |              |    |      |    |               | 3   |      | 14   |     | 1                     |     |      |      |     |              | 4   |      | 14   |     | 2  |     |     |
| Coefficient of Variance      |            |    | 7           |      |             |     | 1    |              |    |      |    |               | 5   |      | 9    |     | 2                     |     |      |      |     |              | 6   |      | 11   |     | 3  |     |     |

\* NOT SIGNIFICANTLY DIFFERENT FROM THE TOP YIELDING HYBRID IN 1997  
\*\* TOP YIELDING HYBRID IN 1997

PLOTS REQUIRE SPECIALIZED EQUIPMENT

Research requires the use of an assortment of specialized equipment. Testing of large numbers of hybrids requires planters with specially constructed seed metering devices. The plot planter allows for planting of individual seed packets for each hybrid. These packets are divided into four rows. Plots are 22 feet long with a 3-foot alley between plots.

A mounted sprayer and an adjustable four row cultivator make it possible to care for the

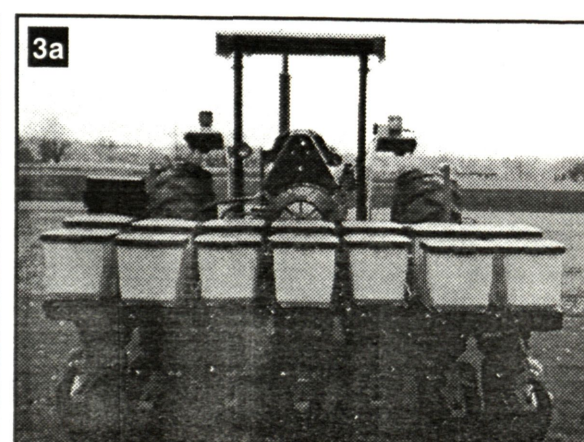
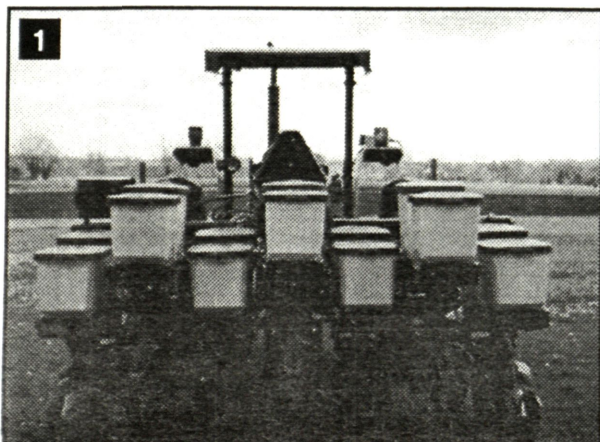
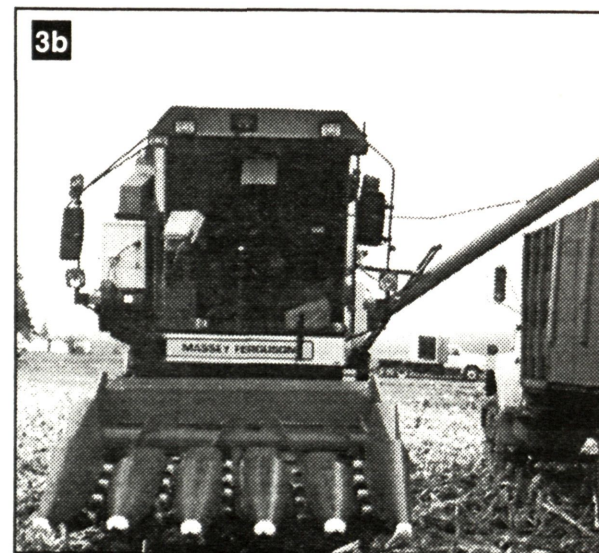
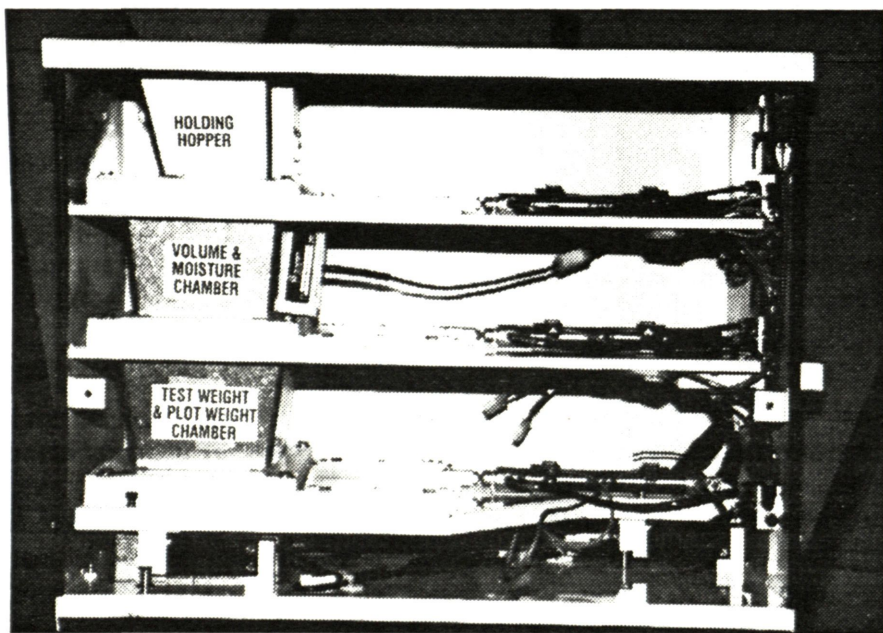
plots at the different locations. Weed control and side dressing are both possible with one machine.

All data are then measured by the Grain Gage system (pictured on left) mounted on a small two-row combine. The grain cycles through the system via pneumatically-controlled gates at the base of each chamber. The first chamber determines the volume for each measurement taken, the second chamber determines moisture while the third chamber measures each sub-sample for plot weight and test weight. At the end of each plot moisture and test weight measurements are averaged over the number of cycles and plot weights are totaled. These data are then stored in the memory of the Harvest Master Data System. This complete system allows for a one-person operation harvesting two plots per minute.

Narrow Row Corn Research

The equipment pictured below was specifically developed for the testing of corn in narrow-row systems. Test plots were designed to explore yield potential of different hybrid types within 30", 22", and 15" row-systems (photos 1, 2, 3a, 3b) planted at multiple populations up to 42,000. Development of equipment and this research was supported by the Corn Marketing Program of Michigan. First-year data of narrow row results are available on the Web at:

[www.msue.msu.edu/fldcrp/](http://www.msue.msu.edu/fldcrp/)





# 1997 European Corn Borer Populations in Michigan

This past summer was the first year of coordinated European corn borer (ECB) pheromone trapping by county agents in field crop areas across Michigan. Trapping sites included Monroe, Calhoun, Allegan, and Ingham counties in the south; Newaygo, Montcalm, Clinton, and Gratiot counties in central Michigan; Huron, Tuscola and Saginaw counties in the Thumb; and Cheboygan and Delta counties in the far north. Overall, ECB populations were low in 1997, and few problems were reported.

At most sites in the southern Lower Peninsula, ECB moth flight began around the first week of June. Moth flight peaked at most locations during the week of June 17th. First generation larvae pupated and emerged as moths beginning the

week of July 22. Second generation moth flight peaked at most locations during the week of August 19. In Cheboygan County and the Upper Peninsula, first generation corn borer flight started in mid-June and continued for an extended time until the end of July. In this colder area, a single-generation corn borer predominates, rather than the two-generation corn borer found in the southern part of the state. The adult moths of the single generation ECB population have an extended flight; the first generation larvae they produce overwinter, rather than developing into second generation adults.

European corn borers overwinter as a 5th instar larvae in corn debris on the soil surface. They are most often found in the lower two-thirds of the stalk

(bottom and ear zone of the plant), in the shank of the ear, and sometimes in the ear itself. By splitting stalks, you can determine how many live larvae are entering the winter in your area. In outbreak years (such as 1996), it is not unusual to find 100 to 200 live larvae per 100 stalks split at the end of the season (ie. 1-2 live larvae per plant). In years with a low corn borer population, we would expect 0 to 50 live larvae per 100 stalks. Estimates of the number of ECB larvae per 100 stalks taken this fall were 2 (Cass), 6 (Branch), 15 (Gratiot), and 45 (Lenawee). This low population in 1997 is not unexpected, since ECB populations regularly cycle and are low following an outbreak year.

*Christina Difonzo, Department of Entomology*

## Normal vs. Bt Hybrid Comparisons

Trials were conducted in 1997 at three locations comparing several Bt hybrids with their non-Bt counterpart. Sites were located in Cass, Ingham, and Branch counties. Trials consisted of four-row plots with four replications (3 replications in Branch) in side-by-side experiments. The table below has Bt hybrid data listed on the top half with data of the non-Bt hybrids listed on the bottom half. Number of tunnels and tunnel lengths were measured from five plants taken from each plot of each replication. Tunnel length is measured in centimeters (cm).

### Conclusions:

- Cass and Ingham counties had low ECB pressure while Branch County experienced slightly higher levels.

- There can be tunneling into Bt plants, but these tunnels are few and short. Borers have to eat some Bt to be affected.

### Bt Hybrids

| HYBRID<br>(BRAND - VARIETY) | % MOISTURE |     |     |     | BUSHELS /ACRE |     |     |     | TEST WEIGHT |     |     |     | % STALK LODGING |     |     |     | % STAND |     |     |     | AVE TUNNELS/PLANT |     |     |     | AVE TUNNEL LENGTH |     |     |     |
|-----------------------------|------------|-----|-----|-----|---------------|-----|-----|-----|-------------|-----|-----|-----|-----------------|-----|-----|-----|---------|-----|-----|-----|-------------------|-----|-----|-----|-------------------|-----|-----|-----|
|                             | AVE        | CAS | ING | BRA | AVE           | CAS | ING | BRA | AVE         | CAS | ING | BRA | AVE             | CAS | ING | BRA | AVE     | CAS | ING | BRA | AVE               | CAS | ING | BRA | AVE               | CAS | ING | BRA |
| BECK'S Ex5505 Bt            | 31         | 28  | 34  | 30  | 185           | 185 | 184 | 188 | 51          | 51  | 50  | 52  | 2.8             | 1.3 | 1.4 | 5.8 | 94      | 95  | 99  | 87  | 0.0               | 0.0 | 0.0 | 0.0 | 0.0               | 0.0 | 0.0 | 0.0 |
| DEKALB DK493 Bt             | 23         | 21  | 24  | 24  | 151           | 148 | 159 | 144 | 52          | 54  | 51  | 52  | 3.4             | 3.1 | 4.5 | 2.6 | 95      | 97  | 100 | 88  | 0.2               | 0.0 | 0.0 | 0.7 | 0.3               | 0.0 | 0.0 | 0.3 |
| DEKALB DK566 Bt             | 27         | 25  | 28  | 27  | 181           | 182 | 176 | 186 | 51          | 53  | 49  | 52  | 2.7             | 1.6 | 2.5 | 4.1 | 97      | 98  | 96  | 97  | 0.0               | 0.0 | 0.0 | 0.1 | 0.1               | 0.0 | 0.0 | 0.1 |
| NK Brand NX4395             | 25         | 23  | 27  | 26  | 186           | 178 | 188 | 192 | 56          | 58  | 55  | 56  | 0.7             | 0.7 | 0.0 | 1.3 | 92      | 90  | 99  | 87  | 0.3               | 0.0 | 0.3 | 0.5 | 0.6               | 0.0 | 0.6 | 0.5 |
| NK Brand MAX 21             | 27         | 25  | 30  | 27  | 189           | 185 | 184 | 199 | 53          | 54  | 52  | 54  | 1.5             | 1.0 | 0.7 | 2.7 | 99      | 100 | 98  | 99  | 0.0               | 0.0 | 0.0 | 0.1 | 0.1               | 0.0 | 0.0 | 0.1 |
| NK Brand MAX 454            | 29         | 26  | 31  | 30  | 190           | 193 | 187 | 190 | 52          | 53  | 51  | 52  | 1.9             | 3.4 | 0.4 | 2.0 | 96      | 97  | 99  | 92  | 0.1               | 0.0 | 0.2 | 0.1 | 0.4               | 0.0 | 0.1 | 0.8 |
| NK Brand N4640 Bt           | 24         | 22  | 26  | 24  | 162           | 145 | 180 | 161 | 54          | 56  | 52  | 54  | 0.9             | 1.7 | 0.7 | 0.4 | 99      | 98  | 100 | 100 | 0.0               | 0.0 | 0.0 | 0.0 | 0.0               | 0.0 | 0.0 | 0.0 |
| NK Brand N6800 Bt           | 28         | 27  | 30  | 28  | 187           | 166 | 195 | 199 | 53          | 53  | 52  | 54  | 1.9             | 1.4 | 0.0 | 4.4 | 97      | 99  | 100 | 93  | 0.0               | 0.0 | 0.0 | 0.0 | 0.0               | 0.0 | 0.0 | 0.0 |
| AVERAGE BT                  | 27         | 24  | 29  | 27  | 179           | 173 | 182 | 183 | 53          | 54  | 51  | 53  | 1.9             | 1.8 | 1.3 | 2.8 | 96      | 97  | 99  | 94  | 0.1               | 0.0 | 0.1 | 0.2 | 0.3               | 0.0 | 0.4 | 0.3 |
| LSD BT                      | 1          | 1   | 1   | 1   | 16            | 18  | 17  | 24  | 1           | 1   | 1   | 1   | 2.2             | 2.6 | 2.0 | 5.6 | 6       | 6   | 5   | 2   |                   |     |     |     |                   |     |     |     |
| CV BT                       | 3          | 2   | 3   | 3   | 5             | 7   | 6   | 8   | 1           | 1   | 1   | 1   | 67              | 101 | 107 | 115 | 4       | 5   | 4   | 13  |                   |     |     |     |                   |     |     |     |

