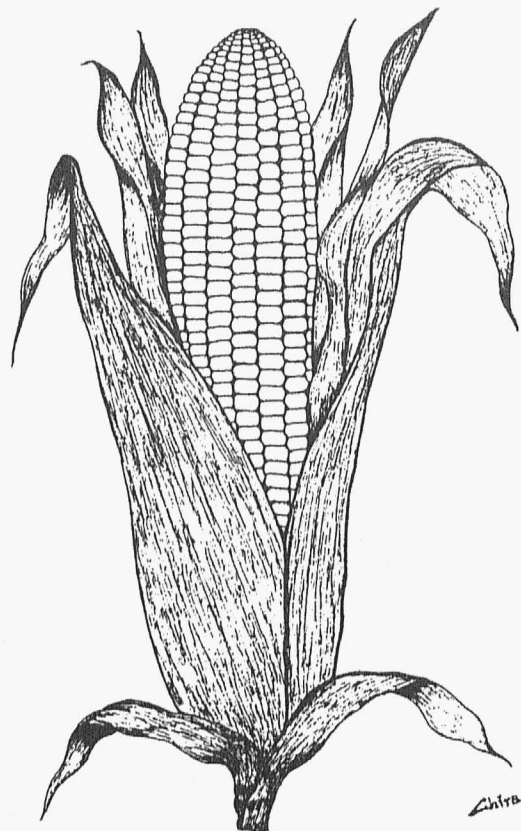


YELLOW FOOD CORN

1994 Performance Test



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TABLE OF CONTENTS

Introduction	Page 4
Entries and seed sources	Page 4 and Table 1
Locations and agronomic practices	Page 4, Table 2, and Fig. 1
Data collected	Page 5
Statistical analyses and interpretations	Page 7
Narrative summary	Page 9
Results from the 1994 Yellow Food Corn Performance Test:	
Champaign, IL	Table 3
West Lafayette, IN	Table 4
Ogden, IA	Table 5
Henderson, KY	Table 6
Lexington, KY	Table 7
Columbia, MO	Table 8
St. Joseph, MO	Table 9
Milan, OH	Table 10
Knoxville, TN	Table 11
Castroville, TX	Table 12
College Station, TX	Table 13
Springlake, TX	Table 14
Janesville, WI	Table 15
Combined yield and agronomic data from 13 locations	Table 16
Yield data from 13 locations	Table 17
Combined yield and agronomic data from six northern locations	Table 18
Combined yield and agronomic data from seven southern locations	Table 19
European corn borer data	Table 20
Yield and agronomic data for common entries in 1993-1994	Table 21
Yield and agronomic data for common entries in 1992-1994	Table 22
Yield and agronomic data for common entries in 1991-1994	Table 23
Yield and agronomic data for common entries in 1990-1994	Table 24
Combined grain quality data from Texas A & M University for 11 locations	Table 25
Test weight data from Texas A & M University for 11 locations	Table 26
1000-kernel weight data from Texas A & M University for 11 locations	Table 27
Kernel density data from Texas A & M University for 11 locations	Table 28
Kernel hardness index data from Texas A & M University for 11 locations	Table 29
Pericarp removal data from Texas A & M University for 11 locations	Table 30
Grain quality data from Purdue University for West Lafayette, IN	Table 31
Grain quality data from Purdue University for College Station, TX	Table 32
Agronomic, grain quality, and overall performance indices and rankings of hybrids	Table 33

INTRODUCTION

The 1994 Yellow Food Corn Performance Test (YFCPT) included 31 hybrids and the yellow hybrid check B73 × Mo17. Hybrids were submitted by 10 commercial seed producers and the University of Tennessee (Table 1). Fifteen entries were new to the test in 1994. The decreased number of entries as compared to 1993 (42 hybrids and the yellow hybrid check B73 × Mo17) may reflect companies weeding out hybrids because of either agronomic performance or grain quality requirements for food corn. Also, a major participant in the 1993 test, Ciba Seeds, did not participate in 1994. Thirteen locations were planted in the agronomic evaluation. Data were received from locations in Illinois, Indiana, Kentucky, Missouri, Ohio, Tennessee, Texas, and Wisconsin. First and second generation European corn borer (*Ostrinia nubilalis* Hübner) data were observed at Columbia and Novelty, MO. Grain samples were evaluated for quality aspects by L. W. Rooney, Department of Soil and Crop Science, Texas A & M University and B. R. Hamaker, Department of Food Science, Purdue University.

ENTRIES AND SEED SOURCES

Contributors of seed for the 1994 evaluations are listed in Table 1. Those entries that have an EXP as part of the hybrid name, such as DeKalb Genetics EXP274¹, have not been released. The last hybrid in each table is a yellow check hybrid.

For averages over years, entry names have been changed to current designations, so that an experimental hybrid from an earlier year is now identified as the released hybrid. Changes affecting the 1994 tests follow: Cargill EXP 57091 was released as Cargill 6409 GQ. All DeKalb Plant Genetics hybrids have been renamed DeKalb Genetics hybrids. ICI Seeds has released ICI Seeds N8400 as ICI Seeds 8400. Pioneer Brand X1182M was released for sale as Pioneer Brand 3225. Vineyard FCx5342 was released as Vineyard FC534.

Triumph 1650FG is not marked new in 1994 because it was entered previously in 1988 through 1990. It was not entered in 1991 through 1993.

Seed of the yellow check hybrid B73 × Mo17 was contributed by Ciba Seeds, Bloomington, IL.

LOCATIONS AND AGRONOMIC PRACTICES

Table 2 lists the locations of the YFCPT together with a record of the agronomic practices. Note that tests at Castroville, College Station, and Springlake, TX, were irrigated. Partial irrigation may have been used elsewhere.

Figure 1 graphically depicts on a map where tests were planted.

¹ Mention of a trademark or proprietary product does not constitute a guarantee, warranty, or recommendation of the product by the U.S. Department of Agriculture or the University of Missouri and does not imply its approval to the exclusion of other products that may also be suitable.

DATA COLLECTED

Yield

Yields were measured on a plot basis, converted to bushels per acre (54 lb bu/a), and adjusted to 15.5% moisture. Yields were adjusted to the mean stand for a location if the efficiency of adjustment exceeded 104% (ratio of unadjusted error sum of squares to adjusted error sum of squares).

Stand

Stand is expressed as a percentage of the optimum plot stand or planted stand.

Root and stalk lodging

Lodging is expressed as a percentage of the total plants for each hybrid. Generally, a plant was rated as root lodged if it leaned more than 30° from vertical, and as stalk lodged if it was broken at or below the ear node. Breakage above the ear was not counted.

Ear height

Ear height was measured from the soil level to the top ear leaf collar. Heights are expressed in inches.

Days to flowering

The number of days from planting to mid-tassel or mid-silk is shown. Depending on weather conditions, the total number of days from planting to physiological maturity might be taken as 1.6 to 1.8 times the number of days to flowering.

Grain moisture

Grain moisture was measured at harvest or when the grain was weighed.

Environmental yield response (b_1) and standard deviation of fit

These statistics are shown in Table 16 for the entry means combined over all locations in the 1994 YFCPT. The yield response (b_1) is expressed as bu/a/unit increase in the environmental index (I), where the index for a location is the average performance of all hybrids at the location. The deviation of fit is given in bu/a. The origin and use of these statistics are fully described later.

European corn borer

Leaf feeding by the first generation of the European corn borer was rated in nine classes. A score of 1 represented no feeding and 9 represented extensive damage. Plants in each plot were infested with about 120 larvae during the whorl stage of plant development. Ratings for leaf feeding were made three weeks later.

Feeding by the second generation of the European corn borer was determined by splitting stalks of five randomly infested plants per plot, counting the number of tunnels, and visually estimating the

length of tunneling in inches. The minimum tunnel length associated with one hole was 1 inch. About 120 larvae were applied at flowering, and stalks were split six or more weeks later.

Test weight

Bulk density was determined with a Winchester bushel meter and expressed as pounds per bushel (Texas A & M University and Purdue University [grain conditioned at 80.6°F and 67% relative humidity]).

1000-kernel weight

Weight of 1000 whole, hand-cleaned kernels was measured in grams (Texas A & M University).

Density

Density was determined using an air-compression multipycnometer (Texas A & M University) or stereopycnometer (Quantachrome Corporation, Syosset, NY) on grain conditioned at 80.6°F and 67% relative humidity (Purdue University).

Hardness index

Forty grams of corn (whole kernels) were abrasively milled using a tangential abrasive decorticator device for 10 min to remove the pericarp in a uniform manner. The weight of material removed, expressed as a percent of the original sample corrected for abrasive plate wear, is directly related to hardness of the kernel (Texas A & M University).

Pericarp removal

The pericarp removal test was conducted by cooking 10 g of corn in nylon bags in a steam kettle containing 167 g of lime in 50 L of water. Samples were cooked for 20 min at the boiling point. The samples were then washed and stained with eosine and methyl blue solution. The pericarp stains a blue-green color while the endosperm stains a light green color. Each sample was then rated on a scale in which 1 represented complete removal and 5 represented no removal (Texas A & M University).

Kernel color

Kernel color was rated on a scale of 1 to 5 on which 1 represents a light yellow color, 3 represents a bright yellow to yellow-orange color, and 5 represents a deep orange, red, or other undesirable kernel color. A rating of 2 to 3 is optimum on the color scale (Texas A & M University).

Cob color

Cob color is indicated by “R” for red, “P” for pink, and “W” for white. A white cob is desirable (Texas A & M University).

Stenvert hardness test

Twenty grams of corn conditioned at 80.6°F and 67% relative humidity were ground on a micro hammer-cutter mill (Glen Mills, Inc., Maywood, NJ). The Stenvert hardness value is the time, in seconds, required to collect 17 ml of ground corn (Purdue University).

Milling evaluation factor

A short-flow corn dry milling procedure was used to separate grit, flour, and germ fractions. The milling evaluation factor (MEF) was calculated using product yields obtained from the short-flow dry milling procedure. The MEF increases when both total endosperm product yield and flaking grit yield increase (Purdue University).

Protein

Protein was determined using a Dickey-john INSTALAB 600 infrared analyzer (Dickey-john Corp., Auburn, IL) (Purdue University).

Kernel length, width, and thickness

Kernel length, width, and thickness measurements were done on 30 representative kernels from each entry. Length and width determinations were obtained using a Zeiss Videoplan Image Analyzer (Carl Zeiss, Inc., Germany) and thickness measurements were done with a computerized digital micrometer (Purdue University).

Agronomic, grain quality, and overall performance indices and rankings

Indices and rankings shown in Table 33 are based on entry means combined over all locations in the 1994 YFCPT. These data represent the first attempt to provide a simple-to-use criterion for identification of superior hybrids. Independent performance indices are given for agronomic value and grain quality, and they are summed for an overall index. Weights assigned to individual traits were developed in cooperation with the Snack Food Association Corn Technology Committee. Changes in specific weights will change relative differences between hybrids and rankings. The origin of these indices is described in the following section on statistical analyses and interpretations.

STATISTICAL ANALYSES AND INTERPRETATIONS

The data from the YFCPT were analyzed as a three-replication, randomized-complete-block-design experiment at each location. If an observation was missing in one replication, the average of those observations in the remaining replications was used to approximate the missing observation. The least significant differences at probability level 0.05 (LSD 0.05) and coefficients of variation percentages (CV%) were calculated from the location analyses of variance (AOV). Where differences among hybrids were not significant for a character, no LSD or CV% is shown. Occasionally, data were observed in only one or two replications; a footnote is used to identify those situations.

The LSD 0.05 is used to compare the performance of two specific hybrids at a time. It should not

be used, however, to compare all pairs of hybrids. If the mean of hybrid “X” exceeds the mean for hybrid “Y” by the LSD 0.05 or more, the difference observed is a true difference in 19 out of 20 instances when the two hybrids are grown under conditions like those of the test.

The CV% relates error of measurement and the mean of the observed character. Values of the CV% for root and stalk lodging are sometimes much higher than for other characters and are generally associated with nonsignificant differences among hybrids.

Agronomic data combined from 13 locations of the 1994 YFCPT with an appropriate LSD 0.05 for each character are shown in Table 16. The combined LSD 0.05 and CV% are based on the entries \times locations interaction versus the pooled error from the combined AOV. When a character was not observed at a location, dots show in the location analysis; the combined mean and LSD 0.05 have been adjusted accordingly.

Stability analysis gives information on the responsiveness of hybrids to changes in environment and the reliability with which these responses may be predicted. Mean performance of all hybrids at a location was the measure used to rate the environment. This environmental index (I) was then used as the independent variable in a regression analysis with the individual hybrid’s performance at each location. A hybrid that is stable will have a regression coefficient (b_I) equal to 1.0, which means that an increase in the environmental index would result in an equal increase in the hybrid’s yield. Regression coefficients greater than 1.0 indicate relatively better performance in good environments. Hybrids with b_I values less than 1.0 would have a relative advantage in poor environments.

Deviation from fit reflects the accuracy with which the regression line given by b_I represents probable performance. Low deviation indicates that a hybrid has greater stability.

Overall, a desirable hybrid would have a high mean yield, b_I near 1.0, and low deviation from fit. If a grower knew he was producing on the high side of the environments sampled, then a hybrid with b_I greater than 1.0 would be more responsive than one with $b_I = 1.0$, and would be likely to yield more if mean yield levels were equivalent.

Agronomic, grain quality, and overall performance indices, given for each hybrid in Table 32, represent a net worth when considering several traits simultaneously. Because it is difficult to view a table of several traits and digest all of the data, a statistical approach has been used to combine that data into one number which includes components for all traits that showed statistically significant differences among entries in the combined analysis of variance. The index takes care of differences in measurement units and accounts for variability in accuracy of measurement of the traits. Finally, each trait component is weighted by a perceived economic or crop value. Weights applied in 1994 were developed in cooperation with the Snack Food Association Corn Technology Committee and are listed in the first two footnotes for Table 33.