### Non-Bt Hybrids

| HYBRID<br>(BRAND - VARIETY) | % MOISTURE |     |     |     | BUSHELS /ACRE |     |     |     | TEST WEIGHT |     |     |     | % STALK LODGING |     |     |     | % STAND |     |     |     | AVE TUNNELS/PLANT |     |     |     | AVE TUNNEL LENGTH |     |     |     |
|-----------------------------|------------|-----|-----|-----|---------------|-----|-----|-----|-------------|-----|-----|-----|-----------------|-----|-----|-----|---------|-----|-----|-----|-------------------|-----|-----|-----|-------------------|-----|-----|-----|
|                             | AVE        | CAS | ING | BRA | AVE           | CAS | ING | BRA | AVE         | CAS | ING | BRA | AVE             | CAS | ING | BRA | AVE     | CAS | ING | BRA | AVE               | CAS | ING | BRA | AVE               | CAS | ING | BRA |
| BECK'S 5405                 | 30         | 27  | 34  | 28  | 169           | 156 | 173 | 177 | 51          | 51  | 50  | 51  | 4.9             | 4.1 | 5.6 | 4.9 | 96      | 96  | 100 | 91  | 0.5               | 0.0 | 0.2 | 1.2 | 1.1               | 0.0 | 0.3 | 1.8 |
| DEKALB DK493                | 23         | 21  | 25  | 25  | 153           | 152 | 164 | 144 | 52          | 53  | 51  | 51  | 5.0             | 3.6 | 5.2 | 6.3 | 97      | 92  | 100 | 98  | 1.0               | 0.0 | 0.8 | 2.4 | 2.2               | 0.0 | 1.0 | 3.2 |
| DEKALB DK566                | 27         | 25  | 30  | 26  | 174           | 183 | 175 | 162 | 51          | 52  | 50  | 51  | 5.8             | 3.8 | 6.0 | 7.7 | 90      | 96  | 99  | 75  | 1.1               | 0.5 | 0.9 | 1.9 | 3.3               | 0.8 | 2.3 | 3.4 |
| NK Brand 4286               | 25         | 23  | 27  | 25  | 174           | 170 | 176 | 176 | 56          | 57  | 55  | 56  | 1.4             | 1.1 | 1.8 | 1.4 | 90      | 87  | 94  | 89  | 0.4               | 0.2 | 0.3 | 0.6 | 0.6               | 0.2 | 0.2 | 1.3 |
| NK Brand 4394               | 28         | 26  | 32  | 27  | 184           | 198 | 175 | 180 | 53          | 53  | 51  | 54  | 3.3             | 1.3 | 1.4 | 7.3 | 96      | 96  | 99  | 93  | 0.2               | 0.0 | 0.2 | 0.5 | 0.4               | 0.0 | 0.1 | 0.8 |
| NK Brand 4494               | 29         | 26  | 32  | 28  | 183           | 185 | 175 | 189 | 52          | 52  | 51  | 52  | 5.3             | 6.4 | 2.8 | 6.6 | 100     | 99  | 100 | 100 | 0.5               | 0.0 | 0.4 | 1.0 | 1.4               | 0.0 | 0.7 | 2.1 |
| NK Brand N4640              | 24         | 21  | 27  | 23  | 153           | 156 | 167 | 137 | 53          | 55  | 52  | 53  | 3.1             | 1.6 | 3.2 | 4.6 | 95      | 100 | 100 | 86  | 0.6               | 0.4 | 0.4 | 0.9 | 1.0               | 0.4 | 0.5 | 2.0 |
| NK Brand N6800              | 29         | 26  | 32  | 29  | 175           | 178 | 179 | 168 | 53          | 53  | 52  | 54  | 2.6             | 3.6 | 2.5 | 1.6 | 95      | 100 | 100 | 86  | 0.3               | 0.0 | 0.2 | 0.6 | 0.4               | 0.0 | 0.2 | 0.5 |
| AVERAGE Non BT              | 27         | 24  | 30  | 26  | 171           | 172 | 173 | 167 | 53          | 53  | 51  | 53  | 3.9             | 3.2 | 3.5 | 5.1 | 95      | 96  | 99  | 90  | 0.6               | 0.1 | 0.4 | 1.1 | 1.3               | 0.5 | 0.7 | 1.9 |
| LSD Non BT                  | 2          | 1   | 1   | 2   | 18            | 24  | 16  | 21  | 1           | 1   | 1   | 1   | 2.8             | 2.4 | 3.4 | 3.3 | 9       | 7   | 2   | 19  |                   |     |     |     |                   |     |     |     |
| CV Non BT                   | 3          | 3   | 2   | 4   | 6             | 10  | 6   | 7   | 1           | 1   | 1   | 1   | 41              | 52  | 66  | 38  | 5       | 5   | 1   | 12  |                   |     |     |     |                   |     |     |     |

TABLE B AGRONOMY TABLE-GRAIN

| COUNTY            | PLANTING/<br>HARVEST<br>DATES | SOIL<br>TYPE                           | PREVIOUS<br>CROP | PLANTING<br>RATE/<br>AVG. STAND | FERTILIZER          | SOIL TEST              | FARM<br>COOPERATOR                       | LOCATION     |
|-------------------|-------------------------------|--|------------------|---------------------------------|---------------------|------------------------|--|--------------|
| MONROE - Zone 1   | April 29<br>Nov. 7            | Pewamo Clay<br>Selfidge Loamy Sand     | Wheat            | 28,600<br>27,500                | 210-72-198          | pH 6.3<br>P 55, K 240  | Gary Kreps                               | Temperance   |
| BRANCH            | April 25<br>Nov. 4            | Fox Sandy Loam                         | Corn             | 30,800<br>27,700                | 195-0-0             | pH 7.3<br>P 252, K 265 | Remus Riggs                              | Coldwater    |
| CASS              | April 25<br>Nov. 4            | Kalamazoo Loam                         | Corn             | 30,800<br>28,900                | 60-24-3             | pH 6.7<br>P 153, K 380 | Dave Cripe<br>Mel Cripe                  | Cassopolis   |
| KENT - Zone 2     | April 30<br>Nov. 6            | Belleville Loamy<br>Sand/Marlette Loam | Alfalfa          | 28,600<br>23,000                | 91-0-0<br>+ Manure  | pH 6.7<br>P 237, K 759 | Gerald Kayser                            | Caledonia    |
| INGHAM            | April 26<br>Nov. 8            | Capac Loam                             | Soybeans         | 28,600<br>26,500                | 65-74-0             | pH 6.7<br>P 52, K 255  | Joregensen<br>Farms                      | Williamston  |
| SAGINAW           | April 28<br>Nov. 13           | Mistequay<br>Silty Clay                | Dry Beans        | 28,600<br>23,300                | 158-0-0             | pH 8.1<br>P 85, K 458  | Saginaw Bean & Beet<br>Research Farm     | Saginaw      |
| HURON - Zone 3    | May 23<br>Nov. 12             | Kilmanagh Loam                         | Soybeans         | 28,500<br>27,700                | 84-31-0             | pH 6.5<br>P 145, K 370 | Wil-Le Farms<br>William, Ron & Ed McCrea | Bad Axe      |
| MONTCALM          | May 12<br>Nov. 17             | Montcalm-McBride<br>Sandy Loam         | Red Clover       | 28,500<br>28,100                | 150-36-74           | pH 6.7<br>P 204, K 235 | Steve Comden                             | Lakeview     |
| MASON             | May 13<br>Nov. 14             | Ogemaw Sandy<br>Loam                   | Wheat            | 28,500<br>28,200                | 166-0-0<br>+ Manure | pH 6.5<br>P 161, K 325 | Robert &<br>August Oshe                  | Scottville   |
| ALPENA - Zone 4   | May 22<br>Nov. 18             | Selkirk Loam                           | Dry Beans        | 31,000<br>29,800                | 225-48-138          | pH 6.9<br>P 54, K 144  | Allen Schiellard                         | Hubbard Lake |
| GRAND<br>TRAVERSE | May 13<br>Nov. 14             | Karlin Sandy<br>Loam                   | Corn             | 26,900<br>24,500                | 51-51-51            | pH 6.8<br>P 165, K 144 | Richard Dennett                          | Buckley      |
| DELTA             | May 7<br>Oct. 29              | Onaway Fine Sandy<br>Loam              | Sudan Grass      | 26,400<br>26,500                | 165-74-74           | pH 7.3<br>P 165, K 320 | Benny Herioux                            | Bark River   |



# RELIABLE SILAGE QUALITY ESTIMATES ARE NOW POSSIBLE



## Silage

Six locations containing nine silage tests were harvested.

Table 7 contains a list of all hybrids planted in the 1997 silage trials. The 9 silage tests included 76 hybrids from 19 seed companies comprising 190 entries. Company names used in association with hybrid numbers refer to their brands. The numbers are the companies' designations. Agronomic information relative to each trial is given in Table C.

## For Silage

Grain yield is the most widely used criterion for selecting hybrids for grain as well as for silage. However, an increased understanding of fiber digestibility in specific hybrids used in silage rations has pointed to the opportunity to select specific hybrids for silage production. *Since higher fiber digestibility is not closely related to total dry-matter yield, it is possible to select for high silage quality with little reduction in total dry-matter yield.*

Corn for silage should reach the early dent stage well before a killing frost in an average

year. The early dent stage is when most of the kernels on an ear have dented. This is considered as the best time to begin silage harvest, although total dry-matter accumulation will continue until the kernels are fully mature. Genetics and kernel maturity are only two of many management considerations which will affect the ultimate quality of silage. In the future, serious consideration will have to be given to the selection of hybrids for grain and silage separately.

## 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 two-row plots. Silage tables are arranged by company order.

The Delta County trial (Table 4B) contains the same entries as the Zone 4 grain trials. Analyses for digestibility are new for 1997. Table 4B contains one-, two- and three-year data.

Chopped silage (fodder plus grain) samples were 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, air-dried and finely ground for further evaluation by means of in-vitro silage digestibility analysis conducted by the Department of Animal Science.

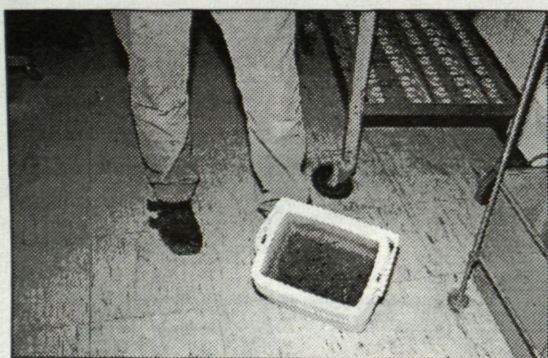
Trials conducted in Kent, Ingham, and Huron counties contain two maturity groups with yield data presented in Table 5 (A and B). Additional silage trials were conducted in Alpena and Missaukee counties in 1996 (Table 6). The results obtained from the 1997 silage digestibility trials are presented in the adjoining tables.

Results of four analyses are presented below:

- 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 increases intake of ruminants as it decreases the filling effect of the feed. It also provides energy to microbes in the rumen which increases 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.

*\*All analyses were determined by wet-chemical methods.*

## HARVESTING AND HANDLING SILAGE DATA

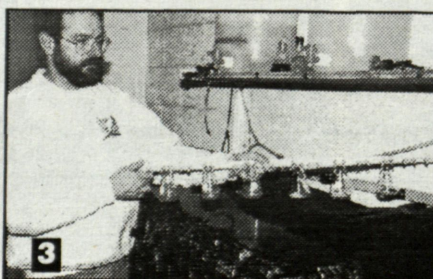
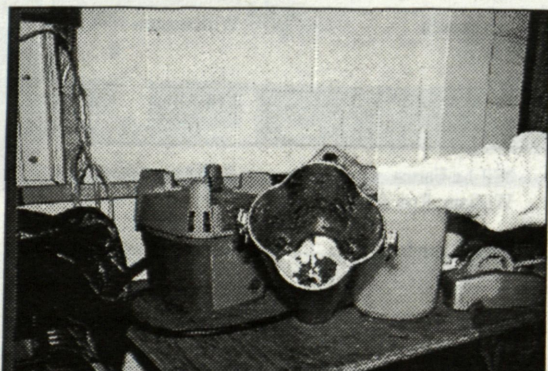


Silage plots are harvested with a single row side mounted forage chopper. Plot weights are measured by electronic scales mounted on the tractor and chopper. After weighed samples are dumped, subsamples are collected for use in determining percent dry matter and quality analysis. Samples for dry matter are weighed, air dried till weight loss is zero than 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 the series of pictures at the bottom of the page.

- 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.





# SELECTION OF CORN HYBRIDS FOR SILAGE:

## 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% 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 C AGRONOMY TABLE-SILAGE

| COUNTY          | PLANTING/<br>HARVEST<br>DATES | SOIL<br>TYPE                           | PREVIOUS<br>CROP | PLANTING<br>RATE/<br>AVG. STAND | FERTILIZER         | SOIL TEST              | FARM<br>COOPERATOR                       | LOCATION     |
|-----------------|-------------------------------|--|------------------|---------------------------------|--------------------|------------------------|--|--------------|
| KENT - Zone 2   | April 30<br>Sept 23, Oct. 6   | Belleville Loamy Sand<br>Marlette Loam | Alfalfa          | 28,600<br>23,400                | 91-0-0<br>+ Manure | pH 6.7<br>P 237, K 759 | Gerald Kayser                            | Caledonia    |
| INGHAM          | April 29<br>Sept 18, Oct. 6   | Capac Loam                             | Soybeans         | 28,600<br>27,700                | 145-14-54          | pH 6.1<br>P 60, K 240  | Michigan State University                | East Lansing |
| HURON - Zone 3  | May 23<br>Oct 7, 20           | Kilmanagh Loam                         | Soybeans         | 28,500<br>26,900                | 84-31-0            | pH 6.5<br>P 145, K 370 | Wil-Le Farms<br>William, Ron & Ed McCrea | Bad Axe      |
| ALPENA - Zone 4 | May 22<br>Oct 13              | Selkirk Loam                           | Dry Beans        | 26,100<br>24,900                | 225-48-138         | pH 6.9<br>P 54, K 144  | Allen Schiellard                         | Hubbard Lake |
| MISSAUKEE       | May 14<br>Oct. 1              | East Lake<br>Rubicon Sands             | Corn             | 28,500<br>25,700                | 150-65-65          | pH 5.6<br>P 174, K 210 | Ken Dezeeuw                              | McBain       |
| DELTA           | May 7<br>Sept. 25             | Onaway Fine Sandy<br>Loam              | Sudan Grass      | 26,400<br>26,500                | 165-74-74          | pH 7.3<br>P 165, K320  | Benny Herioux                            | Bark River   |

Table 4B

## NORTHERN MICHIGAN

## ZONE 4

### Average of Delta County Silage Trials One-, two-, three-year averages — 1997, 1996, 1995

| HYBRID<br>(BRAND-VARIETY)    | TONS PER ACRE |      |      |              |      |      |            |     |     | IN-VITRO QUALITY ANALYSIS |      |      |      |      |      |      |     |     |
|------------------------------|---------------|------|------|--------------|------|------|------------|-----|-----|---------------------------|------|------|------|------|------|------|-----|-----|
|                              | % DRY MATTER  |      |      | GREEN WEIGHT |      |      | DRY WEIGHT |     |     | % STAND                   |      |      | %DM  | %FD  | %NDF | %CP  |     |     |
|                              | 1997          | 2Yr  | 3Yr  | 1997         | 2Yr  | 3Yr  | 1997       | 2Yr | 3Yr | 1997                      | 2Yr  | 3Yr  | 1997 | 2Yr  | 3Yr  | 1997 | 2Yr | 3Yr |
| BAYSIDE Super 79             | 31.9          | 32.4 | --   | 20.1         | 18.9 | --   | 6.5        | 6.1 | --  | 99.9                      | 95.1 | --   | 75.4 | 44.8 | 44.6 | 7.9  |     |     |
| BAYSIDE Super 85             | 29.3          | --   | --   | 21.1         | --   | --   | 6.2        | --  | --  | 93.6                      | --   | --   | 76.4 | 46.7 | 44.1 | 8.4  |     |     |
| BROWN BR1680                 | 31.1          | --   | --   | 15.9         | --   | --   | 5.0        | --  | --  | 99.8                      | --   | --   | 77.0 | 49.2 | 45.4 | 8.0  |     |     |
| CARGILL 1877                 | 28.0          | 29.5 | --   | 20.5         | 18.9 | --   | 5.7        | 5.5 | --  | 97.9                      | 93.2 | --   | 78.6 | 47.9 | 41.1 | 8.5  |     |     |
| CARGILL 2827                 | 28.0          | 29.8 | --   | 21.6         | 20.1 | --   | 6.1        | 6.0 | --  | 99.8                      | 97.6 | --   | 75.8 | 47.7 | 46.2 | 7.6  |     |     |
| CARGILL 2927                 | 27.5          | --   | --   | 22.8         | --   | --   | 6.3        | --  | --  | 97.0                      | --   | --   | 76.6 | 47.9 | 44.9 | 8.8  |     |     |
| CARGILL 3677                 | 26.5          | --   | --   | 24.7         | --   | --   | 6.5        | --  | --  | 100.0                     | --   | --   | 73.7 | 47.8 | 50.3 | 7.5  |     |     |
| COUNTRYMARK COOP 1682        | 28.3          | --   | --   | 17.2         | --   | --   | 4.8        | --  | --  | 100.0                     | --   | --   | 75.3 | 44.9 | 44.9 | 8.0  |     |     |
| DAIRYLAND STEALTH 1289       | 27.9          | 30.1 | 28.9 | 23.7         | 20.8 | 20.6 | 6.6        | 6.0 | 6.2 | 99.9                      | 90.6 | 92.0 | 76.8 | 49.2 | 45.7 | 8.3  |     |     |
| DAIRYLAND STEALTH 1496       | 27.6          | --   | --   | 25.1         | --   | --   | 6.9        | --  | --  | 100.2                     | --   | --   | 74.4 | 47.2 | 48.5 | 8.2  |     |     |
| DEKALB DK345                 | 32.1          | --   | --   | 18.4         | --   | --   | 5.9        | --  | --  | 99.9                      | --   | --   | 77.0 | 49.7 | 45.8 | 8.4  |     |     |
| DEKALB DK352                 | 30.5          | --   | --   | 19.4         | --   | --   | 5.9        | --  | --  | 100.0                     | --   | --   | 76.2 | 45.8 | 43.9 | 7.0  |     |     |
| DEKALB DK365                 | 28.1          | --   | --   | 21.3         | --   | --   | 6.0        | --  | --  | 99.9                      | --   | --   | 77.7 | 47.8 | 42.8 | 8.8  |     |     |
| DEKALB DK385B                | 28.4          | --   | --   | 21.1         | --   | --   | 5.9        | --  | --  | 94.8                      | --   | --   | 75.8 | 44.2 | 43.3 | 7.7  |     |     |
| DEKALB DK431                 | 27.2          | --   | --   | 25.2         | --   | --   | 6.8        | --  | --  | 100.0                     | --   | --   | 75.7 | 48.8 | 47.4 | 8.4  |     |     |
| GOLDEN HARVEST H-2265        | 28.1          | --   | --   | 21.2         | --   | --   | 6.0        | --  | --  | 94.8                      | --   | --   | 75.6 | 47.7 | 46.6 | 8.0  |     |     |
| GOLDEN HARVEST H-2279        | 29.6          | 32.0 | 30.5 | 18.4         | 18.6 | 17.7 | 5.4        | 5.7 | 5.6 | 99.0                      | 95.5 | 92.3 | 77.1 | 48.3 | 44.4 | 7.7  |     |     |
| GREAT LAKES 3362             | 29.8          | 31.4 | --   | 19.7         | 18.2 | --   | 5.8        | 5.6 | --  | 100.0                     | 91.2 | --   | 74.9 | 46.3 | 46.9 | 8.1  |     |     |
| GREAT LAKES 4038             | 27.3          | 29.2 | --   | 18.9         | 17.6 | --   | 5.2        | 5.1 | --  | 99.8                      | 93.3 | --   | 76.5 | 48.7 | 45.9 | 8.3  |     |     |
| GREAT LAKES 4563             | 25.2          | --   | --   | 27.3         | --   | --   | 6.8        | --  | --  | 95.4                      | --   | --   | 79.4 | 49.1 | 40.5 | 8.9  |     |     |
| JUNG 2232                    | 31.7          | 32.2 | --   | 19.7         | 17.9 | --   | 6.2        | 5.7 | --  | 99.3                      | 95.9 | --   | 75.0 | 46.2 | 46.5 | 7.5  |     |     |
| JUNG 2340                    | 30.3          | --   | --   | 16.6         | --   | --   | 5.1        | --  | --  | 99.2                      | --   | --   | 75.0 | 48.6 | 48.8 | 7.6  |     |     |
| JUNG 2406                    | 27.0          | 28.9 | --   | 25.0         | 22.4 | --   | 6.8        | 6.5 | --  | 100.0                     | 95.7 | --   | 73.3 | 47.3 | 50.7 | 8.0  |     |     |
| JUNG 2430                    | 25.8          | --   | --   | 23.5         | --   | --   | 6.0        | --  | --  | 99.0                      | --   | --   | 78.0 | 48.3 | 42.6 | 8.3  |     |     |
| LG Seeds LG 2392             | 26.6          | 28.0 | --   | 20.0         | 19.6 | --   | 5.3        | 5.5 | --  | 94.5                      | 96.0 | --   | 74.6 | 48.5 | 49.3 | 8.7  |     |     |
| LG Seeds LG 2408             | 24.0          | --   | --   | 27.4         | --   | --   | 6.5        | --  | --  | 100.0                     | --   | --   | 75.9 | 48.3 | 46.7 | 8.6  |     |     |
| MYCOGEN 2250                 | 29.0          | 30.8 | --   | 19.2         | 17.9 | --   | 5.5        | 5.5 | --  | 100.0                     | 97.7 | --   | 76.5 | 47.4 | 44.7 | 8.2  |     |     |
| PIONEER 37M81                | 26.6          | --   | --   | 22.2         | --   | --   | 5.8        | --  | --  | 99.9                      | --   | --   | 78.1 | 50.3 | 44.1 | 8.6  |     |     |
| PIONEER 3893                 | 30.9          | 32.7 | 33.3 | 20.9         | 19.4 | 17.9 | 6.6        | 6.4 | 5.9 | 99.7                      | 97.6 | 92.6 | 73.7 | 44.0 | 47.0 | 7.1  |     |     |
| PIONEER 3936                 | 30.9          | 33.3 | --   | 13.1         | 13.9 | --   | 4.0        | 4.5 | --  | 97.4                      | 92.5 | --   | 78.0 | 49.2 | 43.3 | 8.4  |     |     |
| RENK RK133                   | 30.3          | --   | --   | 18.9         | --   | --   | 5.6        | --  | --  | 99.4                      | --   | --   | 77.3 | 49.7 | 45.2 | 8.1  |     |     |
| RENK RK272                   | 31.4          | --   | --   | 19.2         | --   | --   | 6.0        | --  | --  | 100.0                     | --   | --   | 74.6 | 46.2 | 47.2 | 7.7  |     |     |
| RENK RK376                   | 27.6          | --   | --   | 19.6         | --   | --   | 5.5        | --  | --  | 99.2                      | --   | --   | 76.4 | 45.8 | 43.0 | 8.1  |     |     |
| RENK RK546                   | 25.3          | --   | --   | 26.0         | --   | --   | 6.5        | --  | --  | 95.6                      | --   | --   | 75.4 | 46.3 | 45.8 | 8.1  |     |     |
| TERRA TR906                  | 29.9          | 30.6 | --   | 21.4         | 18.8 | --   | 6.4        | 5.8 | --  | 98.5                      | 90.8 | --   | 74.8 | 46.3 | 45.7 | 8.0  |     |     |
| TERRA TR966                  | 25.5          | 26.6 | --   | 21.9         | 21.0 | --   | 5.6        | 5.5 | --  | 100.0                     | 97.4 | --   | 76.6 | 49.6 | 45.7 | 9.0  |     |     |
| TRELAJ 1003                  | 32.5          | --   | --   | 21.2         | --   | --   | 6.8        | --  | --  | 98.2                      | --   | --   | 74.1 | 46.6 | 48.5 | 7.8  |     |     |
| AVERAGE                      | 28.6          | 30.3 | 31.8 | 21.0         | 18.9 | 18.7 | 6.0        | 5.7 | 5.9 | 98.8                      | 94.7 | 92.3 | 75.9 | 47.5 | 45.7 | 8.1  |     |     |
| HIGHEST                      | 32.1          | 33.3 | 33.3 | 27.4         | 22.4 | 20.6 | 6.9        | 6.5 | 6.2 | 100.0                     | 97.7 | 92.6 | 79.4 | 50.3 | 50.7 | 9.0  |     |     |
| LOWEST                       | 24.0          | 26.6 | 30.1 | 13.1         | 13.9 | 17.7 | 4.0        | 4.5 | 5.6 | 93.6                      | 90.6 | 92.0 | 73.0 | 44.0 | 40.5 | 7.0  |     |     |
| Least Significant Difference | 2.3           |      |      | 2.2          |      |      | .7         |     |     |                           |      |      |      |      |      |      |     |     |
| Coefficient of Variance      | 5.6           |      |      | 7.2          |      |      | 8.4        |     |     |                           |      |      |      |      |      |      |     |     |