In calculating an index, each trait component is obtained by subtracting the trait mean from a hybrid's mean and dividing the result by the standard error of the mean for the trait. This standardized variable has a mean of zero, and if the entries mean square was used as the source of the standard error term, it has a variance of 1.0. For these indices, the standard error term was based on the entries \times locations mean square because that was the term used for testing significance

of the entries mean square in the analysis of variance. Finally, each trait component was multiplied by the respective weight and summed over traits for an index value. In summation notation, the index is expressed as

$$I = \sum_{j=1}^{n \text{ traits}} \left[\frac{(\text{Hybrid mean for trait } j - \text{Mean for trait } j)}{\text{Standard error for trait } j} \right]$$

NARRATIVE SUMMARY

Yields from individual locations ranged from 111.2 bu/a at Columbia, MO, under drought stress to 216.8 bu/a at St. Joseph, MO. The overall average for 13 locations was 182.1 bu/a compared to 145.5 bu/a in 1993 and 169.1 bu/a in 1992. Environments sampled ranged from Texas to southern Wisconsin to Ohio.

Plot stands averaged 91.8%, ranging from 69.0% at College Station, TX, to 100.0% at St. Joseph, MO. Covariance adjustment of yield for stand was done for data from Champaign, IL; West Lafayette, IN; Ogden, IA; Milan, OH; and Castroville and College Station, TX, where the efficiency of adjustment exceeded 104%.

Root lodging ranged from 0.0% at Henderson and Lexington, KY; Columbia, MO; Knoxville, TN; and Castroville, College Station, and Springlake, TX; to 32.0% at St. Joseph, MO. Stalk lodging averaged only 1.3% and was under 5% for all locations. Overall, standability was excellent in this test.

The number of days to flowering was recorded at seven locations. A 16.1-day spread was observed, ranging from 64.4 days at Columbia, MO, to 80.5 days at College Station, TX. Low grain moisture percentages can be observed where plots were harvested and dried before shelling and weighing, but most locations were combine harvested.

Details of individual location data are in Tables 3 to 15 with the combined data in Table 16. Yield data from all 13 locations are given in Table 17. Because of the wide range of environments from north to south, two additional combined analyses were done including six northern locations in the first analysis (Champaign, IL; West Lafayette, IN; Ogden, IA; St. Joseph, MO; Milan, OH; and Janesville, WI; Table 18) and seven southern locations in the second analysis (Lexington, KY; Columbia, MO; Knoxville, TN; Union City, TN; and Castroville, College Station, and Halfway, TX; Table 19).

Combined agronomic data from 13 locations (Table 16)

Four hybrids yielded significantly more than the mean for all entries of 182.1 bu/a: Pioneer Brand X1183B (202.8 bu/a), Pioneer Brand X1133Z (200.8 bu/a), Pioneer Brand 3225 (197.8 bu/a), and Pioneer Brand 3245 (197.1 bu/a). Twelve other entries could not be statistically separated from the highest yielding entry. In addition to the other three hybrids that were significantly higher yielding than the average entry, that group included Pioneer Brand 3162 (196.6 bu/a), DeKalb Genetics EXP274 (195.8 bu/a), Pioneer Brand X1183A (193.9 bu/a), NC+ 7117 (192.1 bu/a), Pioneer Brand 3146 (192.0 bu/a), Cargill 8327 (190.3 bu/a), DeKalb Genetics EXP367 (189.2 bu/a), Cargill 7997 (189.1 bu/a),

and Asgrow XP9292 (188.9 bu/a). Five entries yielded significantly less than the mean of all entries: Wilson Demand 119 (155.7 bu/a), IFSI 94-1Y (157.8 bu/a), IFSI 93-4Y (162.6 bu/a), ICI Seeds 8481 (162.7 bu/a), and Cargill 6409 GQ (165.5 bu/a). The entries \times locations interaction was highly significant, indicating different entry responses in different environments.

Stand differences among entries were significant. Only DeKalb Genetics EXP367 (96.1%) had a stand percentage that was significantly better than the average of 91.8%, but three entries had stands significantly lower than the average: Triumph 1772 (82.8%), Tennessee EXP 93-2 (86.5%), and Triumph 1650FG (87.2%). Overall, however, stands were acceptable.

Root lodging was moderately low in the 1994 test, averaging 5.0%. Although no hybrid was significantly better than the mean because the mean minus the LSD was 0.0%, all hybrids had some root lodging. ICI Seeds 8481 had the least root lodging at 0.1%. The most root lodging occurred for Tennessee EXP 93-2 with 19.0% and that significantly exceeded the mean for all entries. Nineteen entries had less than 5.0% root lodging.

Stalk lodging averaged only 1.3%, which was judged excellent. Higher stalk lodging than for the average entry was observed for Triumph 1650FG (2.7%) and Vineyard FC534 (2.6%). No entry was significantly better than the mean although there were a few significant differences between the better and poorer entries for stalk lodging.

Ear heights ranged from 35.1 inches for ICI Seeds 8481 to 52.9 inches for Tennessee EXP 93-2. Ten hybrids had ear heights that were significantly below the mean of 43.5 inches. Of these 10, ICI Seeds 8481 (35.1 inches), IFSI 93-3Y (37.5 inches), IFSI 94-1Y (38.4 inches), Pioneer Brand X1183A (39.7 inches), and DeKalb Genetics EXP360 (39.8 inches) were all under 40 inches ear height. Eight hybrids had ear heights that were significantly greater than that for the average entry.

Nine hybrids flowered significantly earlier than the average of 72.2 days for all entries: ICI Seeds 8481 (68.8 days), Asgrow X6953 (70.0 days), Cargill 6409 GQ (70.2 days), IFSI 94-1Y (70.5 days), DeKalb Genetics EXP360 (70.5 days), IFSI 93-3Y (70.5 days), ICI Seeds 8326 (70.6 days), ICI Seeds 8400 (70.8 days), and Cargill 7997 (71.0 days). Seven hybrids were later flowering than average, but that only required a 1.1-day delay for significance. Three hybrids were more than two LSDs later than the average entry: NC+ 7117 (74.8 days), Wilson Demand 119 (75.0 days), and Tennessee EXP 93-2 (77.2 days).

Differences in grain moisture measured during early-season combine harvesting may be reduced when averaged with moistures after prolonged field or uniform drying. Average grain moistures ranged from 16.4% for Asgrow X6953 to 24.7% for Tennessee EXP 93-2 with an overall average of 19.1%. Eleven hybrids had grain moistures that were significantly less than the mean for all entries: Asgrow X6953 (16.4%), IFSI 94-1Y (16.9%), Cargill 6409 GQ (17.0%), ICI Seeds 8382 (17.2%), IFSI 93-3Y (17.2%), DeKalb Genetics EXP360 (17.5%), Pioneer Brand X1133Z (17.5%), IFSI 93-4Y (17.6%), Vineyard FC534 (17.7%), Vineyard FCx5213 (17.9%), and ICI Seeds 8400 (18.0%). The range of days to flower and grain moistures observed indicate that seed producers are offering a range of maturities in yellow food corn hybrids.

The environmental response coefficients (b_1) and standard deviations of fit are shown in the last two columns of Table 16. (A difference of ± 0.10 from 1.00 is necessary for significance. The LSD should be used when comparing coefficients of two hybrids.) Ten hybrids had b_1 s that were significantly greater than 1.00, indicating greater than average response to better environmental conditions, but somewhat poorer performance in adverse environments. Among the more responsive and high yielding hybrids were Pioneer Brand X1133Z (200.8 bu/a, $b_1 = 1.13$ bu/a/I) and Pioneer Brand 3245 (197.1 bu/a, $b_1 = 1.13$ bu/a/I) which would be good selections for growing in above-average environments. Ten hybrids had regression coefficients significantly less than 1.00. Usually, low response is associated with low mean yields. Exceptions can be found that have high mean yield and they would be preferable when grown in environments subject to stress or other adverse conditions. An example from this data is Cargill 7997 (189.1 bu/a, $b_1 = 0.88$ bu/a/I) which ranked twelfth for yield.

The standard deviations of fit varied for similar environmental response coefficients. For example, Pioneer Brand 3162 (196.6 bu/a, $b_1 = 1.16$) and Cargill 8327 (190.3 bu/a, $b_1 = 1.16$) had standard deviations of 16.6 and 6.9 bu/a, respectively. Cargill 8327 would be expected to be a more predictable performer in response to varied environments than Pioneer Brand 3162 at similar yield levels.

In choosing a hybrid, all agronomic factors must be considered in relation to the anticipated environment. Data from several locations are usually more reliable than data from a single location evaluated for two or three years.

Combined analysis for six northern locations (Table 18)

Data from Champaign, IL; West Lafayette, IN; Ogden, IA; St. Joseph, MO; Milan, OH; and Janesville, WI, were combined for an analysis of performance limited to the northern region of testing. Yields ranged from 186.7 bu/a at Champaign, IL, to over 216.8 bu/a at St. Joseph, MO, with a six-location mean of 199.5 bu/a. No entry yielded significantly more than the average for all entries, although some were close. The top five yielders were Pioneer Brand X1133Z (221.0 bu/a), Pioneer Brand 3245 (219.0 bu/a), ICI Seeds 8382 (218.0 bu/a), Pioneer Brand 3225 (216.8 bu/a), and Pioneer Brand X1183B (216.5 bu/a). Seventeen other entries were statistically indistinguishable from the highest yielding entry. Wilson Demand 119 (153.1 bu/a, 81.0 days to flower) and IFSI 94-1Y (176.6 bu/a) were significantly lower yielding than the average entry in the northern region. The number of days to flower for Wilson Demand 119 was significantly greater than for the mean of all entries (77.0 days). Tennessee EXP 93-2 (178.4 bu/a) was also low yielding and had 83.0 days to flower. This suggests that these latter two hybrids are of late enough maturity that they should not be grown in the northern region.

Combined analysis for seven southern locations (Table 19)

Data from Henderson and Lexington, KY; Columbia, MO; Knoxville, TN; and Castroville, College Station, and Springlake, TX, were combined for an analysis of performance limited to the southern region of testing. Yields ranged from 111.2 bu/a at Columbia, MO, to 199.5 bu/a at Knoxville, TN, with a seven location mean of 167.2 bu/a. Pioneer Brand X1183B yielded 191.0 bu/a and that was

significantly more than the average for all entries. Thirteen other hybrids had yields that could not be statistically differentiated from that of Pioneer Brand X1183B: DeKalb Genetics EXP274 (184.9 bu/a), Tennessee EXP 93-2 (184.7 bu/a), Pioneer Brand X1133Z (183.4 bu/a), Pioneer Brand 3162 (182.2 bu/a), Pioneer Brand 3225 (181.5 bu/a), Pioneer Brand 3146 (181.5 bu/a), NC+ 7117 (181.2 bu/a), DeKalb Genetics EXP367 (179.2 bu/a), Pioneer Brand 3245 (178.4 bu/a), Cargill 8327 (175.6 bu/a), Pioneer Brand X1183A (175.5 bu/a), Asgrow XP9292 (174.6 bu/a), and Cargill 7997 (173.1 bu/a). Five hybrids were lower yielding than the average hybrid as judged by the LSD 0.05: IFSI 94-1Y (141.8 bu/a), ICI Seeds 8481 (144.5 bu/a), Cargill 6409 GQ (146.8 bu/a), IFSI 93-4Y (147.5 bu/a), and Asgrow X6953 (148.1 bu/a).

European corn borer susceptibility data for the 1994 YFCPT (Table 20)

First generation leaf-feeding ratings were obtained at Columbia and Novelty, MO. Significant differences were found among entries. Pioneer Brand X1183A (2.2 rating) and Tennessee EXP 93-2 (2.3 rating) had significantly lower ratings than the average entry (3.5 rating). All but three entries (Asgrow X6953 [5.0 rating], Pioneer Brand 3245 [5.0 rating], and Asgrow XP9292 [4.8 rating]) had ratings that were significantly lower than the European corn borer susceptible checks Ki3 (5.5 rating) and Wf9×W182E (5.5 rating).

Second generation stalk-feeding data were also obtained at Columbia and Novelty, MO. For the number of tunnels, Cargill 6409 GQ (0.7 tunnels, 0.7 inches), Wilson Demand 119 (0.8 tunnels, 0.8 inches), and NC+ 5860 (0.8 tunnels, 1.1 inches) were significantly better than the mean. Of these three, Cargill 6409 GQ and Wilson Demand 119 also had significantly less tunneling than the mean for all entries and were numerically better than the resistant European corn borer check Pioneer Brand 3184. Asgrow XP9292 (2.4 tunnels) had significantly more tunnels than the average entry and Asgrow XP9292 (2.7 inches) and DeKalb Genetics EXP367 (2.6 inches) had more tunneling than average. Nineteen entries were not different from the resistant European corn borer check Pioneer Brand 3184 for tunnel length.

Two-, three-, four-, and five-year mean yields and agronomic performance (Tables 21 to 24)

Data were summarized for common entries in the last two, three, four, and five years of the YFCPT. Individual year means were averaged without weighting for the varying numbers of locations over the years. For the past five years, the number of locations with acceptable data has ranged from eight in 1990 to 13 in 1994. This procedure does not permit an LSD to be directly calculated. Approximate values of 10 bu/a for the two-year means, 8 bu/a for the three-year means, and 7.4 bu/a for the four-year means, and 6.6 bu/a for the five-year means could be used to compare yields of individual entries in the respective tables.

Only Pioneer Brand 3162 (174.0 bu/a) and the yellow check B73×Mo17 (154.0 bu/a) have been in the test for the past five years. For the four-year means, Pioneer Brand 3162 would be judged to be significantly higher yielding than average, but only three other entries and B73×Mo17 appear in the four-year means. NC+ 5860 (156.4 bu/a) and B73×Mo17 (156.1 bu/a) were lower yielding than the

other three entries. Entries that yielded more than the average entry in the two-year means included Pioneer Brand 3162 (177.3 bu/a), Cargill 8327 (176.9 bu/a), and Pioneer Brand 3146 (176.2 bu/a). As the YFCPT continues, more hybrids will be tested for more years and some of the better performers in the past two years' tests will provide additional competition.

Grain quality evaluation of entries in the 1994 YFCPT (Tables 25-32)

L. W. Rooney and A. J. Bockholt of Texas A & M University and B. R. Hamaker of Purdue University conducted the grain quality evaluation of entries in the 1994 YFCPT. At harvest, grain samples from one replication were collected from 11 of the 13 locations growing the trial. No grain sampling was done at Ogden, IA, or Springlake, TX. Data in Table 25 are the means of observations on grain from each location while the individual location data for test weight, 1000-kernel weight, kernel density, kernel hardness index, and pericarp removal are in Tables 26-30. Additional quality data for grain from West Lafayette, IN, and College Station, TX, are in Tables 31 and 32, respectively.

A number of entries in the 1994 YFCPT have characteristics desired for food corn. For alkaline cooking, generally, the grain should have 60 lb/bu or greater test weight, a 1000-kernel weight of 300 g or more, a true density of 1.3 g/cc or greater, a pericarp removal rating of 1 to 3, and a kernel color rating of 2 to 3. Grain with an orange-yellow color (rating 4 to 5) is undesirable for cooking. A clean, bright yellow color is preferred. Grain without pronounced dents is required for alkaline cooking. The depth of the dent is usually related to the proportion of hard vs. soft endosperm. Use of a multipycnometer for volume measurement at Texas A&M University gives higher density values than that obtained with liquid displacement procedures.

The following nine hybrids met criteria for test weight, 1000-kernel weight, density, pericarp removal, and kernel color: Asgrow XP9292, Cargill 8327, DeKalb Genetics EXP360, NC+ 5860, Pioneer Brand 3162, Pioneer Brand 3225, Pioneer Brand 3245, Pioneer Brand X1133Z, and Pioneer Brand X1183B. Of these nine hybrids, only Asgrow XP9292 and NC+ 5860 have the desired white cob.

Cob color is an important attribute that affects quality for alkaline cooking. A white cob is, without question, preferred and should be the goal of all food corn improvement programs. However, certain hybrids with red cobs are used in alkaline cooking, particularly if only a very small portion of the cob (glume) adheres to the kernels. Good products may be made with corn from red cobs, but adverse environmental conditions can cause significantly more red streaking of the pericarp in kernels from a red cob which gives off-color, dingy-appearing products. The cleaner, brighter color of products from corn with white cobs, however, will mandate the use of white cob hybrids in the future.

The hardness index values reported were obtained by using a tangential abrasive decorticating device (TADD) to remove the pericarp in a uniform manner. Forty grams of corn (whole kernels) were dehulled in the TADD for 10 min. The weight of material removed was expressed as a percentage of the total sample. Values were corrected for day-to-day variation using a standard corn sample. Samples from a single location were all processed on the same day with consistent relative humidity and temperature. The hardest grain samples have the least amount of material removed during abrasive milling. Hardness values within a given location rank the corn hybrids consistently.

The pericarp removal test was conducted by cooking 25 g of corn in Nylon bags in a steam kettle containing 167 g of lime in 50 L of water. Samples were cooked for 20 min at the boiling point. The samples were then washed and stained with eosine and methyl blue solution. The pericarp stains a blue-green color while the endosperm stains a light green color. Each sample was then rated on a scale in which 1 represented complete removal and 5 represented no removal. This method is repeatable and consistently differentiates between samples with good and poor pericarp removal characteristics. Environment strongly affects pericarp removal.

Corn quality attributes vary among hybrids and are affected significantly by environmental conditions. In actual practice, a good quality corn hybrid must have outstanding yield and agronomic performance along with most of the desirable processing attributes. Thus, it requires a significant effort to develop a food corn hybrid with all the desirable characteristics. Often, good quality is associated with lower yields and requires additional management in harvesting and handling. Thus, a farmer must be paid an incentive, or premium, to produce high quality food corn hybrids.

Good quality corn hybrids

The data presented in this report give a relative idea of the potential quality of corn hybrids over a wide range of environmental conditions. This data is most useful for corn breeders developing new hybrids because it provides information on general adaption over a wide range of conditions in a uniform set of nurseries. The data in this report can help a food corn company to select a corn hybrid for processing. The food corn company should also work with a corn supplier to secure corn with the best characteristics in their procurement area. All of the reputable food corn suppliers pick certain hybrids that can be grown by producers profitably in their area of the country.

Agronomic, grain quality, and overall performance indices and rankings (Table 33)

The agronomic index utilized yield (weight = 10), stand percentage (weight = 1), root (weight = -3) and stalk (weight = -3) lodging percentage, ear height (weight = -1), days to flower (weight = -2), and grain moisture (weight = -2) data. The top five ranking hybrids, in order, were Pioneer Brand X1183B, Pioneer Brand X1133Z, Pioneer Brand 3225, Pioneer Brand 3245, and Pioneer Brand 3162. In contrast, the yellow check hybrid B73 × Mo17 ranked 27th.

Although seven characters were reported for grain quality, kernel color and cob color had only a single value (vs. valued for each location) for each hybrid and could not be included in the index. Instead, data for these two traits have been included in Table 33. If a white cob color is necessary, then eliminate all hybrids having a red or pink cob. Using test weight (weight = 1), 1000-kernel weight (weight = 1), kernel density (weight = 1), kernel hardness index (weight = -2), and pericarp removal (weight = -3), grain quality index rankings for the top five hybrids were, in order, Pioneer Brand 3245, Pioneer Brand X1183B, Wilson Demand 119, Asgrow XP9292, and Pioneer Brand X1133Z.

Combining the agronomic and grain quality indices into a single overall index using the same weights showed that the top five ranking hybrids were Pioneer Brand X1183B, Pioneer Brand 3245, Pioneer Brand X1133Z, Pioneer Brand 3162, and Pioneer Brand X1183A.

Table 1. Sources of commercial yellow endosperm food corn hybrids entered in the 1994 Yellow Food Corn Performance Test.

Brand	Firm [†]	Address/telephone/FAX
Asgrow	Asgrow Seed Company	3000 Westown Parkway, P. O. Box 7570 West Des Moines, IA 50265 Tel. 515/224-4200 FAX 515/224-4262
Cargill	Cargill Hybrid Seeds	P. O. Box 5645, Minneapolis, MN 55440 Tel. 612/742-6716 FAX 612/742-7235
DeKalb Genetics	DeKalb Genetics	3100 Sycamore Road, DeKalb, IL 60115 Tel. 815/758-9323 FAX 815/758-3711
ICI Seeds	ICI Seeds	615 Main Street, P. O. Box 300 Coon Rapids, IA 50058 Tel. 712/684-2211
IFSI	Illinois Foundation Seeds	P. O. Box 722, Champaign, IL 61824-0722 Tel. 271/485-6420 FAX 217/485-5223
NC+	NC+ Hybrids	RR 2, Box 190, Hastings, NE 68901 Tel. 402/463-5661 FAX 402/463-6549
Pioneer Brand	Pioneer Hi-Bred International	4445 Corporate Drive, Suite 200 West Des Moines, IA 50265 Tel. 515/224-6900 FAX 515/226-2939
Tennessee	University of Tennessee	Department of Soil and Plant Science University of Tennessee, Knoxville, TN 37901 Tel. 615/974-8826 FAX 615/974-7997
Triumph	Triumph Seed Company, Inc.	Hwy. 62 Bypass, Ralls, TX 79257
Vineyard	Vineyard Seed Company, Inc.	Box 139, Sidney, IL 61877 Tel. 217/688-2361
Wilson Demand	Wilson Seeds, Inc.	P. O. Box 391, Harlan, IA 51537 Tel. 712/755-3841 FAX 712/755-2394

[†] Mention of a trademark or proprietary product does not constitute a guarantee, warranty, or recommendation of the product by the U.S. Department of Agriculture or the University of Missouri and does not imply its approval to the exclusion of other products that may also be suitable.

Table 2. Locations and agronomic conditions for yield tests.

Location	Mean yield (bu/a)	Previous crop	Fertilizer (lb/a)			Date planted	Herbicide	Insecticide	Plant density (plants/a)
			N	P ₂ O ₅	K ₂ O				
Champaign, IL	186.7	Soybeans	187	50	255	10MAY94	Atrazine, bentazon, metolachlor	----- [†]	24,890
West Lafayette, IN	194.5	Soybeans	160	0	0	18MAY94	Alachlor, atrazine	-----	24,800
Ogden, IA	199.5	Soybeans	115	60	80	22APR94	Atrazine, bentazon, metolachlor	-----	28,000
Henderson, KY	191.9	Soybeans	200	92	100	14APR94	2-4-D, atrazine, dimethenamid, paraquat	Permethrin	25,000
Lexington, KY	136.9	Corn	150	0	100	11MAY94	Alachlor, atrazine, butylate	Terbufos	23,760
Columbia, MO	111.2	Soybeans	160	70	60	13MAY94	Alachlor, atrazine	-----	18,150
St. Joseph, MO	216.8	Flooded soybeans	178	76	60	24APR94	Atrazine, cyanazine, metolachlor	Tefluthrin	24,393
Milan, OH	201.9	Popcorn	200	0	0	5MAY94	Alachlor, linuron	-----	25,000
Knoxville, TN	199.5	Soybeans	133	49	26	21APR94	Alachlor, simazine	Carbofuran	23,232
Castroville, TX [‡]	158.0	Cotton	120	60	60	11MAR94	Atrazine	Chlorpyrifos	22,564
College Station, TX [‡]	190.1	Corn	105	73	37	25FEB94	Atrazine, metolachlor	Terbufos	24,022
Springlake, TX [‡]	183.1	Cotton	273	68	23	20APR94	Atrazine, trifluralin	Esfenvalerate	26,000
Janesville, WI	197.7	Corn	169	36	36	29APR94	Alachlor, atrazine, dicamba, nicosulfuron	Chlorpyrifos	30,096

[†] Dashes indicate none used.

[‡] Irrigated location.



Fig. 1. Planted locations for the yellow food corn performance test.

Table 3. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Champaign, IL. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	203.3	92.8	0.0	0.0	41.9	.	19.1
<i>Asgrow XP9292</i>	2	211.9	97.7	1.4	0.0	48.2	.	27.8
Cargill 6409 GQ	3	178.5	95.9	0.0	0.0	43.3	.	20.0
<i>Cargill 7557</i>	4	202.3	97.7	0.0	0.0	48.9	.	21.9
Cargill 7997	5	214.4	95.5	0.0	0.0	40.2	.	25.7
Cargill 8327	6	201.9	97.3	0.0	0.0	51.6	.	24.3
<i>DeKalb Genetics EXP274</i>	7	190.9	96.8	0.0	0.0	54.9	.	28.2
<i>DeKalb Genetics EXP360</i>	8	203.3	96.8	0.0	0.9	40.6	.	20.5
<i>DeKalb Genetics EXP367</i>	9	205.1	95.9	0.0	0.0	41.3	.	25.5
ICI Seeds 8326	10	214.1	94.6	0.0	0.0	45.1	.	22.3
ICI Seeds 8382	11	218.0	94.6	0.0	0.5	45.2	.	20.5
ICI Seeds 8400	12	193.2	95.0	0.0	0.9	45.0	.	22.7
<i>ICI Seeds 8481</i>	13	179.6	94.1	0.0	0.0	33.4	.	23.7
IFSI 93-3Y	14	186.1	100.0	0.0	0.0	38.1	.	21.5
IFSI 93-4Y	15	188.3	95.5	0.0	0.0	45.8	.	21.2
<i>IFSI 94-1Y</i>	16	178.0	95.0	0.0	0.5	38.9	.	19.2
NC+ 5860	17	180.3	96.8	0.0	0.0	50.7	.	23.0
NC+ 7117	18	196.6	96.4	0.0	0.0	43.3	.	26.5
Pioneer Brand 3146	19	192.8	96.8	0.0	0.5	50.8	.	26.6
Pioneer Brand 3162	20	188.7	94.1	0.0	0.0	39.4	.	25.9
Pioneer Brand 3225	21	197.3	95.0	0.0	0.5	42.0	.	24.9
Pioneer Brand 3245	22	217.3	95.0	0.0	0.0	42.9	.	22.2
<i>Pioneer Brand X1133Z</i>	23	199.1	97.3	0.0	0.0	41.3	.	21.3
<i>Pioneer Brand X1183A</i>	24	197.6	96.4	0.0	0.5	40.6	.	22.8
<i>Pioneer Brand X1183B</i>	25	190.1	97.3	0.0	0.0	40.7	.	26.0
<i>Tennessee EXP 93-2</i>	26	181.3	94.1	1.0	1.4	60.4	.	32.7
Triumph 1650FG	27	182.1	83.8	0.0	0.0	47.8	.	26.8
<i>Triumph 1772</i>	28	189.2	92.8	0.0	0.0	48.5	.	24.8
Vineyard FC534	29	186.2	96.8	0.0	0.0	49.7	.	21.6
<i>Vineyard FCx5213</i>	30	206.8	91.9	0.0	0.0	45.6	.	21.1
<i>Wilson Demand 119</i>	31	156.0	95.0	0.0	0.0	46.9	.	29.1
Yellow check B73×Mo17	32	193.5	93.7	0.0	0.0	48.7	.	25.6
Mean		186.7	97.7	3.0	1.7	44.5	.	21.7
LSD 0.05		19.5	ns	5.1	ns	6.8		1.2
CV%		6.4		104.2		9.4		3.3