Table 5E (A)

**SOUTH & NORTH CENTRAL MICHIGAN**

ZONES 2 & 3

**Average of Kent, Ingham & Huron County EARLY Silage Trials  
One-, two-, three-year averages — 1997, 1996, 1995**

EARLY TRIAL (104 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING))

| HYBRID<br>(BRAND-VARIETY)    | % DRY MATTER |      |      | GREEN WEIGHT |      |      | DRY WEIGHT |     |     | &  | KENT COUNTY |      |       |      | INGHAM COUNTY |      |       |      | HURON COUNTY |      |       |      |
|------------------------------|--------------|------|------|--------------|------|------|------------|-----|-----|----|-------------|------|-------|------|---------------|------|-------|------|--------------|------|-------|------|
|                              | 1997         | 2Yr  | 3Yr  | 1997         | 2Yr  | 3Yr  | 1997       | 2Yr | 3Yr |    | STD         | % DM | GrWT  | DyWT | %STD          | % DM | GrWT  | DyWT | %STD         | % DM | GrWT  | DyWT |
| COUNTRYMARK COOP 447         | 29.5         | -    | -    | 22.5         | -    | -    | 6.6        | -   | -   | 94 | 28.1        | 23.7 | 6.6   | 83   | 28.5          | 24.9 | 7.1   | 98   | 31.9         | 18.9 | 6.1   | 100  |
| COUNTRYMARK COOP 3858        | 37.2         | -    | -    | 19.8         | -    | -    | 7.2        | -   | -   | 84 | 33.0        | 24.2 | *8.0  | 82   | 34.8          | 21.5 | 7.5   | 89   | 43.7         | 13.8 | 6.0   | 80   |
| DAIRYLAND STEALTH 1203       | 35.5         | 36.1 | 37.3 | 20.3         | 18.3 | 18.0 | 6.9        | 6.4 | 6.6 | 93 | 30.1        | 23.6 | 7.1   | 87   | 32.5          | 23.9 | *7.8  | 97   | 43.9         | 13.5 | 5.9   | 95   |
| DAIRYLAND STEALTH 1297       | 33.3         | -    | -    | 21.8         | -    | -    | 7.2        | -   | -   | 95 | 31.1        | 24.4 | *7.6  | 89   | 32.2          | 23.2 | 7.5   | 100  | 36.6         | 17.9 | *6.6  | 96   |
| DAIRYLAND STEALTH 1402       | 34.1         | -    | -    | 19.3         | -    | -    | 6.5        | -   | -   | 91 | 31.5        | 22.8 | 7.2   | 86   | 34.0          | 20.0 | 6.8   | 92   | 36.9         | 15.2 | 5.6   | 94   |
| DAIRYLAND STEALTH 1496       | 36.1         | -    | -    | 21.0         | -    | -    | *7.5       | -   | -   | 94 | 33.4        | 24.0 | *8.0  | 90   | 35.1          | 21.9 | *7.7  | 98   | 39.7         | 17.1 | *6.8  | 95   |
| DAIRYLAND STEALTH 1500       | 31.3         | -    | -    | 21.7         | -    | -    | 6.7        | -   | -   | 96 | 29.1        | 25.3 | *7.4  | 88   | 30.3          | 22.7 | 6.9   | 100  | 34.5         | 17.2 | 5.9   | 99   |
| GREAT LAKES 4848             | 33.6         | -    | -    | 21.8         | -    | -    | 7.2        | -   | -   | 94 | 30.7        | 25.8 | *7.9  | 91   | 32.8          | 23.3 | 7.6   | 100  | 37.2         | 16.4 | 6.1   | 92   |
| GREAT LAKES 4929             | 32.0         | 32.8 | 34.0 | 21.9         | 19.4 | 19.2 | 6.8        | 6.3 | 6.5 | 93 | 28.3        | 23.8 | 6.7   | 86   | 30.0          | 24.5 | 7.3   | 98   | 37.7         | 17.3 | 6.5   | 94   |
| LG Seeds LG 2499             | 31.1         | -    | -    | 23.6         | -    | -    | 7.3        | -   | -   | 96 | 28.8        | 27.7 | *7.9  | 93   | 30.8          | 23.9 | 7.4   | 99   | 33.7         | 19.2 | 6.5   | 96   |
| PIONEER 3573                 | 30.8         | 31.5 | 33.0 | 25.1         | 21.8 | 21.0 | *7.7       | 6.9 | 6.9 | 94 | 29.9        | 27.6 | *8.3  | 83   | 29.8          | 26.1 | *7.8  | 99   | 32.8         | 21.6 | *7.1  | 100  |
| PIONEER 36K27                | 30.2         | -    | -    | 26.9         | -    | -    | **8.1      | -   | -   | 97 | 28.3        | 29.5 | **8.4 | 92   | 30.9          | 27.8 | **8.5 | 100  | 31.5         | 23.4 | **7.4 | 99   |
| PIONEER 3730                 | 34.7         | 36.7 | -    | 21.7         | 19.3 | -    | *7.4       | 7.0 | -   | 93 | 32.2        | 24.6 | *7.9  | 90   | 35.2          | 23.5 | *8.2  | 96   | 36.7         | 17.0 | 6.2   | 94   |
| PIONEER 3752                 | 35.8         | 36.9 | 37.8 | 19.5         | 17.9 | 17.5 | 6.9        | 6.6 | 6.6 | 90 | 29.8        | 23.4 | 7.1   | 84   | 34.0          | 18.9 | 6.5   | 95   | 43.6         | 16.2 | *7.0  | 90   |
| RENK RK546                   | 33.4         | 35.0 | -    | 20.5         | 18.2 | -    | 6.8        | 6.3 | -   | 92 | 28.9        | 23.4 | 6.8   | 83   | 33.8          | 19.8 | 6.7   | 97   | 37.6         | 18.2 | *6.9  | 96   |
| RENK RK641                   | 30.0         | 31.7 | -    | 24.0         | 21.3 | -    | 7.1        | 6.7 | -   | 97 | 28.5        | 28.0 | *7.9  | 96   | 29.1          | 25.8 | 7.5   | 99   | 32.4         | 18.3 | 5.9   | 97   |
| AVERAGE                      | 33.0         | 34.4 | 35.5 | 22.0         | 19.5 | 18.9 | 7.1        | 6.6 | 6.7 | 93 | 30.0        | 25.3 | 7.3   | 88   | 32.1          | 23.2 | 7.4   | 97   | 36.9         | 17.6 | 6.4   | 95   |
| HIGHEST                      | 37.2         | 36.9 | 37.8 | 26.9         | 21.8 | 21.0 | 8.1        | 7.0 | 6.9 | 97 | 33.4        | 29.5 | 8.4   | 96   | 35.2          | 27.8 | 8.5   | 100  | 43.9         | 23.4 | 7.4   | 100  |
| LOWEST                       | 29.5         | 31.5 | 33.0 | 19.3         | 17.9 | 17.5 | 6.5        | 6.3 | 6.5 | 84 | 28.1        | 22.8 | 6.6   | 82   | 28.5          | 18.9 | 6.5   | 89   | 31.5         | 13.5 | 5.6   | 80   |
| Least Significant Difference | 3.3          | -    | -    | 2.1          | -    | -    | .7         | -   | -   | -  | 2.4         | 3.3  | 1.1   | -    | 2.3           | 1.4  | .8    | -    | 3.3          | 1.3  | .8    | -    |
| Coefficient of Variance      | 5.9          | -    | -    | 5.8          | -    | -    | 5.9        | -   | -   | -  | 5.1         | 8.8  | 9.6   | -    | 4.8           | 4.1  | 6.9   | -    | 5.8          | 5.0  | 8.1   | -    |

\* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID FOR DRY WEIGHT PER ACRE IN 1997  
\*\* HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE FOR 1997

Table 5L (A)

**SOUTH & NORTH CENTRAL MICHIGAN**

ZONES 2 & 3

**Average of Kent, Ingham & Huron County LATE Silage Trials  
One-, two-, three-year averages — 1997, 1996, 1995**

LATE TRIAL (105 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING))