Table 4. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at West Lafayette, IN. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	203.3	92.8	0.0	0.0	41.9	.	19.1
<i>Asgrow XP9292</i>	2	211.9	97.7	1.4	0.0	48.2	.	27.8
Cargill 6409 GQ	3	178.5	95.9	0.0	0.0	43.3	.	20.0
<i>Cargill 7557</i>	4	202.3	97.7	0.0	0.0	48.9	.	21.9
<i>Cargill 7997</i>	5	214.4	95.5	0.0	0.0	40.2	.	25.7
Cargill 8327	6	201.9	97.3	0.0	0.0	51.6	.	24.3
<i>DeKalb Genetics EXP274</i>	7	190.9	96.8	0.0	0.0	54.9	.	28.2
<i>DeKalb Genetics EXP360</i>	8	203.3	96.8	0.0	0.9	40.6	.	20.5
<i>DeKalb Genetics EXP367</i>	9	205.1	95.9	0.0	0.0	41.3	.	25.5
ICI Seeds 8326	10	214.1	94.6	0.0	0.0	45.1	.	22.3
ICI Seeds 8382	11	218.0	94.6	0.0	0.5	45.2	.	20.5
ICI Seeds 8400	12	193.2	95.0	0.0	0.9	45.0	.	22.7
<i>ICI Seeds 8481</i>	13	179.6	94.1	0.0	0.0	33.4	.	23.7
IFSI 93-3Y	14	186.1	100.0	0.0	0.0	38.1	.	21.5
IFSI 93-4Y	15	188.3	95.5	0.0	0.0	45.8	.	21.2
<i>IFSI 94-1Y</i>	16	178.0	95.0	0.0	0.5	38.9	.	19.2
NC+ 5860	17	180.3	96.8	0.0	0.0	50.7	.	23.0
NC+ 7117	18	196.6	96.4	0.0	0.0	43.3	.	26.5
Pioneer Brand 3146	19	192.8	96.8	0.0	0.5	50.8	.	26.6
Pioneer Brand 3162	20	188.7	94.1	0.0	0.0	39.4	.	25.9
Pioneer Brand 3225	21	197.3	95.0	0.0	0.5	42.0	.	24.9
Pioneer Brand 3245	22	217.3	95.0	0.0	0.0	42.9	.	22.2
<i>Pioneer Brand X1133Z</i>	23	199.1	97.3	0.0	0.0	41.3	.	21.3
<i>Pioneer Brand X1183A</i>	24	197.6	96.4	0.0	0.5	40.6	.	22.8
<i>Pioneer Brand X1183B</i>	25	190.1	97.3	0.0	0.0	40.7	.	26.0
<i>Tennessee EXP 93-2</i>	26	181.3	94.1	1.0	1.4	60.4	.	32.7
Triumph 1650FG	27	182.1	83.8	0.0	0.0	47.8	.	26.8
<i>Triumph 1772</i>	28	189.2	92.8	0.0	0.0	48.5	.	24.8
Vineyard FC534	29	186.2	96.8	0.0	0.0	49.7	.	21.6
<i>Vineyard FCx5213</i>	30	206.8	91.9	0.0	0.0	45.6	.	21.1
<i>Wilson Demand 119</i>	31	156.0	95.0	0.0	0.0	46.9	.	29.1
Yellow check B73×Mo17	32	193.5	93.7	0.0	0.0	48.7	.	25.6
Mean		194.5	95.3	0.1	0.2	45.1	.	23.9
LSD 0.05		19.5	6.1	ns	0.7	4.6		1.2
CV%		6.1	3.9		259.3	6.3		3.1

Table 5. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Ogden, IA. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	175.1	74.7	0.0	4.5	.	.	16.1
<i>Asgrow XP9292</i>	2	204.3	87.3	7.6	1.5	.	.	24.7
<i>Cargill 6409 GQ</i>	3	190.6	83.3	0.0	7.1	.	.	17.0
<i>Cargill 7557</i>	4	210.7	80.0	6.5	5.8	.	.	18.9
<i>Cargill 7997</i>	5	219.5	89.3	7.6	3.7	.	.	19.5
<i>Cargill 8327</i>	6	203.4	82.0	1.5	2.4	.	.	22.0
<i>DeKalb Genetics EXP274</i>	7	220.7	85.3	6.6	3.3	.	.	23.1
<i>DeKalb Genetics EXP360</i>	8	196.3	73.3	0.0	4.9	.	.	16.4
<i>DeKalb Genetics EXP367</i>	9	198.6	88.0	0.0	3.8	.	.	21.2
<i>ICI Seeds 8326</i>	10	208.5	82.0	0.8	6.5	.	.	19.1
<i>ICI Seeds 8382</i>	11	198.9	78.7	6.8	2.5	.	.	18.2
<i>ICI Seeds 8400</i>	12	194.6	81.3	0.0	3.4	.	.	18.5
<i>ICI Seeds 8481</i>	13	186.2	86.7	0.0	4.7	.	.	19.9
<i>IFSI 93-3Y</i>	14	190.8	86.0	0.0	0.8	.	.	17.6
<i>IFSI 93-4Y</i>	15	171.5	78.7	3.5	3.5	.	.	18.1
<i>IFSI 94-1Y</i>	16	168.3	79.3	4.3	3.5	.	.	16.0
<i>NC+ 5860</i>	17	195.5	83.3	5.6	1.6	.	.	20.7
<i>NC+ 7117</i>	18	201.9	77.3	0.0	0.0	.	.	22.7
<i>Pioneer Brand 3146</i>	19	202.1	82.0	8.1	3.3	.	.	22.9
<i>Pioneer Brand 3162</i>	20	218.7	86.7	4.8	7.3	.	.	22.4
<i>Pioneer Brand 3225</i>	21	225.5	84.7	2.2	6.2	.	.	22.5
<i>Pioneer Brand 3245</i>	22	218.1	78.0	1.8	3.5	.	.	18.8
<i>Pioneer Brand X1133Z</i>	23	230.0	78.0	0.8	8.6	.	.	18.4
<i>Pioneer Brand X1183A</i>	24	224.2	83.3	0.0	10.3	.	.	19.9
<i>Pioneer Brand X1183B</i>	25	233.0	80.7	0.0	2.5	.	.	23.9
<i>Tennessee EXP 93-2</i>	26	160.6	72.7	65.8	1.0	.	.	36.6
<i>Triumph 1650FG</i>	27	205.8	78.7	4.0	9.3	.	.	21.5
<i>Triumph 1772</i>	28	193.2	74.0	20.0	4.4	.	.	22.2
<i>Vineyard FC534</i>	29	185.1	81.3	0.8	11.5	.	.	18.2
<i>Vineyard FCx5213</i>	30	194.6	71.3	0.9	7.3	.	.	17.6
<i>Wilson Demand 119</i>	31	168.9	60.0	2.3	0.0	.	.	29.2
<i>Yellow check B73×Mo17</i>	32	189.1	72.0	12.1	8.2	.	.	21.4
Mean		199.5	80.0	5.5	4.6	.	.	20.8
LSD 0.05		23.7	9.0	12.8	6.0			1.6
CV%		7.3	6.9	143.7	80.4			4.6

Table 6. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Henderson, KY. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	176.0	100.0	.	1.9	.	.	11.3
<i>Asgrow XP9292</i>	2	239.1	100.0	.	1.2	.	.	14.3
Cargill 6409 GQ	3	166.4	100.0	.	0.0	.	.	11.2
<i>Cargill 7557</i>	4	196.5	100.0	.	4.3	.	.	12.5
Cargill 7997	5	186.4	100.0	.	2.5	.	.	12.3
Cargill 8327	6	208.0	100.0	.	0.0	.	.	13.0
<i>DeKalb Genetics EXP274</i>	7	215.1	100.0	.	0.0	.	.	13.4
<i>DeKalb Genetics EXP360</i>	8	183.7	100.0	.	1.2	.	.	12.8
<i>DeKalb Genetics EXP367</i>	9	199.6	100.0	.	0.0	.	.	13.2
ICI Seeds 8326	10	195.5	100.0	.	5.6	.	.	11.9
ICI Seeds 8382	11	198.9	100.0	.	6.8	.	.	11.0
ICI Seeds 8400	12	169.9	100.0	.	0.0	.	.	12.7
<i>ICI Seeds 8481</i>	13	148.2	100.0	.	0.6	.	.	13.5
IFSI 93-3Y	14	171.0	100.0	.	0.6	.	.	11.5
IFSI 93-4Y	15	172.5	100.0	.	4.3	.	.	11.6
<i>IFSI 94-1Y</i>	16	144.5	100.0	.	0.6	.	.	11.3
NC+ 5860	17	190.2	100.0	.	0.0	.	.	12.8
NC+ 7117	18	212.8	100.0	.	0.0	.	.	14.4
Pioneer Brand 3146	19	183.5	100.0	.	4.3	.	.	14.4
Pioneer Brand 3162	20	197.8	100.0	.	0.0	.	.	13.1
Pioneer Brand 3225	21	201.5	100.0	.	1.9	.	.	13.0
Pioneer Brand 3245	22	207.1	100.0	.	3.7	.	.	11.6
<i>Pioneer Brand X1133Z</i>	23	205.5	100.0	.	4.3	.	.	11.5
<i>Pioneer Brand X1183A</i>	24	212.9	100.0	.	0.0	.	.	12.8
<i>Pioneer Brand X1183B</i>	25	187.0	100.0	.	0.6	.	.	12.8
<i>Tennessee EXP 93-2</i>	26	227.0	100.0	.	0.6	.	.	16.5
Triumph 1650FG	27	200.5	100.0	.	8.6	.	.	13.8
<i>Triumph 1772</i>	28	191.1	100.0	.	2.5	.	.	14.4
Vineyard FC534	29	161.4	100.0	.	6.2	.	.	13.6
<i>Vineyard FCx5213</i>	30	202.5	100.0	.	0.0	.	.	13.4
<i>Wilson Demand 119</i>	31	180.0	100.0	.	2.5	.	.	16.9
Yellow check B73×Mo17	32	207.5	100.0	.	0.0	.	.	14.0
Mean		191.9	100.0	.	2.0	.	.	13.0
LSD 0.05		25.3	ns		4.5			1.8
CV%		8.1			135.2			8.7

Table 7. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Lexington, KY. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	131.2	100.0	0.0	0.9	28.5	64.3	13.4
<i>Asgrow XP9292</i>	2	127.2	100.0	0.0	0.9	36.4	71.0	18.4
Cargill 6409 GQ	3	126.6	100.0	0.0	1.4	35.0	65.0	15.2
<i>Cargill 7557</i>	4	139.3	100.0	0.0	0.5	33.0	68.0	15.4
<i>Cargill 7997</i>	5	148.2	100.0	0.0	3.2	31.1	66.0	16.8
Cargill 8327	6	142.1	100.0	0.0	0.0	36.8	72.3	19.3
<i>DeKalb Genetics EXP274</i>	7	139.0	100.0	0.0	2.3	40.0	71.3	20.4
<i>DeKalb Genetics EXP360</i>	8	123.2	100.0	0.0	1.4	30.3	66.0	15.9
<i>DeKalb Genetics EXP367</i>	9	150.1	100.0	0.0	0.5	28.9	71.3	16.7
ICI Seeds 8326	10	167.2	100.0	0.0	0.5	32.4	67.0	16.1
ICI Seeds 8382	11	147.1	100.0	0.0	1.4	34.1	68.0	15.0
ICI Seeds 8400	12	149.6	100.0	0.0	0.9	34.8	65.3	15.9
<i>ICI Seeds 8481</i>	13	122.9	100.0	0.0	0.5	27.0	64.3	16.2
IFSI 93-3Y	14	136.1	100.0	0.0	1.4	29.2	66.0	14.6
IFSI 93-4Y	15	119.3	100.0	0.0	0.5	32.4	68.7	16.1
<i>IFSI 94-1Y</i>	16	117.3	100.0	0.0	0.9	28.6	67.0	16.5
NC+ 5860	17	126.4	100.0	0.0	0.9	37.6	72.3	16.3
NC+ 7117	18	125.7	100.0	0.0	0.0	31.7	73.0	18.9
Pioneer Brand 3146	19	124.9	100.0	0.0	0.0	34.4	72.0	19.2
Pioneer Brand 3162	20	162.2	100.0	0.0	1.9	30.5	67.0	19.7
Pioneer Brand 3225	21	144.3	100.0	0.0	0.9	29.8	68.7	17.2
Pioneer Brand 3245	22	131.1	100.0	0.0	1.9	32.0	70.7	16.1
<i>Pioneer Brand X1133Z</i>	23	162.1	100.0	0.0	0.0	30.5	68.0	16.0
<i>Pioneer Brand X1183A</i>	24	127.7	100.0	0.0	0.5	28.5	70.7	17.7
<i>Pioneer Brand X1183B</i>	25	144.8	100.0	0.0	0.9	30.3	69.3	20.5
<i>Tennessee EXP 93-2</i>	26	150.9	96.8	0.0	1.0	40.7	73.3	26.4
Triumph 1650FG	27	116.2	100.0	0.0	0.9	32.8	72.0	21.9
<i>Triumph 1772</i>	28	146.4	100.0	0.0	0.0	36.9	67.0	19.3
Vineyard FC534	29	139.8	100.0	0.0	1.9	35.2	68.0	15.1
<i>Vineyard FCx5213</i>	30	139.2	100.0	0.5	0.5	36.9	66.0	14.1
<i>Wilson Demand 119</i>	31	118.2	96.8	0.0	0.9	30.5	74.0	23.6
Yellow check B73×Mo17	32	134.6	100.0	0.0	1.9	34.7	69.3	16.6
Mean		136.9	99.8	0.0	1.0	32.9	68.8	17.5
LSD 0.05		28.8	ns	ns	ns	4.6	3.2	2.0
CV%		12.9				8.5	2.8	7.1

Table 8. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Columbia, MO. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	89.7	83.3	0.0	0.9	33.7	62.7	19.2
<i>Asgrow XP9292</i>	2	117.9	92.5	0.0	0.0	38.7	65.0	24.1
Cargill 6409 GQ	3	106.1	100.0	0.0	0.0	37.1	61.7	19.5
<i>Cargill 7557</i>	4	126.4	103.3	0.0	1.6	37.1	63.3	22.8
Cargill 7997	5	123.7	100.0	0.0	0.8	36.5	63.0	22.6
Cargill 8327	6	101.3	105.0	0.0	0.0	41.1	67.0	23.7
<i>DeKalb Genetics EXP274</i>	7	119.2	96.7	0.0	0.0	43.7	64.3	22.6
<i>DeKalb Genetics EXP360</i>	8	119.8	101.7	0.0	0.0	31.2	62.7	20.5
<i>DeKalb Genetics EXP367</i>	9	83.7	96.7	0.0	0.0	32.4	66.0	23.2
ICI Seeds 8326	10	117.8	92.5	0.0	0.0	33.3	63.0	24.0
ICI Seeds 8382	11	128.9	100.0	0.0	0.0	34.1	63.7	20.7
ICI Seeds 8400	12	108.5	100.8	0.0	0.0	37.3	63.3	21.1
<i>ICI Seeds 8481</i>	13	113.8	97.5	0.0	0.0	29.8	61.0	21.7
IFSI 93-3Y	14	125.1	107.5	0.0	0.0	30.6	62.3	19.7
IFSI 93-4Y	15	100.8	93.3	0.0	0.0	38.2	64.3	21.0
<i>IFSI 94-1Y</i>	16	96.1	87.5	0.0	0.9	31.3	61.7	20.0
NC+ 5860	17	82.9	89.2	0.0	0.0	38.8	65.3	22.6
NC+ 7117	18	119.6	90.0	0.0	0.0	38.5	67.0	24.7
Pioneer Brand 3146	19	130.4	104.2	0.0	0.0	40.9	67.0	23.2
Pioneer Brand 3162	20	97.0	90.0	0.0	1.7	30.5	64.7	23.0
Pioneer Brand 3225	21	131.9	85.0	0.0	1.0	35.9	63.3	23.6
Pioneer Brand 3245	22	125.6	101.7	0.0	0.0	35.7	64.0	21.2
<i>Pioneer Brand X1133Z</i>	23	114.0	98.3	0.0	0.0	36.1	64.7	20.1
<i>Pioneer Brand X1183A</i>	24	98.3	98.3	0.0	0.0	34.1	65.0	21.2
<i>Pioneer Brand X1183B</i>	25	120.4	100.0	0.0	0.0	32.6	66.3	22.3
<i>Tennessee EXP 93-2</i>	26	127.1	84.2	0.0	2.5	48.5	70.7	22.8
Triumph 1650FG	27	116.8	83.3	0.0	0.0	37.3	64.3	22.8
<i>Triumph 1772</i>	28	85.9	62.5	0.0	0.0	37.4	64.0	22.1
Vineyard FC534	29	106.9	90.8	0.0	1.0	39.0	64.7	22.2
<i>Vineyard FCx5213</i>	30	122.5	94.2	0.0	0.0	37.5	63.0	21.5
<i>Wilson Demand 119</i>	31	99.7	92.5	0.0	0.0	34.9	67.7	24.0
Yellow check B73×Mo17	32	100.3	89.2	0.0	1.7	38.5	65.7	23.7
Mean		111.2	94.1	0.0	0.4	36.3	64.4	22.1
LSD 0.05		29.1	17.8	ns	ns	3.1	1.4	3.3
CV%		16.0	11.6			5.1	1.3	9.1

Table 9. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at St. Joseph, MO. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	205.1	100.0	22.6	0.6	.	.	17.0
<i>Asgrow XP9292</i>	2	201.8	100.0	76.8	0.0	.	.	22.1
Cargill 6409 GQ	3	191.9	100.0	31.0	0.0	.	.	17.9
<i>Cargill 7557</i>	4	219.8	100.0	39.9	0.0	.	.	18.9
Cargill 7997	5	217.3	100.0	37.5	0.0	.	.	21.1
Cargill 8327	6	230.4	100.0	41.7	0.0	.	.	20.1
<i>DeKalb Genetics EXP274</i>	7	216.9	100.0	32.1	0.0	.	.	20.7
<i>DeKalb Genetics EXP360</i>	8	193.6	100.0	11.3	0.0	.	.	17.7
<i>DeKalb Genetics EXP367</i>	9	229.3	100.0	11.9	0.0	.	.	19.9
ICI Seeds 8326	10	227.5	100.0	38.1	0.0	.	.	19.3
ICI Seeds 8382	11	221.6	100.0	44.0	0.0	.	.	18.2
ICI Seeds 8400	12	200.5	100.0	55.4	0.0	.	.	18.9
<i>ICI Seeds 8481</i>	13	218.6	100.0	0.0	0.0	.	.	19.2
IFSI 93-3Y	14	207.8	100.0	26.2	0.0	.	.	17.9
IFSI 93-4Y	15	184.2	100.0	29.2	0.0	.	.	18.6
<i>IFSI 94-1Y</i>	16	183.7	100.0	29.2	0.0	.	.	17.0
NC+ 5860	17	224.5	100.0	53.6	0.0	.	.	19.8
NC+ 7117	18	225.7	100.0	23.2	0.0	.	.	21.3
Pioneer Brand 3146	19	251.0	100.0	22.0	0.0	.	.	20.7
Pioneer Brand 3162	20	218.8	100.0	0.6	0.0	.	.	20.9
Pioneer Brand 3225	21	243.5	100.0	6.0	0.0	.	.	20.2
Pioneer Brand 3245	22	229.1	100.0	19.0	0.0	.	.	19.2
<i>Pioneer Brand X1133Z</i>	23	249.1	100.0	14.9	0.0	.	.	18.2
<i>Pioneer Brand X1183A</i>	24	252.2	100.0	8.9	0.0	.	.	19.3
<i>Pioneer Brand X1183B</i>	25	237.8	100.0	3.0	0.0	.	.	20.1
<i>Tennessee EXP 93-2[†]</i>	26	229.4	100.0	71.4	0.0	.	.	27.7
Triumph 1650FG	27	210.0	100.0	70.2	0.0	.	.	23.7
<i>Triumph 1772</i>	28	213.7	100.0	53.6	0.0	.	.	22.5
Vineyard FC534	29	221.8	100.0	6.0	0.0	.	.	19.3
<i>Vineyard FCx5213</i>	30	221.4	100.0	16.7	0.0	.	.	19.7
<i>Wilson Demand 119</i>	31	182.9	100.0	58.9	0.0	.	.	24.3
Yellow check B73×Mo17	32	175.9	100.0	68.5	0.0	.	.	19.7
Mean		216.8	100.0	32.0	0.0	.	.	20.0
LSD 0.05		36.7	ns	32.1	ns			1.3
CV%		10.4		61.5				3.9

[†] Data from two replications.

Table 10. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Milan, OH.
New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	208.1	100.0	2.0	0.7	49.3	74.0	19.8
<i>Asgrow XP9292</i>	2	208.1	96.7	9.0	4.1	55.7	77.7	23.1
Cargill 6409 GQ	3	193.4	94.0	10.6	0.0	51.7	74.0	20.2
<i>Cargill 7557</i>	4	184.1	100.0	0.0	0.0	54.3	77.3	21.2
Cargill 7997	5	220.3	100.0	5.3	0.0	53.7	76.0	21.3
Cargill 8327	6	221.8	95.3	3.9	2.3	62.0	78.0	21.7
<i>DeKalb Genetics EXP274</i>	7	220.5	96.0	4.4	0.7	61.7	77.7	22.3
<i>DeKalb Genetics EXP360</i>	8	199.2	100.0	0.0	0.0	51.0	75.3	20.6
<i>DeKalb Genetics EXP367</i>	9	183.2	100.0	0.0	0.0	50.7	76.3	21.8
ICI Seeds 8326	10	208.4	92.7	4.3	1.6	50.3	76.0	20.9
ICI Seeds 8382	11	206.1	100.0	1.3	0.0	55.7	75.0	19.2
ICI Seeds 8400	12	157.5	100.0	5.3	0.0	54.0	77.0	21.6
<i>ICI Seeds 8481</i>	13	173.2	91.3	0.9	0.0	43.0	73.0	20.8
IFSI 93-3Y	14	204.5	98.7	0.0	0.0	49.3	74.0	18.8
IFSI 93-4Y	15	180.5	96.7	4.3	0.0	56.3	75.7	21.0
<i>IFSI 94-1Y</i>	16	172.7	99.3	2.8	0.0	45.0	74.3	19.4
NC+ 5860	17	220.4	100.0	0.7	0.0	60.3	78.0	21.9
NC+ 7117	18	223.5	100.0	0.0	0.7	59.0	79.7	22.5
Pioneer Brand 3146	19	210.1	100.0	2.7	0.7	60.3	80.0	22.3
Pioneer Brand 3162	20	227.1	100.0	1.3	0.0	53.7	75.3	23.5
Pioneer Brand 3225	21	222.9	100.0	4.0	0.0	53.7	75.0	22.0
Pioneer Brand 3245	22	235.9	100.0	1.3	0.0	52.3	77.3	21.5
<i>Pioneer Brand X1133Z</i>	23	228.5	86.0	8.9	5.1	55.3	77.7	20.5
<i>Pioneer Brand X1183A</i>	24	204.4	100.0	0.0	0.0	52.0	79.0	22.1
<i>Pioneer Brand X1183B</i>	25	209.0	100.0	8.0	1.3	53.0	78.0	22.2
<i>Tennessee EXP 93-2</i>	26	240.8	99.3	1.3	0.7	67.0	83.0	26.6
Triumph 1650FG	27	173.5	98.7	1.4	0.0	55.3	79.3	22.9
<i>Triumph 1772</i>	28	198.1	77.3	25.9	3.2	56.0	76.7	21.8
Vineyard FC534	29	186.0	97.3	13.0	0.7	55.7	76.0	19.3
<i>Vineyard FCx5213</i>	30	191.5	100.0	8.0	0.0	54.3	77.0	20.9
<i>Wilson Demand 119</i>	31	130.2	96.0	4.9	0.0	48.3	81.0	26.1
Yellow check B73 × Mo17	32	216.0	100.0	0.0	0.0	57.7	78.7	22.9
Mean		201.9	97.4	4.2	0.7	54.3	77.0	21.7
LSD 0.05		35.6	ns	ns	ns	5.8	1.7	2.0
CV%		10.8				6.5	1.4	5.5

Table 11. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Knoxville, TN. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	175.9	99.4	0.0	0.0	50.8	69.0	15.7
<i>Asgrow XP9292</i>	2	193.0	100.0	0.0	0.0	53.6	71.3	19.0
Cargill 6409 GQ	3	188.5	100.0	0.0	0.6	46.4	68.3	16.8
<i>Cargill 7557</i>	4	200.7	106.0	0.0	0.5	51.2	71.3	18.4
Cargill 7997	5	179.5	99.4	0.0	1.2	46.8	70.0	17.6
Cargill 8327	6	212.5	97.6	0.0	0.0	55.2	72.3	17.4
<i>DeKalb Genetics EXP274</i>	7	228.1	102.4	0.0	0.0	60.4	72.3	19.8
<i>DeKalb Genetics EXP360</i>	8	167.3	101.8	0.0	0.0	44.8	67.7	16.5
<i>DeKalb Genetics EXP367</i>	9	207.3	101.8	0.0	0.6	45.6	71.0	18.6
ICI Seeds 8326	10	211.2	97.6	0.0	0.6	46.0	67.7	16.8
ICI Seeds 8382	11	198.7	99.4	0.0	0.0	50.4	70.7	16.5
ICI Seeds 8400	12	182.1	98.2	0.0	0.0	51.6	68.3	16.2
<i>ICI Seeds 8481</i>	13	166.6	98.8	0.0	0.0	41.6	65.0	17.4
IFSI 93-3Y	14	175.2	97.6	0.0	0.0	43.2	68.7	17.1
IFSI 93-4Y	15	169.0	101.2	0.0	0.0	50.4	69.3	16.0
<i>IFSI 94-1Y</i>	16	178.0	98.2	0.0	0.0	45.2	69.3	16.6
NC+ 5860	17	198.6	100.6	0.0	0.6	55.2	71.7	18.2
NC+ 7117	18	229.8	100.0	0.0	0.0	50.8	72.3	17.4
Pioneer Brand 3146	19	235.1	98.8	0.0	0.6	55.6	72.0	18.0
Pioneer Brand 3162	20	235.8	107.1	0.0	0.0	49.2	68.7	19.2
Pioneer Brand 3225	21	222.3	100.0	0.0	0.0	48.4	68.3	18.9
Pioneer Brand 3245	22	220.5	101.2	0.0	0.0	44.8	72.7	17.9
<i>Pioneer Brand X1133Z</i>	23	207.2	99.4	0.0	0.0	50.4	69.7	16.0
<i>Pioneer Brand X1183A</i>	24	203.1	100.0	0.0	0.6	40.4	72.3	19.4
<i>Pioneer Brand X1183B</i>	25	241.5	105.4	0.0	0.0	48.8	69.3	18.6
<i>Tennessee EXP 93-2</i>	26	214.0	80.4	0.0	0.8	59.2	76.0	21.4
Triumph 1650FG	27	224.9	100.0	0.0	0.0	48.4	71.0	19.7
<i>Triumph 1772</i>	28	190.7	92.9	0.0	0.0	48.8	69.7	19.2
Vineyard FC534	29	179.3	98.2	0.0	0.7	49.6	69.3	17.2
<i>Vineyard FCx5213</i>	30	189.7	97.6	0.0	0.6	48.0	70.3	17.5
<i>Wilson Demand 119</i>	31	178.4	97.0	0.0	0.0	44.4	73.3	20.3
Yellow check B73 × Mo17	32	179.5	98.2	0.0	1.2	52.0	71.0	16.8
Mean		199.5	99.3	0.0	0.3	49.3	70.3	17.9
LSD 0.05		22.7	6.7	ns	ns	4.7	1.7	1.3
CV%		7.0	4.2			5.8	1.5	4.5

Table 12. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Castroville, TX. New entries for 1994 are shown in italics. Castroville was an irrigated location.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	122.6	63.9	.	.	.	70.7	11.3
<i>Asgrow XP9292</i>	2	153.8	61.7	.	.	.	70.7	12.9
Cargill 6409 GQ	3	149.1	71.7	.	.	.	71.7	12.8
<i>Cargill 7557</i>	4	144.3	78.9	.	.	.	72.3	13.0
Cargill 7997	5	181.0	77.2	.	.	.	71.0	12.0
Cargill 8327	6	169.6	71.7	.	.	.	71.3	11.8
<i>DeKalb Genetics EXP274</i>	7	161.6	77.8	.	.	.	72.0	12.7
<i>DeKalb Genetics EXP360</i>	8	132.2	75.0	.	.	.	70.7	12.6
<i>DeKalb Genetics EXP367</i>	9	172.4	81.7	.	.	.	72.0	12.7
ICI Seeds 8326	10	127.1	88.3	.	.	.	70.3	11.9
ICI Seeds 8382	11	155.3	71.7	.	.	.	71.0	11.9
ICI Seeds 8400	12	149.3	83.3	.	.	.	70.7	11.7
<i>ICI Seeds 8481</i>	13	123.1	75.0	.	.	.	69.7	12.8
IFSI 93-3Y	14	120.7	62.2	.	.	.	71.0	12.4
IFSI 93-4Y	15	136.8	65.0	.	.	.	71.3	12.3
<i>IFSI 94-1Y</i>	16	145.6	73.9	.	.	.	70.3	12.1
NC+ 5860	17	155.2	82.2	.	.	.	72.0	12.3
NC+ 7117	18	163.4	72.8	.	.	.	72.7	11.7
Pioneer Brand 3146	19	190.2	83.3	.	.	.	72.3	12.9
Pioneer Brand 3162	20	178.3	77.2	.	.	.	71.0	12.9
Pioneer Brand 3225	21	175.7	72.2	.	.	.	71.0	12.2
Pioneer Brand 3245	22	182.1	78.9	.	.	.	72.0	12.7
<i>Pioneer Brand X1133Z</i>	23	177.9	85.6	.	.	.	71.3	11.8
<i>Pioneer Brand X1183A</i>	24	194.9	81.1	.	.	.	71.7	13.2
<i>Pioneer Brand X1183B</i>	25	212.5	86.1	.	.	.	72.3	12.9
<i>Tennessee EXP 93-2</i>	26	168.3	62.8	.	.	.	75.0	12.4
Triumph 1650FG	27	150.9	57.2	.	.	.	71.3	12.9
<i>Triumph 1772</i>	28	134.9	61.7	.	.	.	71.0	12.5
Vineyard FC534	29	147.7	71.7	.	.	.	71.3	12.8
<i>Vineyard FCx5213</i>	30	166.0	74.4	.	.	.	71.7	12.4
<i>Wilson Demand 119</i>	31	159.8 [†]	78.9	.	.	.	72.7	12.7 [†]
Yellow check B73 × Mo17	32	152.2	78.3	.	.	.	71.0	12.2
Mean		158.0	74.5	.	.	.	71.5	12.4
LSD 0.05		29.0	ns				0.9	0.8
CV%		11.2					0.8	3.8

[†] Data from two replications.