| HYBRID<br>(BRAND-VARIETY)    | % DRY MATTER |      |      | GREEN WEIGHT |      |      | DRY WEIGHT |     |     | &  | KENT COUNTY |      |       |      | INGHAM COUNTY |      |       |      | HURON COUNTY |      |       |      |
|------------------------------|--------------|------|------|--------------|------|------|------------|-----|-----|----|-------------|------|-------|------|---------------|------|-------|------|--------------|------|-------|------|
|                              | 1997         | 2Yr  | 3Yr  | 1997         | 2Yr  | 3Yr  | 1997       | 2Yr | 3Yr |    | STD         | % DM | GrWT  | DyWT | %STD          | % DM | GrWT  | DyWT | %STD         | % DM | GrWT  | DyWT |
| AGRIPRO AP-9460              | 41.2         | -    | -    | 21.4         | -    | -    | *8.6       | -   | -   | 92 | 35.7        | 25.5 | *9.1  | 84   | 38.4          | 22.1 | 8.5   | 98   | 49.5         | 16.5 | 8.1   | 94   |
| AGRIPRO AP-9560              | 36.9         | -    | -    | 23.7         | -    | -    | *8.6       | -   | -   | 94 | 32.3        | 26.6 | *8.5  | 86   | 38.5          | 25.0 | **9.6 | 99   | 39.8         | 19.5 | 7.7   | 97   |
| BALDRIDGE BH-511             | 35.1         | 32.5 | 35.4 | 19.4         | 18.4 | 17.9 | 6.7        | 6.0 | 6.2 | 95 | 31.8        | 23.2 | 7.4   | 87   | 32.9          | 20.1 | 6.6   | 100  | 40.5         | 14.9 | 6.0   | 97   |
| CORNBELT C567                | 41.0         | -    | -    | 21.4         | -    | -    | *8.7       | -   | -   | 94 | 35.8        | 25.6 | *9.2  | 91   | 41.2          | 22.3 | *9.2  | 100  | 46.0         | 16.4 | 7.7   | 92   |
| DAIRYLAND STEALTH 1406       | 38.9         | -    | -    | 22.2         | -    | -    | *8.5       | -   | -   | 92 | 34.2        | 25.8 | *8.8  | 81   | 37.8          | 23.7 | *9.0  | 97   | 44.7         | 17.2 | 7.6   | 97   |
| DAIRYLAND STEALTH 1407       | 41.8         | 37.3 | 39.3 | 20.8         | 19.7 | 19.2 | *8.5       | 7.3 | 7.6 | 95 | 37.8        | 24.9 | **9.5 | 87   | 39.0          | 20.7 | 8.0   | 99   | 48.6         | 16.7 | 8.1   | 99   |
| DAIRYLAND STEALTH 1412       | 37.6         | 36.1 | 37.9 | 23.5         | 21.0 | 20.4 | *8.7       | 7.5 | 7.7 | 95 | 35.2        | 26.4 | *9.2  | 89   | 36.1          | 24.5 | 8.8   | 100  | 41.6         | 19.6 | 8.1   | 96   |
| DAIRYLAND STEALTH 1508       | 37.4         | -    | -    | 21.6         | -    | -    | *8.0       | -   | -   | 91 | 35.2        | 23.0 | 8.1   | 86   | 36.4          | 24.2 | 8.8   | 96   | 40.5         | 17.7 | 7.1   | 91   |
| GARST 24X                    | 32.4         | 32.9 | -    | 23.5         | 20.7 | -    | 7.5        | 6.7 | -   | 92 | 29.3        | 25.9 | 7.5   | 81   | 31.3          | 25.3 | 7.9   | 98   | 36.7         | 19.3 | 7.0   | 96   |
| GOLDEN HARVEST Ex527         | 38.6         | -    | -    | 22.9         | -    | -    | *8.7       | -   | -   | 93 | 35.9        | 26.7 | **9.5 | 85   | 37.6          | 23.7 | *8.9  | 97   | 42.3         | 18.3 | 7.8   | 96   |
| GREAT LAKES 5715             | 38.1         | 36.6 | 35.7 | 20.7         | 19.5 | 20.5 | 7.8        | 7.1 | 7.3 | 90 | 34.7        | 23.1 | 8.1   | 83   | 36.6          | 21.3 | 7.8   | 91   | 43.0         | 17.7 | 7.6   | 95   |
| GREAT LAKES 5816             | 36.1         | 35.1 | -    | 23.8         | 21.8 | -    | *8.5       | 7.6 | -   | 90 | 30.2        | 26.5 | 8.0   | 80   | 37.3          | 24.7 | *9.2  | 96   | 40.8         | 20.2 | 8.2   | 93   |
| GREAT LAKES 5849             | 34.7         | 34.4 | -    | 24.4         | 22.3 | -    | *8.3       | 7.6 | -   | 95 | 29.7        | 28.7 | *8.5  | 85   | 34.6          | 25.3 | 8.7   | 100  | 39.7         | 19.3 | 7.7   | 100  |
| LG Seeds LG 2583             | 36.1         | -    | -    | 23.8         | -    | -    | *8.5       | -   | -   | 92 | 31.9        | 26.9 | *8.5  | 79   | 36.8          | 25.2 | *9.3  | 99   | 39.5         | 19.4 | 7.6   | 98   |
| PIONEER 33V08                | 34.2         | -    | -    | 26.1         | -    | -    | **8.8      | -   | -   | 92 | 30.0        | 27.9 | *8.4  | 76   | 32.2          | 27.9 | *8.9  | 99   | 40.3         | 22.5 | **9.1 | 100  |
| PIONEER 34G81                | 38.5         | -    | -    | 20.8         | -    | -    | 7.9        | -   | -   | 93 | 32.8        | 23.3 | 7.7   | 80   | 38.6          | 22.6 | 8.7   | 100  | 44.2         | 16.4 | 7.2   | 100  |
| RENK RK775                   | 39.4         | -    | -    | 21.6         | -    | -    | *8.4       | -   | -   | 90 | 35.2        | 24.9 | *8.8  | 80   | 38.1          | 23.4 | *8.9  | 100  | 44.9         | 16.4 | 7.4   | 90   |
| RENK RK864                   | 36.4         | 34.6 | 36.3 | 23.8         | 22.0 | 21.3 | *8.5       | 7.6 | 7.7 | 94 | 31.1        | 27.2 | *8.4  | 84   | 37.9          | 24.8 | *9.4  | 100  | 40.1         | 19.4 | 7.7   | 99   |
| TRELAJ 7004                  | 39.5         | -    | -    | 21.4         | -    | -    | *8.3       | -   | -   | 93 | 36.4        | 25.2 | *9.1  | 84   | 37.7          | 21.9 | 8.3   | 100  | 44.4         | 17.0 | 7.6   | 94   |
| TRELAJ 9001                  | 37.0         | -    | -    | 22.9         | -    | -    | *8.3       | -   | -   | 95 | 33.8        | 26.8 | *9.0  | 88   | 35.7          | 23.7 | 8.4   | 100  | 41.5         | 18.2 | 7.6   | 96   |
| AVERAGE                      | 35.7         | 34.9 | 36.9 | 22.5         | 20.7 | 19.9 | 8.3        | 7.2 | 7.3 | 93 | 33.5        | 25.7 | 8.6   | 84   | 36.7          | 23.6 | 8.6   | 98   | 42.4         | 18.1 | 7.6   | 96   |
| HIGHEST                      | 41.8         | 37.3 | 39.3 | 26.1         | 22.3 | 21.3 | 8.8        | 7.6 | 7.7 | 95 | 37.8        | 28.7 | 9.5   | 91   | 41.2          | 27.9 | 9.6   | 100  | 49.5         | 22.5 | 9.1   | 100  |
| LOWEST                       | 32.4         | 32.5 | 35.4 | 19.4         | 18.4 | 17.9 | 6.7        | 6.0 | 6.2 | 90 | 29.3        | 23.0 | 7.4   | 76   | 31.3          | 20.1 | 6.6   | 91   | 36.7         | 14.9 | 6.0   | 90   |
| Least Significant Difference | 2.5          | -    | -    | 1.4          | -    | -    | .8         | -   | -   | -  | 3.9         | 2.3  | 1.2   | -    | 2.8           | 1.3  | .7    | -    | 4.1          | 1.3  | .6    | -    |
| Coefficient of Variance      | 4.1          | -    | -    | 3.7          | -    | -    | 5.7        | -   | -   | -  | 7.9         | 6.2  | 9.8   | -    | 5.2           | 3.7  | 6.0   | -    | 6.9          | 5.1  | 5.7   | -    |

\* NOT SIGNIFICANTLY DIFFERENT FROM TOP YIELDING HYBRID FOR DRY WEIGHT PER ACRE IN 1997  
\*\* HIGHEST YIELDING HYBRID FOR DRY WEIGHT PER ACRE FOR 1997

Table 6A

**NORTHERN MICHIGAN**

ZONE 4

**Average of Alpena & Missaukee County Silage Trials  
One-, two-, three-year averages — 1997, 1996, 1995**

| HYBRID<br>(BRAND-VARIETY) | % DRY MATTER |      |      | GREEN WEIGHT |      |      | DRY WEIGHT |     |     | &   | ALPENIA COUNTY |      |       |      | MISSAUKEE COUNTY |      |       |      |
|---------------------------|--------------|------|------|--------------|------|------|------------|-----|-----|-----|----------------|------|-------|------|------------------|------|-------|------|
|                           | 1997         | 2Yr  | 3Yr  | 1997         | 2Yr  | 3Yr  | 1997       | 2Yr | 3Yr |     | STD            | % DM | GrWT  | DyWT | %STD             | % DM | GrWT  | DyWT |
| DAIRYLAND STEALTH 1195    | 32.4         | 34.4 | -    | 22.0         | 20.4 | -    | *7.0       | 6.9 | -   | 98  | 34.7           | 17.1 | 5.9   | 100  | 30.1             | 26.8 | *8.1  | 96   |
| DAIRYLAND STEALTH 1289    | 32.1         | 35.4 | 34.6 | 22.5         | 20.3 | 19.6 | *7.1       | 7.0 | 6.7 | 99  | 34.7           | 17.3 | 6.0   | 100  | 29.5             | 27.6 | *8.1  | 98   |
| DAIRYLAND DST 9102        | 30.1         | -    | -    | 19.5         | -    | -    | 5.8        | -   | -   | 87  | 33.4           | 17.0 | 5.7   | 90   | 26.8             | 22.0 | 5.9   | 84   |
| GOLDEN HARVEST H-2382     | 27.8         | -    | -    | 25.3         | -    | -    | *7.0       | -   | -   | 100 | 29.3           | 20.7 | 6.0   | 100  | 26.3             | 29.8 | *7.9  | 100  |
| GREAT LAKES 3362          | 33.1         | 35.8 | -    | 19.5         | 18.4 | -    | 6.1        | 6.4 | -   | 99  | 38.8           | 14.6 | 5.6   | 100  | 27.4             | 24.4 | 6.6   | 97   |
| GREAT LAKES 4038          | 33.1         | 35.8 | -    | 19.1         | 17.9 | -    | 6.2        | 6.3 | -   | 100 | 37.4           | 15.0 | 5.6   | 100  | 28.7             | 23.2 | 6.7   | 100  |
| GREAT LAKES 4848          | 31.1         | -    | -    | 24.1         | -    | -    | *7.4       | -   | -   | 97  | 34.3           | 20.4 | **7.0 | 100  | 27.9             | 27.7 | *7.7  | 94   |
| LG Seeds LG 2410          | 30.9         | 34.0 | 34.0 | 23.8         | 22.4 | 21.1 | *7.2       | 7.5 | 7.1 | 92  | 33.2           | 18.7 | 6.2   | 97   | 28.5             | 28.9 | *8.2  | 87   |
| LG Seeds LG 2448          | 28.9         | 32.1 | -    | 23.2         | 22.3 | -    | 6.5        | 7.0 | -   | 90  | 32.5           | 18.1 | 5.8   | 91   | 25.3             | 28.2 | 7.2   | 88   |
| PIONEER 3752              | 31.7         | -    | -    | 21.2         | -    | -    | *6.7       | -   | -   | 93  | 35.8           | 18.3 | *6.6  | 98   | 27.6             | 24.0 | 6.7   | 87   |
| PIONEER 37M81             | 31.0         | -    | -    | 24.3         | -    | -    | **7.5      | -   | -   | 100 | 32.3           | 20.0 | 6.4   | 100  | 29.6             | 28.5 | **8.5 | 100  |
| PIONEER 3893              | 32.7         | 36.0 | 36.6 | 20.8         | 18.7 | 17.8 | 6.5        | 6.5 | 6.3 | 9   |                |      |       |      |                  |      |       |      |