Table 13. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at College Station, TX. New entries for 1994 are shown in italics. College Station was an irrigated location.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	192.5	.	.	0.0	30.7	78.0	12.6
<i>Asgrow XP9292</i>	2	186.8	.	.	0.0	40.0	79.7	13.3
Cargill 6409 GQ	3	145.1	.	.	0.0	33.7	79.0	13.2
<i>Cargill 7557</i>	4	196.2	.	.	0.0	42.7	80.0	13.2
Cargill 7997	5	200.5	.	.	0.0	33.0	79.3	12.5
Cargill 8327	6	195.1 [†]	.	.	0.0	34.7	81.3	12.7 [†]
<i>DeKalb Genetics EXP274</i>	7	198.9	.	.	0.0	31.3	81.0	13.3
<i>DeKalb Genetics EXP360</i>	8	179.2	.	.	0.0	34.7	79.3	13.0
<i>DeKalb Genetics EXP367</i>	9	201.0	.	.	0.0	33.7	80.3	12.9
ICI Seeds 8326	10	186.3	.	.	0.0	36.7	78.3	12.9
ICI Seeds 8382	11	185.9	.	.	0.0	33.3	78.7	12.3
ICI Seeds 8400	12	193.9	.	.	0.0	34.7	79.0	12.6
<i>ICI Seeds 8481</i>	13	176.3	.	.	0.0	26.7	77.3	12.7
IFSI 93-3Y	14	179.5	.	.	0.0	29.7	79.7	12.9
IFSI 93-4Y	15	168.1	.	.	0.0	39.0	79.0	13.0
<i>IFSI 94-1Y</i>	16	140.7	.	.	0.0	35.3	79.0	12.8
NC+ 5860	17	167.3	.	.	0.0	40.3	82.0	13.1
NC+ 7117	18	186.7	.	.	0.0	37.7	84.0	12.5
Pioneer Brand 3146	19	224.2	.	.	0.0	43.0	81.0	13.2
Pioneer Brand 3162	20	223.7	.	.	0.0	32.7	80.0	13.5
Pioneer Brand 3225	21	196.4	.	.	0.0	35.0	81.0	12.9
Pioneer Brand 3245	22	222.2	.	.	0.0	33.3	82.0	13.1
<i>Pioneer Brand X1133Z</i>	23	219.7	.	.	0.0	38.7	80.3	12.6
<i>Pioneer Brand X1183A</i>	24	203.4	.	.	0.0	33.0	82.7	13.5
<i>Pioneer Brand X1183B</i>	25	228.5	.	.	0.0	36.3	82.3	13.5
<i>Tennessee EXP 93-2</i>	26	192.3	.	.	0.0	38.3	84.7	13.6
Triumph 1650FG	27	186.9	.	.	0.0	38.0	80.3	13.4
<i>Triumph 1772</i>	28	180.3	.	.	0.0	37.7	79.0	13.1
Vineyard FC534	29	164.0 [†]	.	.	0.0	36.7	80.3	12.9 [†]
<i>Vineyard FCx5213</i>	30	192.2	.	.	0.0	41.3	81.7	13.1
<i>Wilson Demand 119</i>	31	179.7	.	.	0.0	38.7	83.0	13.7
Yellow check B73 × Mo17	32	188.5	.	.	0.0	35.3	82.0	12.7
Mean		190.1	69.0	.	.	35.8	80.5	13.0
LSD 0.05		25.4	ns	.	.	7.2	1.4	0.4
CV%		8.2		.	.	12.3	1.1	2.2

[†] Data from two replications.

Table 14. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Springlake, TX. New entries for 1994 are shown in italics. Springlake was an irrigated location.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	148.7	87.8	.	.	.	71.7	12.2
<i>Asgrow XP9292</i>	2	204.8	74.4	.	.	.	72.3	15.7
Cargill 6409 GQ	3	145.8	92.8	.	.	.	72.0	12.1
<i>Cargill 7557</i>	4	158.9	86.7	.	.	.	72.3	13.3
Cargill 7997	5	192.7	99.4	.	.	.	72.0	14.7
Cargill 8327	6	200.2	80.0	.	.	.	73.7	14.2
<i>DeKalb Genetics EXP274</i>	7	232.5	107.2	.	.	.	73.0	15.3
<i>DeKalb Genetics EXP360</i>	8	189.2	117.2	.	.	.	72.0	13.8
<i>DeKalb Genetics EXP367</i>	9	240.5	117.2	.	.	.	72.7	15.4
ICI Seeds 8326	10	146.4	70.6	.	.	.	72.0	13.6
ICI Seeds 8382	11	106.1	73.3	.	.	.	72.3	12.7
ICI Seeds 8400	12	191.8	92.2	.	.	.	72.0	13.4
<i>ICI Seeds 8481</i>	13	160.5	100.0	.	.	.	71.0	13.8
IFSI 93-3Y	14	164.1	68.3	.	.	.	71.7	13.8
IFSI 93-4Y	15	166.0	81.1	.	.	.	72.0	13.1
<i>IFSI 94-1Y</i>	16	169.9	88.3	.	.	.	72.0	13.6
NC+ 5860	17	200.0	101.1	.	.	.	72.7	13.7
NC+ 7117	18	230.5	102.8	.	.	.	75.0	15.2
Pioneer Brand 3146	19	182.1	90.0	.	.	.	73.7	15.1
Pioneer Brand 3162	20	180.5	88.9	.	.	.	72.3	15.2
Pioneer Brand 3225	21	198.2	115.0	.	.	.	72.0	14.9
Pioneer Brand 3245	22	160.1	91.1	.	.	.	72.7	14.5
<i>Pioneer Brand X1133Z</i>	23	197.7	90.6	.	.	.	72.0	13.9
<i>Pioneer Brand X1183A</i>	24	188.2	86.7	.	.	.	72.3	14.9
<i>Pioneer Brand X1183B</i>	25	202.5	93.9	.	.	.	72.3	15.5
<i>Tennessee EXP 93-2</i>	26	213.3	81.7	.	.	.	77.7	19.3
Triumph 1650FG	27	200.6	75.0	.	.	.	72.7	16.2
<i>Triumph 1772</i>	28	157.3	65.6	.	.	.	72.0	14.6
Vineyard FC534	29	158.5	95.0	.	.	.	72.0	12.3
<i>Vineyard FCx5213</i>	30	185.1	95.6	.	.	.	72.7	12.8
<i>Wilson Demand 119</i>	31	190.2	95.0	.	.	.	73.7	17.5
Yellow check B73 × Mo17	32	195.1	92.8	.	.	.	72.3	14.1
Mean		183.1	90.5	.	.	.	72.6	14.4
LSD 0.05		27.5	16.8				1.0	1.0
CV%		9.2	11.3				0.8	4.3

Table 15. Yield and agronomic data from the 1994 Yellow Food Corn Performance Test at Janesville, WI. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	218.6	98.2	0.0	2.7	45.9	.	26.4
<i>Asgrow XP9292</i>	2	197.6	94.7	0.0	2.9	49.4	.	32.4
Cargill 6409 GQ	3	190.2	94.7	0.0	0.9	46.3	.	25.2
<i>Cargill 7557</i>	4	227.0	97.4	0.0	1.4	53.0	.	27.0
Cargill 7997	5	200.5	101.3	0.0	0.4	45.1	.	30.5
Cargill 8327	6	200.6	100.4	0.0	0.0	60.4	.	30.4
<i>DeKalb Genetics EXP274</i>	7	218.1	96.1	0.0	1.4	59.1	.	30.5
<i>DeKalb Genetics EXP360</i>	8	218.6	98.7	0.0	0.8	44.3	.	27.2
<i>DeKalb Genetics EXP367</i>	9	213.0	98.2	0.0	2.7	46.5	.	31.1
ICI Seeds 8326	10	241.0	96.5	0.0	3.7	50.0	.	27.6
ICI Seeds 8382	11	253.5	97.4	0.0	0.4	51.3	.	27.1
ICI Seeds 8400	12	208.1	94.3	0.0	2.3	52.5	.	28.4
<i>ICI Seeds 8481</i>	13	173.2	92.1	0.0	4.3	39.8	.	27.9
IFSI 93-3Y	14	182.3	91.7	0.0	1.9	40.0	.	26.6
IFSI 93-4Y	15	182.7	96.5	0.0	0.5	44.8	.	27.3
<i>IFSI 94-1Y</i>	16	188.5	97.8	0.0	2.2	43.3	.	26.1
NC+ 5860	17	143.8	95.2	0.0	0.0	53.4	.	30.7
NC+ 7117	18	191.4	96.9	0.0	0.9	50.3	.	32.5
Pioneer Brand 3146	19	183.5	96.5	0.0	5.5	59.4	.	31.9
Pioneer Brand 3162	20	231.5	95.6	0.0	0.9	44.5	.	32.5
Pioneer Brand 3225	21	218.0	94.3	0.0	0.9	48.0	.	31.9
Pioneer Brand 3245	22	205.1	94.7	0.5	2.8	45.8	.	29.4
<i>Pioneer Brand X1133Z</i>	23	221.4	97.4	0.0	3.2	50.0	.	27.6
<i>Pioneer Brand X1183A</i>	24	213.3	94.3	0.0	1.5	48.2	.	27.9
<i>Pioneer Brand X1183B</i>	25	231.6	97.8	0.4	1.3	49.8	.	31.0
<i>Tennessee EXP 93-2</i>	26	59.8	96.5	3.5	2.2	58.1	.	36.3
Triumph 1650FG	27	194.5	99.1	0.0	2.6	51.1	.	29.7
<i>Triumph 1772</i>	28	170.7	87.7	1.5	1.5	52.6	.	29.9
Vineyard FC534	29	189.6	100.4	0.0	1.3	51.9	.	25.9
<i>Vineyard FCx5213</i>	30	221.0	95.6	0.0	1.9	48.1	.	28.3
<i>Wilson Demand 119</i>	31	141.3	94.3	0.0	1.4	47.3	.	33.0
Yellow check B73×Mo17	32	195.7	98.7	0.5	3.2	54.6	.	30.6
Mean		197.7	96.3	0.2	1.9	49.5	.	29.4
LSD 0.05		24.7	ns	1.0	ns	5.7		1.8
CV%		7.3		309.4		7.1		3.8

Table 16. Combined yield and agronomic data from 13 locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)	b _I (bu/a/I)	Std. devn. (bu/a)
<i>Asgrow X6953</i>	1	171.5	89.5	2.7	1.4	40.5	70.0	16.4	1.17	17.3
<i>Asgrow XP9292</i>	2	188.9	89.6	11.1	1.1	46.1	72.5	20.9	1.04	17.6
Cargill 6409 GQ	3	165.5	93.6	4.8	1.3	42.5	70.2	17.0	0.87	12.6
<i>Cargill 7557</i>	4	184.9	93.4	6.1	1.6	45.8	72.1	18.2	0.98	15.0
Cargill 7997	5	189.1	93.8	5.7	1.4	40.9	71.0	19.1	0.88	13.3
Cargill 8327	6	190.3	91.9	5.5	0.5	49.1	73.7	19.4	1.16	6.9
<i>DeKalb Genetics EXP274</i>	7	195.8	94.6	4.8	0.8	50.1	73.1	20.3	1.10	15.5
<i>DeKalb Genetics EXP360</i>	8	177.2	94.2	1.3	0.9	39.8	70.5	17.5	0.95	16.6
<i>DeKalb Genetics EXP367</i>	9	189.2	96.1	1.3	1.0	40.3	72.8	19.6	1.17	20.7
ICI Seeds 8326	10	187.9	90.5	4.8	2.3	42.4	70.6	18.3	1.06	22.3
ICI Seeds 8382	11	186.8	90.5	6.0	1.2	44.0	71.3	17.2	0.98	30.7
ICI Seeds 8400	12	176.4	93.1	6.9	0.9	44.1	70.8	18.0	0.81	15.8
<i>ICI Seeds 8481</i>	13	162.7	92.6	0.1	1.1	35.1	68.8	18.6	0.88	13.7
IFSI 93-3Y	14	172.0	90.3	3.0	0.5	37.5	70.5	17.2	0.86	13.6
IFSI 93-4Y	15	162.6	90.1	4.4	0.9	43.9	71.5	17.6	0.88	7.1
<i>IFSI 94-1Y</i>	16	157.8	90.5	4.2	1.3	38.4	70.5	16.9	0.84	12.6
NC+ 5860	17	172.9	94.2	7.8	0.3	47.9	73.4	19.0	1.17	20.1
NC+ 7117	18	192.1	93.2	2.7	0.3	44.9	74.8	20.2	1.12	16.5
Pioneer Brand 3146	19	192.0	94.0	5.7	1.5	49.2	74.0	20.2	1.03	19.6
Pioneer Brand 3162	20	196.6	92.9	0.8	1.6	40.5	71.3	20.4	1.16	16.6
Pioneer Brand 3225	21	197.8	93.0	1.6	1.3	41.9	71.3	19.8	1.05	8.4
Pioneer Brand 3245	22	197.1	93.4	2.6	1.2	41.2	73.0	18.4	1.13	15.6
<i>Pioneer Brand X1133Z</i>	23	200.8	92.4	2.7	2.4	43.1	72.0	17.5	1.13	9.9
<i>Pioneer Brand X1183A</i>	24	193.9	93.2	1.0	1.4	39.7	73.4	19.0	1.27	13.5
<i>Pioneer Brand X1183B</i>	25	202.8	95.1	1.3	0.7	41.8	72.9	20.2	1.06	19.3
<i>Tennessee EXP 93-2</i>	26	181.8	86.5	19.0	1.0	52.9	77.2	24.7	0.70	47.2
Triumph 1650FG	27	179.7	87.2	8.7	2.7	44.8	73.0	20.6	1.03	15.7
<i>Triumph 1772</i>	28	172.1	82.8	11.4	1.3	45.4	71.3	20.0	1.08	11.8
Vineyard FC534	29	170.2	92.4	2.3	2.6	45.0	71.7	17.7	0.90	11.4
<i>Vineyard FCx5213</i>	30	185.9	92.0	2.9	1.5	44.6	71.8	17.9	0.93	9.6
<i>Wilson Demand 119</i>	31	155.7	90.3	7.7	0.5	41.7	75.0	22.7	0.65	21.4
Yellow check B73×Mo17	32	177.9	91.8	9.0	1.7	46.0	72.9	19.4	0.95	15.6
Mean		182.1	91.8	5.0	1.3	43.5	72.2	19.1	1.00	16.4
LSD 0.05		14.8	4.3	7.9	1.3	2.3	1.1	1.0	0.10	
CV%		9.1	7.3	153.9	152.3	7.7	1.5	5.3		

Table 16. Continued.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)	b _I (bu/a/T)	Std. devn. (bu/a)
Location means: Champaign, IL		186.7	97.7	3.0	1.7	44.5	.	21.7		
West Lafayette, IN		194.5	95.3	0.1	0.2	45.1	.	23.9		
Ogden, IA		199.5	80.0	5.5	4.6	.	.	20.8		
Henderson, KY		191.9	100.0	.	2.0	.	.	13.0		
Lexington, KY		136.9	99.8	0.0	1.0	32.9	68.8	17.5		
Columbia, MO		111.2	94.1	0.0	0.4	36.3	64.4	22.1		
St. Joseph, MO		216.8	100.0	32.0	0.0	.	.	20.0		
Milan, OH		201.9	97.4	4.2	0.7	54.3	77.0	21.7		
Knoxville, TN		199.5	99.3	0.0	0.3	49.3	70.3	17.9		
Castroville, TX [†]		158.0	74.5	.	.	.	71.5	12.4		
College Station, TX [†]		190.1	69.0	.	.	35.8	80.5	13.0		
Springlake, TX [†]		183.1	90.5	.	.	.	72.6	14.4		
Janesville, WI		197.7	96.3	0.2	1.9	49.5	.	29.4		

[†] Irrigated location.

Table 17. Yield (bu/a) data from 13 locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Ogden, IA	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Spring- lake, TX [†]	Janes- ville, WI	Com- bined
<i>Asgrow X6953</i>	1	203.3	203.3	175.1	176.0	131.2	89.7	205.1	208.1	175.9	122.6	148.7	148.7	218.6	171.5
<i>Asgrow XP9292</i>	2	211.9	211.9	204.3	239.1	127.2	117.9	201.8	208.1	193.0	153.8	204.8	204.8	197.6	188.9
Cargill 6409 GQ	3	178.5	178.5	190.6	166.4	126.6	106.1	191.9	193.4	188.5	149.1	145.8	145.8	190.2	165.5
<i>Cargill 7557</i>	4	202.3	202.3	210.7	196.5	139.3	126.4	219.8	184.1	200.7	144.3	158.9	158.9	227.0	184.9
<i>Cargill 7997</i>	5	214.4	214.4	219.5	186.4	148.2	123.7	217.3	220.3	179.5	181.0	192.7	192.7	200.5	189.1
Cargill 8327	6	201.9	201.9	203.4	208.0	142.1	101.3	230.4	221.8	212.5	169.6	200.2	200.2	200.6	190.3
<i>DeKalb Genetics EXP274</i>	7	190.9	190.9	220.7	215.1	139.0	119.2	216.9	220.5	228.1	161.6	232.5	232.5	218.1	195.8
<i>DeKalb Genetics EXP360</i>	8	203.3	203.3	196.3	183.7	123.2	119.8	193.6	199.2	167.3	132.2	189.2	189.2	218.6	177.2
<i>DeKalb Genetics EXP367</i>	9	205.1	205.1	198.6	199.6	150.1	83.7	229.3	183.2	207.3	172.4	240.5	240.5	213.0	189.2
ICI Seeds 8326	10	214.1	214.1	208.5	195.5	167.2	117.8	227.5	208.4	211.2	127.1	146.4	146.4	241.0	187.9
ICI Seeds 8382	11	218.0	218.0	198.9	198.9	147.1	128.9	221.6	206.1	198.7	155.3	106.1	106.1	253.5	186.8
ICI Seeds 8400	12	193.2	193.2	194.6	169.9	149.6	108.5	200.5	157.5	182.1	149.3	191.8	191.8	208.1	176.4
<i>ICI Seeds 8481</i>	13	179.6	179.6	186.2	148.2	122.9	113.8	218.6	173.2	166.6	123.1	160.5	160.5	173.2	162.7
IFSI 93-3Y	14	186.1	186.1	190.8	171.0	136.1	125.1	207.8	204.5	175.2	120.7	164.1	164.1	182.3	172.0
IFSI 93-4Y	15	188.3	188.3	171.5	172.5	119.3	100.8	184.2	180.5	169.0	136.8	166.0	166.0	182.7	162.6
<i>IFSI 94-1Y</i>	16	178.0	178.0	168.3	144.5	117.3	96.1	183.7	172.7	178.0	145.6	169.9	169.9	188.5	157.8
NC+ 5860	17	180.3	180.3	195.5	190.2	126.4	82.9	224.5	220.4	198.6	155.2	200.0	200.0	143.8	172.9
NC+ 7117	18	196.6	196.6	201.9	212.8	125.7	119.6	225.7	223.5	229.8	163.4	230.5	230.5	191.4	192.1
Pioneer Brand 3146	19	192.8	192.8	202.1	183.5	124.9	130.4	251.0	210.1	235.1	190.2	182.1	182.1	183.5	192.0
Pioneer Brand 3162	20	188.7	188.7	218.7	197.8	162.2	97.0	218.8	227.1	235.8	178.3	180.5	180.5	231.5	196.6
Pioneer Brand 3225	21	197.3	197.3	225.5	201.5	144.3	131.9	243.5	222.9	222.3	175.7	198.2	198.2	218.0	197.8
Pioneer Brand 3245	22	217.3	217.3	218.1	207.1	131.1	125.6	229.1	235.9	220.5	182.1	160.1	160.1	205.1	197.1
<i>Pioneer Brand X1133Z</i>	23	199.1	199.1	230.0	205.5	162.1	114.0	249.1	228.5	207.2	177.9	197.7	197.7	221.4	200.8
<i>Pioneer Brand X1183A</i>	24	197.6	197.6	224.2	212.9	127.7	98.3	252.2	204.4	203.1	194.9	188.2	188.2	213.3	193.9
<i>Pioneer Brand X1183B</i>	25	190.1	190.1	233.0	187.0	144.8	120.4	237.8	209.0	241.5	212.5	202.5	202.5	231.6	202.8
<i>Tennessee EXP 93-2</i>	26	181.3	181.3	160.6	227.0	150.9	127.1	229.4	240.8	214.0	168.3	213.3	213.3	59.8	181.8
Triumph 1650FG	27	182.1	182.1	205.8	200.5	116.2	116.8	210.0	173.5	224.9	150.9	200.6	200.6	194.5	179.7
<i>Triumph 1772</i>	28	189.2	189.2	193.2	191.1	146.4	85.9	213.7	198.1	190.7	134.9	157.3	157.3	170.7	172.1
Vineyard FC534	29	186.2	186.2	185.1	161.4	139.8	106.9	221.8	186.0	179.3	147.7	158.5	158.5	189.6	170.2
<i>Vineyard FCx5213</i>	30	206.8	206.8	194.6	202.5	139.2	122.5	221.4	191.5	189.7	166.0	185.1	185.1	221.0	185.9

Table 17. Continued.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Ogden, IA	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Spring- lake, TX [†]	Janes- ville, WI	Com- bined
<i>Wilson Demand 119</i>	31	156.0	156.0	168.9	180.0	118.2	99.7	182.9	130.2	178.4	159.8	190.2	190.2	141.3	155.7
Yellow check B73 × Mo17	32	193.5	193.5	189.1	207.5	134.6	100.3	175.9	216.0	179.5	152.2	195.1	195.1	195.7	177.9
Mean		186.7	194.5	199.5	191.9	136.9	111.2	216.8	201.9	199.5	158.0	190.1	183.1	197.7	182.1
LSD 0.05		19.5	19.5	23.7	25.3	28.8	29.1	36.7	35.6	22.7	29.0	25.4	27.5	24.7	14.8
CV%		6.4	6.1	7.3	8.1	12.9	16.0	10.4	10.8	7.0	11.2	8.2	9.2	7.3	9.1

[†] Irrigated location.

Table 18. Yield and agronomic data from six northern locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	198.8	94.1	4.1	1.7	45.0	74.0	19.6
<i>Asgrow XP9292</i>	2	205.6	96.0	16.6	1.5	50.0	77.7	25.6
Cargill 6409 GQ	3	187.2	93.7	7.1	1.8	47.0	74.0	20.1
<i>Cargill 7557</i>	4	207.0	95.7	9.2	1.6	50.6	77.3	21.4
Cargill 7997	5	207.8	96.2	8.6	1.0	45.0	76.0	23.2
Cargill 8327	6	207.5	95.6	8.2	0.9	56.3	78.0	23.3
<i>DeKalb Genetics EXP274</i>	7	208.5	95.7	7.2	1.0	56.3	77.7	24.4
<i>DeKalb Genetics EXP360</i>	8	201.5	93.7	1.9	1.1	44.3	75.3	20.4
<i>DeKalb Genetics EXP367</i>	9	200.8	96.8	2.0	1.5	45.6	76.3	23.6
ICI Seeds 8326	10	215.1	94.2	7.2	2.8	47.6	76.0	21.7
ICI Seeds 8382	11	218.0	94.6	9.0	0.7	50.0	75.0	20.6
ICI Seeds 8400	12	191.3	94.8	10.4	1.3	48.5	77.0	21.8
<i>ICI Seeds 8481</i>	13	183.9	93.5	0.2	1.7	38.9	73.0	22.3
IFSI 93-3Y	14	194.1	95.7	4.5	0.4	41.9	74.0	20.3
IFSI 93-4Y	15	180.2	94.3	6.5	0.8	47.9	75.7	20.9
<i>IFSI 94-1Y</i>	16	176.6	95.1	6.3	1.7	41.7	74.3	19.6
NC+ 5860	17	187.8	95.3	11.7	0.3	52.8	78.0	23.0
NC+ 7117	18	204.8	95.1	4.1	0.4	50.1	79.7	24.7
Pioneer Brand 3146	19	204.4	95.5	8.5	1.6	54.8	80.0	24.5
Pioneer Brand 3162	20	213.3	95.2	1.2	2.1	45.2	75.3	24.7
Pioneer Brand 3225	21	216.8	95.4	2.4	1.6	46.5	75.0	24.0
Pioneer Brand 3245	22	219.0	94.4	3.9	1.1	45.9	77.3	22.0
<i>Pioneer Brand X1133Z</i>	23	221.0	92.8	4.1	3.3	47.2	77.7	21.0
<i>Pioneer Brand X1183A</i>	24	215.3	95.5	1.5	2.2	45.4	79.0	22.4
<i>Pioneer Brand X1183B</i>	25	216.5	95.8	1.9	0.9	46.6	78.0	24.3
<i>Tennessee EXP 93-2</i>	26	178.4	92.6	28.6	0.9	59.1	83.0	31.5
Triumph 1650FG	27	189.8	93.2	13.0	2.9	50.4	79.3	24.6
<i>Triumph 1772</i>	28	191.7	88.6	17.1	1.7	50.6	76.7	24.0
Vineyard FC534	29	192.6	95.8	3.5	2.7	49.8	76.0	20.7
<i>Vineyard FCx5213</i>	30	203.3	93.0	4.3	2.4	48.3	77.0	21.2
<i>Wilson Demand 119</i>	31	153.1	90.4	11.5	0.3	46.3	81.0	27.8
Yellow check B73×Mo17	32	192.5	93.8	13.5	2.1	51.9	78.7	23.6
Mean		199.5	94.4	7.5	1.5	48.4	77.0	22.9
LSD 0.05		22.0	ns	11.5	1.7	3.0	1.7	1.4
CV%		8.5		125.7	138.8	7.3	1.4	4.1
Location means:								
Champaign, IL		186.7	97.7	3.0	1.7	44.5	.	21.7
West Lafayette, IN		194.5	95.3	0.1	0.2	45.1	.	23.9
Ogden, IA		199.5	80.0	5.5	4.6	.	.	20.8
St. Joseph, MO		216.8	100.0	32.0	0.0	.	.	20.0
Milan, OH		201.9	97.4	4.2	0.7	54.3	77.0	21.7
Janesville, WI		197.7	96.3	0.2	1.9	49.5	.	29.4