**Average of Kent, Ingham & Huron County EARLY In-vitro Analyses  
One-, two-, three-year averages — 1997, 1996, 1995**

| EARLY TRIAL (104 DAY RELATIVE MATURITY OR EARLIER (BASED ON COMPANY RATING)) |               |      |      |               |      |      |                 |      |      |         |     |     |                           |      |      |     |               |      |      |     |              |      |      |     |
|--|---------------|------|------|---------------|------|------|-----------------|------|------|---------|-----|-----|---------------------------|------|------|-----|---------------|------|------|-----|--------------|------|------|-----|
| HYBRID<br>(BRAND-VARIETY)  | % DRY MATTER  |      |      | % FIBER       |      |      | % NEUTRAL       |      |      | % CRUDE |     |     | IN-VITRO QUALITY ANALYSES |      |      |     |               |      |      |     |              |      |      |     |
|  | DIGESTABILITY |      |      | DIGESTABILITY |      |      | DETERGENT FIBER |      |      | PROTEIN |     |     | KENT COUNTY               |      |      |     | INGHAM COUNTY |      |      |     | HURON COUNTY |      |      |     |
|  | 1997          | 2yr  | 3yr  | 1997          | 2yr  | 3yr  | 1997            | 2yr  | 3yr  | 1997    | 2yr | 3yr | %DMD                      | %FD  | %NDF | %CP | %DMD          | %FD  | %NDF | %CP | %DMD         | %FD  | %NDF | %CP |
| COUNTRYMARK COOP 447   | 76.7          | --   | --   | 44.5          | --   | --   | 42.0            | --   | --   | 7.6     | --  | --  | 76.0                      | 44.8 | 43.6 | 7.8 | 78.2          | 45.9 | 40.3 | 7.2 | 75.9         | 42.7 | 42.1 | 7.7 |
| COUNTRYMARK COOP 3858  | 76.9          | --   | --   | 39.9          | --   | --   | 38.5            | --   | --   | 7.4     | --  | --  | 75.4                      | 40.5 | 41.3 | 7.9 | 78.3          | 39.3 | 35.8 | 6.8 | 76.9         | 39.9 | 38.4 | 7.5 |
| DAIRYLAND STEALTH 1203   | 78.4          | 77.9 | 79.3 | 45.5          | 46.4 | 50.0 | 39.7            | 41.3 | 41.5 | 7.7     | 7.2 | 7.5 | 80.3                      | 45.9 | 36.4 | 8.5 | 76.1          | 46.6 | 44.7 | 7.3 | 78.7         | 43.9 | 38.0 | 7.2 |
| DAIRYLAND STEALTH 1297   | 79.1          | --   | --   | 45.7          | --   | --   | 39.2            | --   | --   | 7.3     | --  | --  | 80.1                      | 46.8 | 37.5 | 7.8 | 76.7          | 44.7 | 44.4 | 6.5 | 80.5         | 45.5 | 35.8 | 7.6 |
| DAIRYLAND STEALTH 1402   | 79.0          | --   | --   | 46.1          | --   | --   | 38.9            | --   | --   | 7.5     | --  | --  | 81.1                      | 46.8 | 35.6 | 7.9 | 76.6          | 44.4 | 42.2 | 6.9 | 79.4         | 47.0 | 38.9 | 7.6 |
| DAIRYLAND STEALTH 1496   | 75.1          | --   | --   | 41.0          | --   | --   | 42.3            | --   | --   | 7.2     | --  | --  | 74.9                      | 41.9 | 43.3 | 8.0 | 74.4          | 39.3 | 42.2 | 6.7 | 75.9         | 41.9 | 41.5 | 7.0 |
| DAIRYLAND STEALTH 1500   | 76.4          | --   | --   | 41.7          | --   | --   | 39.7            | --   | --   | 7.5     | --  | --  | 76.1                      | 41.3 | 38.3 | 8.3 | 76.1          | 42.4 | 41.5 | 6.5 | 77.0         | 41.4 | 39.3 | 7.6 |
| GREAT LAKES 4848   | 76.0          | --   | --   | 41.7          | --   | --   | 41.1            | --   | --   | 6.9     | --  | --  | 75.4                      | 42.4 | 42.8 | 7.7 | 75.9          | 41.3 | 41.0 | 6.1 | 76.8         | 41.3 | 39.6 | 6.9 |
| GREAT LAKES 4929   | 75.2          | 75.3 | 77.3 | 42.1          | 42.2 | 46.2 | 42.7            | 42.7 | 42.2 | 7.1     | 7.0 | 7.4 | 75.7                      | 41.4 | 41.4 | 8.2 | 74.7          | 43.5 | 44.1 | 6.6 | 75.1         | 41.5 | 42.5 | 6.6 |
| LG Seeds LG 2499   | 77.5          | --   | --   | 44.8          | --   | --   | 40.9            | --   | --   | 7.5     | --  | --  | 77.6                      | 43.7 | 39.9 | 8.6 | 76.0          | 45.2 | 43.9 | 6.7 | 78.8         | 45.6 | 38.9 | 7.2 |
| PIONEER 3573   | 78.2          | 76.9 | 78.3 | 44.8          | 44.2 | 48.1 | 39.4            | 41.4 | 41.8 | 7.2     | 6.8 | 7.3 | 79.2                      | 47.1 | 39.0 | 8.4 | 77.1          | 44.9 | 41.5 | 6.5 | 78.2         | 42.3 | 37.8 | 6.8 |
| PIONEER 36K27  | 76.2          | --   | --   | 44.0          | --   | --   | 42.0            | --   | --   | 7.0     | --  | --  | 72.9                      | 39.2 | 44.3 | 7.3 | 76.8          | 45.1 | 41.5 | 6.2 | 79.0         | 47.8 | 40.2 | 7.4 |
| PIONEER 3730   | 77.0          | 76.6 | --   | 43.3          | 44.2 | --   | 40.6            | 42.0 | --   | 7.4     | 7.1 | --  | 78.8                      | 41.6 | 36.3 | 8.2 | 74.6          | 42.8 | 44.5 | 6.6 | 77.7         | 45.5 | 40.9 | 7.5 |
| PIONEER 3752   | 77.8          | 77.5 | 79.4 | 41.9          | 43.3 | 48.1 | 38.3            | 39.8 | 39.7 | 7.5     | 7.0 | 7.4 | 76.4                      | 38.8 | 38.6 | 7.9 | 78.7          | 43.7 | 37.8 | 6.8 | 78.2         | 43.2 | 38.4 | 7.7 |
| RENK RK546   | 75.8          | 75.0 | --   | 40.7          | 41.5 | --   | 40.9            | 42.9 | --   | 7.2     | 6.7 | --  | 75.2                      | 37.6 | 39.8 | 7.6 | 75.2          | 41.8 | 42.7 | 6.4 | 77.0         | 42.7 | 40.1 | 7.6 |
| RENK RK641   | 77.2          | 76.6 | --   | 45.4          | 45.1 | --   | 41.7            | 42.6 | --   | 7.0     | 6.8 | --  | 75.1                      | 44.4 | 44.7 | 7.3 | 76.8          | 43.6 | 41.1 | 6.6 | 79.6         | 48.1 | 39.3 | 7.2 |
| AVERAGE  | 77.0          | 76.5 | 78.6 | 43.3          | 43.8 | 48.1 | 40.5            | 41.8 | 41.3 | 7.3     | 6.9 | 7.4 | 76.8                      | 42.8 | 40.1 | 8.0 | 76.4          | 43.4 | 41.8 | 6.6 | 77.8         | 43.4 | 39.5 | 7.3 |
| HIGHEST  | 79.1          | 77.9 | 79.4 | 46.1          | 46.4 | 50.1 | 42.7            | 42.9 | 42.2 | 7.7     | 7.2 | 7.5 | 81.1                      | 47.1 | 44.7 | 8.6 | 78.7          | 46.6 | 44.7 | 7.3 | 80.5         | 47.8 | 42.5 | 7.7 |
| LOWEST   | 75.1          | 75.0 | 77.3 | 39.9          | 41.5 | 46.2 | 38.3            | 39.8 | 39.7 | 6.9     | 6.7 | 7.3 | 72.9                      | 37.6 | 35.6 | 7.3 | 74.4          | 39.3 | 35.8 | 6.1 | 75.1         | 39.9 | 35.8 | 6.6 |
| Least Significant Difference   | 2.6           |      |      | 3.3           |      |      | 4.0             |      |      | .6      |     |     |                           |      |      |     |               |      |      |     |              |      |      |     |
| Coefficient of Variance  | 2.0           |      |      | 4.6           |      |      | 6.0             |      |      | 4.5     |     |     |                           |      |      |     |               |      |      |     |              |      |      |     |

**Average of Kent, Ingham & Huron County LATE In-vitro Analyses  
One-, two-, three-year averages — 1997, 1996, 1995**

| LATE TRIAL (105 DAY RELATIVE MATURITY OR LATER (BASED ON COMPANY RATING)) |               |      |      |               |      |      |                 |      |      |         |     |     |                           |      |      |      |               |      |      |     |              |      |      |     |
|---|---------------|------|------|---------------|------|------|-----------------|------|------|---------|-----|-----|---------------------------|------|------|------|---------------|------|------|-----|--------------|------|------|-----|
| HYBRID<br>(BRAND-VARIETY)   | % DRY MATTER  |      |      | % FIBER       |      |      | % NEUTRAL       |      |      | % CRUDE |     |     | IN-VITRO QUALITY ANALYSES |      |      |      |               |      |      |     |              |      |      |     |
|   | DIGESTABILITY |      |      | DIGESTABILITY |      |      | DETERGENT FIBER |      |      | PROTEIN |     |     | KENT COUNTY               |      |      |      | INGHAM COUNTY |      |      |     | HURON COUNTY |      |      |     |
|   | 1997          | 2yr  | 3yr  | 1997          | 2yr  | 3yr  | 1997            | 2yr  | 3yr  | 1997    | 2yr | 3yr | %DMD                      | %FD  | %NDF | %CP  | %DMD          | %FD  | %NDF | %CP | %DMD         | %FD  | %NDF | %CP |
| AGRIPRO AP-9460   | 76.7          | --   | --   | 44.0          | --   | --   | 41.5            | --   | --   | 6.5     | --  | --  | 75.2                      | 45.6 | 45.7 | 7.6  | 76.4          | 41.5 | 40.3 | 5.8 | 78.4         | 44.9 | 38.5 | 6.2 |
| AGRIPRO AP-9560   | 78.1          | --   | --   | 45.8          | --   | --   | 40.4            | --   | --   | 7.0     | --  | --  | 80.3                      | 46.1 | 36.6 | 8.0  | 75.7          | 44.8 | 44.0 | 6.3 | 78.2         | 46.5 | 40.7 | 6.7 |
| BALDRIDGE BH-511  | 74.9          | 76.3 | 76.6 | 46.2          | 49.9 | 51.5 | 46.8            | 48.2 | 48.6 | 8.7     | 8.1 | 8.2 | 75.2                      | 43.8 | 44.2 | 10.4 | 76.2          | 48.2 | 46.4 | 7.5 | 73.4         | 46.7 | 49.9 | 8.1 |
| CORNBELT C567   | 76.2          | --   | --   | 43.5          | --   | --   | 42.2            | --   | --   | 7.2     | --  | --  | 77.1                      | 44.1 | 41.4 | 7.6  | 75.2          | 43.5 | 43.9 | 6.6 | 76.4         | 42.9 | 41.3 | 7.5 |
| DAIRYLAND STEALTH 1406  | 76.2          | --   | --   | 45.3          | --   | --   | 43.6            | --   | --   | 7.3     | --  | --  | 72.3                      | 44.3 | 50.0 | 7.8  | 77.8          | 44.0 | 39.7 | 6.5 | 78.5         | 47.7 | 41.1 | 7.5 |
| DAIRYLAND STEALTH 1407  | 78.1          | 78.9 | 78.1 | 45.2          | 46.2 | 49.9 | 40.0            | 41.8 | 41.6 | 7.4     | 6.8 | 7.1 | 79.2                      | 48.6 | 40.4 | 8.7  | 79.5          | 43.6 | 36.4 | 6.2 | 75.6         | 43.4 | 43.1 | 7.3 |
| DAIRYLAND STEALTH 1412  | 77.2          | 76.3 | 77.9 | 44.8          | 44.0 | 46.5 | 41.3            | 42.3 | 41.2 | 6.9     | 6.8 | 7.0 | 76.7                      | 43.0 | 40.8 | 7.5  | 77.7          | 45.7 | 41.1 | 6.5 | 77.1         | 45.7 | 42.1 | 6.7 |
| DAIRYLAND STEALTH 1508  | 76.9          | --   | --   | 46.7          | --   | --   | 43.4            | --   | --   | 7.8     | --  | --  | 76.1                      | 44.7 | 43.2 | 8.2  | 76.9          | 47.9 | 44.2 | 7.1 | 77.6         | 47.4 | 42.7 | 8.1 |
| GARST 24X   | 75.5          | 75.0 | --   | 43.6          | 44.6 | --   | 43.5            | 45.2 | --   | 8.1     | 7.4 | --  | 78.0                      | 42.9 | 38.6 | 9.0  | 74.8          | 45.2 | 46.0 | 7.8 | 73.7         | 42.8 | 46.0 | 7.5 |
| GOLDEN HARVEST Ex527  | 76.0          | --   | --   | 44.4          | --   | --   | 43.2            | --   | --   | 7.3     | --  | --  | 77.8                      | 46.1 | 41.2 | 8.1  | 75.3          | 41.5 | 42.2 | 6.6 | 74.8         | 45.5 | 46.2 | 7.1 |
| GREAT LAKES 5715  | 75.0          | 75.2 | 76.8 | 43.9          | 42.6 | 46.8 | 44.7            | 43.4 | 43.8 | 7.9     | 7.2 | 7.6 | 75.4                      | 44.4 | 44.2 | 8.8  | 72.7          | 44.6 | 49.6 | 7.0 | 76.9         | 42.7 | 40.4 | 7.9 |
| GREAT LAKES 5816  | 77.4          | 76.5 | --   | 44.5          | 44.3 | --   | 40.8            | 42.3 | --   | 7.2     | 7.0 | --  | 77.5                      | 44.3 | 40.5 | 8.1  | 76.4          | 41.5 | 40.4 | 6.6 | 78.3         | 47.7 | 41.6 | 7.0 |
| GREAT LAKES 5849  | 77.7          | 75.4 | --   | 44.6          | 43.5 | --   | 40.1            | 43.6 | --   | 6.9     | 6.7 | --  | 82.0                      | 45.9 | 33.2 | 8.5  | 74.2          | 43.2 | 45.5 | 6.0 | 77.0         | 44.7 | 41.7 | 6.3 |
| LG Seeds LG 2583  | 77.6          | --   | --   | 47.1          | --   | --   | 42.5            | --   | --   | 7.4     | --  | --  | 77.2                      | 49.5 | 45.1 | 7.9  | 78.5          | 44.3 | 38.6 | 6.4 | 77.0         | 47.6 | 43.9 | 7.9 |
| PIONEER 33V08   | 76.0          | --   | --   | 43.4          | --   | --   | 42.3            | --   | --   | 7.1     | --  | --  | 76.9                      | 44.9 | 41.9 | 7.4  | 75.6          | 43.1 | 42.9 | 6.7 | 75.6         | 42.1 | 42.2 | 7.1 |
| PIONEER 34G81   | 78.0          | --   | --   | 42.5          | --   | --   | 38.2            | --   | --   | 7.3     | --  | --  | 79.8                      | 44.6 | 36.4 | 7.9  | 77.4          | 41.9 | 38.9 | 6.5 | 76.7         | 40.9 | 39.4 | 7.4 |
| RENK RK775  | 77.2          | --   | --   | 44.3          | --   | --   | 40.7            | --   | --   | 7.8     | --  | --  | 82.0                      | 47.3 | 34.1 | 9.3  | 72.7          | 43.6 | 48.4 | 6.2 | 76.9         | 41.9 | 39.7 | 8.0 |
| RENK RK864  | 78.2          | 77.1 | 78.0 | 44.1          | 44.8 | 46.8 | 38.9            | 41.5 | 41.4 | 7.4     | 6.9 | 6.9 | 81.3                      | 47.0 | 35.2 | 8.0  | 77.2          | 43.7 | 40.5 | 6.5 | 76.0         | 41.6 | 41.1 | 7.6 |
| TRELLAY 7004  | 77.4          | --   | --   | 47.0          | --   | --   | 42.6            | --   | --   | 7.3     | --  | --  | 80.9                      | 47.3 | 36.3 | 7.7  | 76.2          | 46.9 | 44.8 | 7.5 | 75.1         | 46.8 | 46.7 | 6.8 |
| TRELLAY 9001  | 76.5          | --   | --   | 43.7          | --   | --   | 41.6            | --   | --   | 7.6     | --  | --  | 78.8                      | 44.4 | 38.1 | 8.8  | 74.6          | 42.6 | 44.2 | 6.8 | 76.2         | 44.0 | 42.5 | 7.2 |
| AVERAGE   | 76.8          | 76.3 | 77.5 | 44.7          | 45.0 | 48.3 | 41.9            | 43.5 | 43.3 | 7.4     | 7.1 | 7.4 | 78.0                      | 45.4 | 40.4 | 8.3  | 76.0          | 44.1 | 42.9 | 6.7 | 76.5         | 44.7 | 42.5 | 7.3 |
| HIGHEST   | 78.2          | 78.9 | 78.1 | 47.1          | 49.9 | 51.5 | 46.8            | 48.2 | 48.6 | 8.7     | 8.1 | 8.2 | 82.0                      | 49.5 | 50.0 | 10.4 | 79.5          | 48.2 | 49.6 | 7.8 | 78.5         | 47.7 | 49.9 | 8.1 |
| LOWEST  | 74.9          | 75.0 | 76.6 | 42.5          | 42.6 | 46.5 | 38.2            | 41.5 | 41.2 | 6.5     | 6.7 | 6.9 | 72.3                      | 42.9 | 33.2 | 7.4  | 72.7          | 41.5 | 36.4 | 5.8 | 73.4         | 40.9 | 38.5 | 6.2 |
| Least Significant Difference  | 3.5           |      |      | 3.2           |      |      | 6.0             |      |      | .8      |     |     |                           |      |      |      |               |      |      |     |              |      |      |     |
| Coefficient of Variance   | 2.7           |      |      | 4.3           |      |      | 4.6             |      |      | 6.3     |     |     |                           |      |      |      |               |      |      |     |              |      |      |     |

**Average of Alpena & Missaukee County In-vitro Analyses  
One-, two-, three-year averages — 1997, 1996, 1995**

| HYBRID<br>(BRAND-VARIETY) | % DRY MATTER  |      |      | % FIBER       |      |      | % NEUTRAL       |      |      | % CRUDE |     |     | IN-VITRO QUALITY ANALYSES |      |      |     |                  |      |      |     |  |  |  |  |
|---------------------------|---------------|------|------|---------------|------|------|-----------------|------|------|---------|-----|-----|---------------------------|------|------|-----|------------------|------|------|-----|--|--|--|--|
|                           | DIGESTABILITY |      |      | DIGESTABILITY |      |      | DETERGENT FIBER |      |      | PROTEIN |     |     | ALPENA COUNTY             |      |      |     | MISSAUKEE COUNTY |      |      |     |  |  |  |  |
|                           | 1997          | 2yr  | 3yr  | 1997          | 2yr  | 3yr  | 1997            | 2yr  | 3yr  | 1997    | 2yr | 3yr | %DMD                      | %FD  | %NDF | %CP | %DMD             | %FD  | %NDF | %CP |  |  |  |  |
| DAIRYLAND STEALTH 1195    | 77.1          | 75.1 | --   | 48.7          | 45.7 | --   | 44.6            | 45.7 | --   | 7.6     | 7.6 | --  | 78.5                      | 50.5 | 43.5 | 7.3 | 75.7             | 46.8 | 45.7 | 7.8 |  |  |  |  |
| DAIRYLAND STEALTH 1289    | 76.6          | 76.1 | 77.8 | 47.0          | 44.6 | 48.7 | 44.3            | 43.3 | 43.5 | 8.2     | 7.8 | 8.2 | 76.8                      | 47.7 | 44.4 | 8.8 | 76.3             | 46.2 | 44.1 | 7.6 |  |  |  |  |
| DAIRYLAND DST 9102        | 78.4          | --   | --   | 49.0          | --   | --   | 42.4            | --   | --   | 7.5     | --  | --  | 79.7                      | 50.9 | 41.4 | 8.0 | 77.0             | 47.1 | 43.4 | 7.0 |  |  |  |  |
| GOLDEN HARVEST H-2382     | 77.9          | --   | --   | 50.1          | --   | --   | 44.2            | --   | --   | 7.9     | --  | --  | 79.2                      | 52.2 | 43.5 | 8.3 | 76.6             | 47.9 | 44.9 | 7.4 |  |  |  |  |
| GREAT LAKES 3362          | 75.0          | 74.4 | --   | 45.5          | 44.3 | --   | 46.0            | 45.9 | --   | 7.8     | 7.7 | --  | 75.8                      | 44.5 | 43.7 | 8.0 | 74.2             | 46.5 | 48.2 | 7.5 |  |  |  |  |
| GREAT LAKES 4038          | 75.8          | 75.8 | --   | 48.3          | 44.8 | --   | 46.8            | 44.1 | --   | 7.0     | 7.0 | --  | 75.9                      | 47.7 | 46.1 | 6.9 | 75.6             | 48.9 | 47.4 | 7.1 |  |  |  |  |
| GREAT LAKES 4848          | 77.0          | --   | --   | 48.3          | --   | --</ |                 |      |      |         |     |     |                           |      |      |     |                  |      |      |     |  |  |  |  |



**TABLE 7 INDEX FOR 1997 CORN HYBRIDS COMPARED**

**TABLE 1E/L**  
MONROE  
BRANCH-IRR  
CASS-IRR

**TABLE 2E/L**  
KENT  
INGHAM  
SAGINAW

**TABLE 3E/L**  
HURON  
MONTCALM-IRR  
MASON-IRR

**TABLE 4E/L**  
ALPENA  
GRAND TRAVERSE  
DELTA

**TABLE 5E/L**  
KENT  
INGHAM  
HURON

**TABLE 6**  
ALPENA  
MISSAUKEE  
DELTA(6B)

**AgriPro Seeds, Inc.**

AGRIPRO AP9300 (2E)  
AGRIPRO AP9363 (2E)  
AGRIPRO AP9400 (1E,2L)  
AGRIPRO AP9460 (1E,2L,5L)  
AGRIPRO AP9560 (1L,5L)

**The Andersons**

ANDERSONS PSX385 (1E)  
ANDERSONS NC5490 (2E)  
ANDERSONS NC5501 (1E,2E\*)  
ANDERSONS NC5801 (1L)

**Asgrow Seed Company**

ASGROW RX490 (1E)  
ASGROW RX530 (1E)  
ASGROW RX601 (1E)  
ASGROW RX670 (1L)

**Baldridge Hybrids**

BALDRIDGE BH-511 (5L\*)

**Bayside Seeds**

BAYSIDE Super 79 (4E)  
BAYSIDE Super 85 (2E,3E,4E)  
BAYSIDE Super 88 (2E,3E)  
BAYSIDE Super 95 (2E,3E)  
BAYSIDE Super 99 (2E,3L)  
BAYSIDE Super 105 (1E,2L)  
BAYSIDE 1792 (2E,3E)  
BAYSIDE 1796 (2E,2E)  
BAYSIDE 1798 (2E)

**Beck's Superior Hybrids**

BECK'S Ex2279 (1E)  
BECK'S Ex5505Bt (1L)  
BECK'S 5105 (1E)  
BECK'S 5305 (1E)  
BECK'S 5405 (1L)

**Brown Seed Farms**

BROWN BR 1680 (4E)  
BROWN BR 5140 (2E,3L)  
BROWN BR 6850 (2L)

**Callahan Seeds**

CALLAHAN C7441 (2E,3L)  
CALLAHAN C7557 (1L)  
CALLAHAN C7658 (1L)  
CALLAHAN C7737 (2E,3E)  
CALLAHAN C7738 (2E,3L)  
CALLAHAN C7830X (2E,3E)  
CALLAHAN C7836X (2E,3E)  
CALLAHAN C7842X (1E)  
CALLAHAN C7849X (1E)

**Cargill Hybrid Seeds**

CARGILL 1877 (4E)  
CARGILL 2827 (4L)  
CARGILL 2927 (3E,4L)  
CARGILL 3677 (1E,2E,3L,4L)  
CARGILL 3797 (3L)  
CARGILL 4127 (1E,2L,3L)  
CARGILL 4177 (3L)  
CARGILL 4277 (1E,2L,3L)  
CARGILL 5677 (1L\*,2L)  
CARGILL 6303 (1L,2L)  
CARGILL 6327 (1L)

**Cornbelt Hybrids**

CORNBELT C 454 (3E)  
CORNBELT C 498 (3L)  
CORNBELT C 533 (2E)  
CORNBELT C 555 (1E)  
CORNBELT C 567 (2L,5L)  
CORNBELT C 588 (1L)

**Countrymark Cooperative, Inc.**

COUNTRYMARK CO-OP 447 (2E,5E)  
COUNTRYMARK CO-OP 546 (1E,2L)  
COUNTRYMARK CO-OP 1682 (3E,4E)  
COUNTRYMARK CO-OP 3858 (2E,3E,5E)  
COUNTRYMARK CO-OP 4048 (3L)  
COUNTRYMARK CO-OP 5308 (1E,2L)  
COUNTRYMARK CO-OP 5458 (1L)

**Crow's Hybrid Corn Company**

CROW'S 172 (2E)  
CROW'S 200 (1E,2E)  
CROW'S 365 (1E)  
CROW'S 366 (1E,2L)  
CROW'S 395 (2L)  
CROW'S 496 (1L)

**Dairyland Seed Company, Inc.**

DAIRYLAND STEALTH-1195 (6E)  
DAIRYLAND STEALTH-1203 (3L,5E)  
DAIRYLAND STEALTH-1289 (4E,6E)  
DAIRYLAND STEALTH-1297 (3E,5E)  
DAIRYLAND STEALTH-1401 (2E,3L)  
DAIRYLAND STEALTH-1402 (3L,5E)  
DAIRYLAND STEALTH-1406 (1E,2L,3L,5L)  
DAIRYLAND STEALTH-1407 (1E,5L\*)  
DAIRYLAND STEALTH-1409 (1L)  
DAIRYLAND STEALTH-1410 (1L,2L)  
DAIRYLAND STEALTH-1412 (1L,5L)  
DAIRYLAND STEALTH-1496 (2E,3E,4L,5E)  
DAIRYLAND STEALTH-1500 (3L,5E)  
DAIRYLAND STEALTH-1508 (5L)  
DAIRYLAND STEALTH-1595 (3E)  
DAIRYLAND DST-9102 (6E)

**Dekalb Genetics Corporation**

DEKALB DK345 (3E,4E)  
DEKALB DK352 (3E,4E)  
DEKALB DK365 (3E,4E)  
DEKALB DK385B (2E,3E,4E)  
DEKALB DK431 (2E,3E,4L)  
DEKALB DK442 (2E,3E)  
DEKALB DK471 (1E,2E,3E)  
DEKALB DK477 (1E,2E,3E)

DEKALB DK493 (1E,2E,3L)  
DEKALB DK527 (1E,2E\*,3L)  
DEKALB DK546 (1E,2L,3L)  
DEKALB DK566 (1E)  
DEKALB DK595 (1L)  
DEKALB DK604 (1L)  
DEKALB DK607 (1L)  
DEKALB DK618 (1L)

**Garst Seed Co.**

GARST 24X (5L)  
GARST N4673 (2E)  
GARST 8464 (1L)  
GARST 8640 (1E,2L)

There were 254 hybrids from 35 seed companies entered in 1337 county tests in the 1997 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.

GARST 8771 (2E,3L)  
GARST 8780 HPH (2E,3L)  
GARST 8830 (2E,3E)  
PAYCO 413 (3E)  
PAYCO 607 (2E,3L)  
PAYCO 635 (2E,3L)  
PAYCO 646 (2L)  
PAYCO 834 (1L)

**Gen-Tech Farm Seed**

GEN-TECH 1026 (1E)  
GEN-TECH 1047 (1E)  
GEN-TECH 1064 (1E)

**Golden Harvest/Sommer Bros.**

GOLDEN HARVEST Ex527 (5L)  
GOLDEN HARVEST H-2265 (4E)  
GOLDEN HARVEST H-2279 (4L)  
GOLDEN HARVEST H-2292 (2E,3E)  
GOLDEN HARVEST H-2349 (1E,2E,3L)  
GOLDEN HARVEST H-2382 (2E,3L,6E)  
GOLDEN HARVEST H-2441 (1E,2L)  
GOLDEN HARVEST H-2495 (1L)  
GOLDEN HARVEST H-2515 (1L)

**Great Lakes Hybrids, Inc.**

GREAT LAKES 3362 (3E,4E,6E)  
GREAT LAKES 4038 (4E,6E)  
GREAT LAKES 4563 (2E,3E,4L)  
GREAT LAKES 4848 (1E,2E,3L,5E,6E)  
GREAT LAKES 4929 (1E,2E,3L,5E)  
GREAT LAKES 5715 (1E,2L,5L\*)  
GREAT LAKES 5816 (5L)  
GREAT LAKES 5849 (1L,5L)

**Gries Seed Farms, Inc.**

GRIES EX1000 (2E,3E)  
GRIES GSF-2393 (2E,3E)  
GRIES GSF-4203 (1E,2L,3L)

**Fred Gutwein & Sons, Inc.**

BLANEY 2088 (2E)  
BLANEY 2110 (2E)  
GUTWEIN EX 515 (3E)  
GUTWEIN EX 620 (2E,3E)  
GUTWEIN EX 632 (1E)  
GUTWEIN EX 641 (1E)  
GUTWEIN EX 717 (3E)  
GUTWEIN 2350 (1E)  
GUTWEIN 2400 (1E,2L)  
GUTWEIN 2520 (1L)

**Jung Farms, Inc.**

JUNG 2232 (4E)  
JUNG 2340 (4E)  
JUNG 2406 (4E)  
JUNG 2430 (4L)  
JUNG 2460 (3E)  
JUNG 2488 (3E)  
JUNG 2544 (3L)  
JUNG 2577 (3L)

**LG Seeds**

LG SEEDS LG 240X (4E)  
LG SEEDS LG 247X (3E)  
LG SEEDS LG 248X (2E,3L)  
LG SEEDS LG 257X (1L)  
LG SEEDS LG 2392 (4E)  
LG SEEDS LG 2410 (6E)  
LG SEEDS 2442 (2E,3E)  
LG SEEDS LG 2448 (3E,6E)  
LG SEEDS LG 2499 (2E,3L,5E)  
LG SEEDS LG 2537 (2L)  
LG SEEDS LG 2539 (1L\*,2L)  
LG SEEDS LG 2583 (1L,5L)

**Midwest Seed Genetics**

M/W GENETICS G6970 (2E,3E)  
M/W GENETICS G7010 (2E)  
M/W GENETICS G7118 (1E,3L)  
M/W GENETICS G7636 (1L)

**Mycogen Plant Sciences**

MYCOGEN 2250 (4E)  
MYCOGEN 2458 (3E)  
MYCOGEN 2674 (2L)  
MYCOGEN 2725 (1L)

**Novartis Seeds, Inc.**

NK BRAND N52-B2 (1E,2L)  
NK BRAND N2555 (3E)  
NK BRAND NX2105 (3E)  
NK BRAND 4187 (2E,3E)  
NK BRAND 4214 (2E)  
NK BRAND 4394 (1E,2L)  
NK BRAND 4494 (1L)  
NK BRAND N4640 (2E)  
NK BRAND N6800 (1L)

**Pfister Hybrid Corn Co.**

PFISTER 2025 (1E)  
PFISTER 2650 (1L\*)

**Pioneer Hi-Bred International, Inc.**

PIONEER 3335 (1L)  
PIONEER 33T90 (1L)  
PIONEER 33V08 (1L,5L)  
PIONEER 3491 (1L,2L)  
PIONEER 34G81 (1L,2L,5L)  
PIONEER 34R06 (1L,2L)  
PIONEER 35N053 (1E,2L)  
PIONEER 3573 (3L,5E)  
PIONEER 36K27 (1E,2E,,3L,5E)  
PIONEER 3730 (1E,2E,3L,5E)  
PIONEER 3752 (2E,3E,5E,6E)  
PIONEER 37M81 (2E,3E,4L,6E)  
PIONEER 3893 (4E,6E)  
PIONEER 3905 (6E)  
PIONEER 3936 (4E)

**Pro-Seed, Inc.**

PRO-SEED PS 9700 (1E,2E)  
PRO-SEED PS 9703 (1E)  
PRO-SEED PS 9706 (1E)  
PRO-SEED PS 9794 (2E)

**Renk Seed Company, Inc.**

RENK RK133 (4E)  
RENK RK272 (4E)  
RENK RK376 (4E,6E)  
RENK RK546 (1E,2E,3E,4L,5E,6E)  
RENK RK552 (2E,3E)  
RENK RK641 (1E,2L,5E)  
RENK RK671 (1E,2L,3L)  
RENK RK672 (1E,2L,3L)  
RENK RK696 (1L\*,2L\*)  
RENK RK708 (1L\*,2L)  
RENK RK728 (1E,2L)  
RENK RK775 (1L,2L,5L)  
RENK RK818 (2L)  
RENK RK835 (1L,2L)  
RENK RK864 (1L,2L,5L)

**Rupp Seeds, Inc.**

RUPP X7-302 (3E)  
RUPP XR 1528 (2E,3E)  
RUPP XR 1599 (2E,3L)  
RUPP XR 1688 (1E,2L,3L)  
RUPP XR 1698 (1E,2L)  
RUPP XR 1733 (1L)

**Seed Mart, Inc.**

WOLVERINE W142 (3E)  
WOLVERINE W144 (2E,3E)  
WOLVERINE W154 (2E)  
WOLVERINE W164 (1E,2L)  
WOLVERINE W174 (1L)

**Sunstar Hybrids-Coomer Seeds**

SUNSTAR 4408 (1L,2L,3L)  
SUNSTAR 4409 (1L,2L,3L)  
SUNSTAR 4706 (1E,2L,3L)

**Terra International, Inc.**

TERRA TR906 (3E,4E)  
TERRA TR966 (1E,2E,3E,4L)  
TERRA E987 (1E,2E,3L)  
TERRA TR1026 (1E,2E,3L)  
TERRA E1047 (1E,2L,3L)  
TERRA TR1066 (1E,2L)  
TERRA TR1087 (1L,2L)  
TERRA E1088 (1L,2L)  
TERRA TR1097 (1L,2L)

TERRA TR1106 (1L,2L)

**Trelay, Inc.**

TRELA 1003 (4E)  
TRELAY 4002 (3E)  
TRELAY 4600 (3E)  
TRELAY 5004 (3L)  
TRELAY 5004 (3L)  
TRELAY 6005 (2L)  
TRELAY 7004 (2L,5L)  
TRELAY 7005 (2L)  
TRELAY 9001 (1L,5L)  
TRELAY 9002 (1L)  
TRELAY 9095 (1L)

\*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 1997 TRIALS**

BRAND COMPANY NAME AND ADDRESS

AGRIPRO AgriPro Seeds Inc., RR#1, Box 404, Princeton, IL 61356  
ANDERSONS The Andersons, 321 W. Main St., Delta, Ohio 43515  
ASGROW Asgrow Seed Company, 2605 E. Kilgore Rd. Kalamazoo, MI 49001  
BALDRIDGE Baldridge Hybrids, P.O. Box 99, Cherry Fork, OH 45618  
BAYSIDE Bayside Seeds, 494 E. Munger Rd., Munger, MI 48747  
BECK'S Beck's Superior Hybrids, 6767 E. 276<sup>th</sup> St., Atlanta, IN 46031  
BROWN Brown Seed Farms, N1279 530<sup>th</sup> St., Bay City, WI 54723  
CALLAHAN Callahan Seeds, 1122 E. 169<sup>th</sup> St., Westfield, IN 46074  
CARGILL Cargill Hybrid Seeds, P.O. Box 5645, Minneapolis, MN 55440  
CORN BELT Corn Belt Hybrids, P.O. Box 195, St. Marys, OH 45885  
COUNTRYMARK Countrymark CO-OP, 1701 Towanda Ave., Bloomington, IL 61702-2500

BRAND COMPANY NAME AND ADDRESS

CROW'S Crow's Hybrid Corn Co., P.O. Box 306, Milford, IL 60953  
DAIRYLAND Dairyland Seed Co, Inc., P.O. Box 958, West Bend, WI 53095  
DEKALB Dekalb Genetics Corp., 3100 Sycamore Rd., Dekalb, IL 60115  
GARST-ICI Garst-ICI Seed Co., 3723 S. Baldwin Rd., Ithaca, MI 48847  
GEN-TECH Gen-Tech Farm Seed, 15740 Old US 31, Argos, IN 46501  
GOLDEN HARVEST Golden Harvest, P.O. Box 248 Pekin, IL 61554  
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  
JUNG Jung Seed Genetics, 335 S. High St., Randolph, WI 53956  
LG SEEDS LG Seeds, SR 213 South, Box 457, Windfall, IN 47906  
MIDWEST Midwest Seed Genetics, P.O. Box 518, Carroll, IA 51401

BRAND COMPANY NAME AND ADDRESS

MYCOGEN Mycogen Seeds, 9307 Thornwood DR., Indianapolis, IN 46250  
NOVARTIS Novartis Seeds, Inc., 12275 S. Sherman Lake, Augusta, MI 49012  
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  
PRO-SEED Pro-Seed Inc., P.O. Box 55, Blissfield, MI 49228  
RENK Renk Seed Co., 6800 Wilburn Rd., Sun Prairie, WI 53590  
RUPP Rupp Seeds, 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 Seeds, 11623 State Rd S., Livingston, WI 53554  
SEED MART Seed Mart, Inc., P.O. Box 126, Prescott, WI 54021