Table 19. Yield and agronomic data from seven southern locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
<i>Asgrow X6953</i>	1	148.1	85.5	0.0	0.9	35.9	69.4	13.7
<i>Asgrow XP9292</i>	2	174.6	84.2	0.0	0.5	42.2	71.7	16.8
Cargill 6409 GQ	3	146.8	93.5	0.0	0.5	38.0	69.6	14.4
<i>Cargill 7557</i>	4	166.1	91.5	0.0	1.7	41.0	71.2	15.5
Cargill 7997	5	173.1	91.8	0.0	1.9	36.8	70.2	15.5
Cargill 8327	6	175.6	88.8	0.0	0.0	42.0	73.0	16.0
<i>DeKalb Genetics EXP274</i>	7	184.9	93.7	0.0	0.6	43.9	72.3	16.8
<i>DeKalb Genetics EXP360</i>	8	156.4	94.6	0.0	0.7	35.2	69.7	15.0
<i>DeKalb Genetics EXP367</i>	9	179.2	95.4	0.0	0.3	35.1	72.2	16.1
ICI Seeds 8326	10	164.5	87.2	0.0	1.7	37.1	69.7	15.3
ICI Seeds 8382	11	160.1	87.0	0.0	2.0	38.0	70.7	14.3
ICI Seeds 8400	12	163.6	91.7	0.0	0.2	39.6	69.8	14.8
<i>ICI Seeds 8481</i>	13	144.5	91.8	0.0	0.3	31.3	68.1	15.4
IFSI 93-3Y	14	153.1	85.7	0.0	0.5	33.2	69.9	14.6
IFSI 93-4Y	15	147.5	86.6	0.0	1.2	40.0	70.8	14.7
<i>IFSI 94-1Y</i>	16	141.8	86.5	0.0	0.6	35.1	69.9	14.7
NC+ 5860	17	160.1	93.1	0.0	0.4	43.0	72.7	15.5
NC+ 7117	18	181.2	91.6	0.0	0.0	39.7	74.0	16.4
Pioneer Brand 3146	19	181.5	92.6	0.0	1.2	43.5	73.0	16.6
Pioneer Brand 3162	20	182.2	90.9	0.0	0.9	35.7	70.6	16.7
Pioneer Brand 3225	21	181.5	91.0	0.0	0.9	37.3	70.7	16.1
Pioneer Brand 3245	22	178.4	92.6	0.0	1.4	36.4	72.3	15.3
<i>Pioneer Brand X1133Z</i>	23	183.4	92.1	0.0	1.1	38.9	71.0	14.6
<i>Pioneer Brand X1183A</i>	24	175.5	91.3	0.0	0.3	34.0	72.4	16.1
<i>Pioneer Brand X1183B</i>	25	191.0	94.5	0.0	0.4	37.0	72.0	16.6
<i>Tennessee EXP 93-2</i>	26	184.7	81.4	0.0	1.2	46.7	76.2	18.9
Triumph 1650FG	27	171.0	82.1	0.0	2.4	39.1	71.9	17.2
<i>Triumph 1772</i>	28	155.2	77.7	0.0	0.6	40.2	70.4	16.5
Vineyard FC534	29	151.1	89.4	0.0	2.4	40.1	70.9	15.2
<i>Vineyard FCx5213</i>	30	171.0	91.1	0.2	0.3	40.9	70.9	15.0
<i>Wilson Demand 119</i>	31	158.0	90.3	0.0	0.8	37.1	74.1	18.4
Yellow check B73×Mo17	32	165.4	90.0	0.0	1.2	40.1	71.9	15.7
Mean		167.2	89.6	0.0	0.9	38.6	71.4	15.8
LSD 0.05		19.0	7.0	ns	ns	3.5	1.2	1.2
CV%		9.9	9.0			8.1	1.5	6.8
Location means:								
Henderson, KY		191.9	100.0	.	2.0	.	.	13.0
Lexington, KY		136.9	99.8	0.0	1.0	32.9	68.8	17.5
Columbia, MO		111.2	94.1	0.0	0.4	36.3	64.4	22.1
Knoxville, TN		199.5	99.3	0.0	0.3	49.3	70.3	17.9
Castroville, TX [†]		158.0	74.5	.	.	.	71.5	12.4
College Station, TX [†]		190.1	69.0	.	.	35.8	80.5	13.0
Springlake, TX [†]		183.1	90.5	.	.	.	72.6	14.4

Table 20. Combined European corn borer whorl-leaf feeding and stalk tunneling data from Columbia and Novelty, MO, for the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Leaf feeding (1-9)	No. of tunnels (no)	Tunnel length (in)
<i>Asgrow X6953</i>	1	5.0	1.6	2.0
<i>Asgrow XP9292</i>	2	4.8	2.4	2.7
Cargill 6409 GQ	3	2.7	0.7	0.7
<i>Cargill 7557</i>	4	3.0	1.3	1.4
Cargill 7997	5	2.5	1.1	1.4
Cargill 8327	6	2.7	1.4	1.6
<i>DeKalb Genetics EXP274</i>	7	3.7	1.4	1.5
<i>DeKalb Genetics EXP360</i>	8	3.5	1.3	1.5
<i>DeKalb Genetics EXP367</i>	9	3.3	2.0	2.6
ICI Seeds 8326	10	3.7	2.2	2.4
ICI Seeds 8382	11	2.8	1.4	1.9
ICI Seeds 8400	12	3.7	1.5	1.6
<i>ICI Seeds 8481</i>	13	3.7	1.6	1.8
IFSI 93-3Y	14	3.5	1.5	1.7
IFSI 93-4Y	15	3.0	2.1	2.5
<i>IFSI 94-1Y</i>	16	4.2	2.1	2.5
NC+ 5860	17	3.3	0.8	1.1
NC+ 7117	18	2.7	2.0	2.4
Pioneer Brand 3146	19	3.7	2.1	2.4
Pioneer Brand 3162	20	4.0	1.1	1.3
Pioneer Brand 3225	21	3.3	1.0	1.2
Pioneer Brand 3245	22	5.0	1.3	1.5
<i>Pioneer Brand X1133Z</i>	23	3.7	1.4	1.5
<i>Pioneer Brand X1183A</i>	24	2.2	1.2	1.5
<i>Pioneer Brand X1183B</i>	25	3.3	1.3	1.3
<i>Tennessee EXP 93-2</i>	26	2.3	1.0	1.1
Triumph 1650FG	27	3.7	1.9	2.2
<i>Triumph 1772</i>	28	4.3	1.5	1.6
Vineyard FC534	29	3.7	1.7	2.2
<i>Vineyard FCx5213</i>	30	4.2	1.6	1.9
<i>Wilson Demand 119</i>	31	3.7	0.8	0.8
Yellow check B73×Mo17	32	3.3	1.9	2.3
Susceptible check (Ki3)		5.5	2.0	2.5
Susceptible check (Wf9×W182E)		5.5	2.1	2.5
Resistant check (Pioneer Brand 3184)		3.2	0.8	1.0
Mean		3.5	1.5	1.8
LSD 0.05 [†]		1.1	0.7	0.8
CV%		26.8	41.2	41.7

[†] Pooled error mean square used for testing differences among genotypes.

Table 21. Yield and agronomic data from common entries in the 1993-1994 Yellow Food Corn Performance Tests[†].

Entry	Years (no)	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
Cargill 6409 GQ	2	151.5	93.5	2.7	1.9	41.9	72.3	17.9
Cargill 7997	2	168.7	92.1	2.9	1.7	41.3	73.5	19.3
Cargill 8327	2	176.9	92.9	3.1	1.6	48.6	75.5	19.6
ICI Seeds 8326	2	169.3	92.6	2.6	3.1	42.1	72.4	18.8
ICI Seeds 8382	2	169.0	93.3	3.2	3.7	43.5	73.1	17.8
ICI Seeds 8400	2	162.3	92.9	3.5	2.6	44.6	72.5	18.4
IFSI 93-3Y	2	160.9	92.4	1.8	1.7	36.6	72.3	18.1
IFSI 93-4Y	2	155.1	92.0	2.4	1.6	43.7	73.2	18.3
NC+ 5860	2	161.1	94.3	4.2	0.9	47.4	75.1	19.3
NC+ 7117	2	169.0	94.0	1.5	1.2	44.5	76.7	20.1
Pioneer Brand 3146	2	176.2	93.0	3.0	2.2	48.7	75.9	20.6
Pioneer Brand 3162	2	177.3	92.4	0.7	2.2	39.9	73.1	20.4
Pioneer Brand 3225	2	174.1	92.8	0.9	2.9	41.7	72.8	19.8
Pioneer Brand 3245	2	175.3	94.2	1.6	2.0	41.3	75.2	18.6
Vineyard FC534	2	150.5	93.0	1.3	4.0	44.7	73.6	18.5
Yellow check B73 × Mo17	2	158.8	91.1	5.4	2.8	45.8	74.4	19.3
Mean		166.0	92.9	2.5	2.2	43.5	73.8	19.0

[†] One entry entered in prior YFCPTs and the 1994 YFCPT did not show in the means across years because it was not entered in 1993: Triumph 1650FG (entered in 1988-1990, and 1994).

Table 22. Yield and agronomic data from common entries in the 1992-1994 Yellow Food Corn Performance Tests.

Entry	Years (no)	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
NC+ 5860	3	163.4	93.8	3.9	1.5	46.2	75.5	20.3
Pioneer Brand 3146	3	176.8	93.0	2.6	2.0	47.5	76.8	21.8
Pioneer Brand 3162	3	180.3	92.0	1.1	2.1	38.7	73.6	21.6
Pioneer Brand 3245	3	174.4	94.1	2.0	1.7	40.5	75.6	20.0
Yellow check B73 × Mo17	3	161.6	92.0	4.6	3.0	45.1	74.9	20.3
Mean		171.3	93.0	2.8	2.1	43.6	75.3	20.8

Table 23. Yield and agronomic data from common entries in the 1991-1994 Yellow Food Corn Performance Tests.

Entry	Years (no)	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
NC+ 5860	4	156.4	95.9	3.2	1.6	45.4	73.7	19.9
Pioneer Brand 3146	4	171.0	93.3	2.1	2.6	47.0	74.7	21.3
Pioneer Brand 3162	4	176.8	92.5	0.9	2.6	38.2	71.7	21.0
Pioneer Brand 3245	4	172.2	94.4	1.7	2.3	40.1	73.6	19.6
Yellow check B73 × Mo17	4	156.1	93.3	4.4	3.8	45.2	72.9	19.7
Mean		166.5	93.9	2.4	2.6	43.2	73.3	20.3

Table 24. Yield and agronomic data from common entries in the 1990-1994 Yellow Food Corn Performance Tests.

Entry	Years (no)	Yield (bu/a)	Stand (%)	Root lodged (%)	Stalk lodged (%)	Ear height (in)	Days to flower (no)	Moist. (%)
Pioneer Brand 3162	5	174.0	94.4	0.7	2.4	37.4	71.5	20.8
Yellow check B73 x Mo17	5	154.0	94.6	3.7	4.6	44.7	72.8	19.4
Mean		164.0	94.5	2.2	3.5	41.1	72.2	20.1

Table 25. Grain quality data from 11 locations[†] of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Test weight (lb/bu)	1000-kernel weight (g)	Density (g/cc)	Hardness index [‡] (%)	Pericarp removal [§] (1-5)	Kernel color [¶] (1-5)	Cob color [#]
<i>Asgrow X6953</i>	1	61.1	338	1.32	43.4	3.4	2.0	W
<i>Asgrow XP9292</i>	2	61.7	397	1.33	41.2	2.9	3.0	W
Cargill 6409 GQ	3	62.6	308	1.32	41.1	3.3	3.0	W
<i>Cargill 7557</i>	4	62.1	330	1.32	43.8	3.3	5.0	P
<i>Cargill 7997</i>	5	60.8	330	1.31	45.9	3.4	2.5	P
Cargill 8327	6	60.0	342	1.31	47.3	2.6	3.0	R
<i>DeKalb Genetics EXP274</i>	7	60.8	325	1.32	43.8	4.1	2.0	P
<i>DeKalb Genetics EXP360</i>	8	60.4	342	1.30	50.0	2.5	2.5	R
<i>DeKalb Genetics EXP367</i>	9	61.3	339	1.32	43.8	2.9	3.5	P
ICI Seeds 8326	10	60.7	393	1.31	45.0	4.3	4.0	P
ICI Seeds 8382	11	61.5	325	1.33	45.1	4.3	3.5	R
ICI Seeds 8400	12	60.9	375	1.30	48.7	2.4	3.5	R
<i>ICI Seeds 8481</i>	13	60.6	304	1.31	47.0	3.2	4.0	R
IFSI 93-3Y	14	61.0	347	1.32	45.1	3.9	2.5	R
IFSI 93-4Y	15	61.3	329	1.33	42.8	4.1	2.5	W
<i>IFSI 94-1Y</i>	16	61.5	304	1.33	44.5	3.9	2.0	W
NC+ 5860	17	61.8	327	1.33	42.6	3.0	2.0	W
NC+ 7117	18	60.5	365	1.30	45.1	3.8	3.5	R
Pioneer Brand 3146	19	61.8	357	1.33	43.8	4.1	3.0	W
Pioneer Brand 3162	20	61.4	349	1.32	45.6	2.1	3.0	R
Pioneer Brand 3225	21	61.3	319	1.32	46.8	2.8	2.5	R
Pioneer Brand 3245	22	62.2	380	1.33	41.7	2.3	2.0	R
<i>Pioneer Brand X1133Z</i>	23	60.8	361	1.32	44.4	2.1	2.0	R
<i>Pioneer Brand X1183A</i>	24	62.3	343	1.34	38.4	4.2	3.0	W
<i>Pioneer Brand X1183B</i>	25	62.6	358	1.33	42.1	2.4	2.5	R
<i>Tennessee EXP 93-2</i>	26	56.7	397	1.28	51.2	3.5	2.5	W
Triumph 1650FG	27	62.4	346	1.33	41.2	3.4	2.5	W
<i>Triumph 1772</i>	28	62.3	338	1.34	40.7	3.7	1.5	W
Vineyard FC534	29	61.8	332	1.31	45.3	3.2	2.5	W
<i>Vineyard FCx5213</i>	30	61.9	303	1.33	44.6	3.6	2.0	W
<i>Wilson Demand 119</i>	31	61.3	367	1.33	37.4	3.1	2.5	W
Yellow check B73×Mo17	32	59.1	320	1.29	47.8	3.3	3.0	R
Mean		61.2	343	1.32	44.3	3.3	2.8	
LSD 0.05		0.7	18	0.01	2.1	0.6		
CV%		1.3	6.3	0.7	5.7	20.7		

[†] Data from Champaign, IL; West Lafayette, IN; Henderson, KY; Lexington, KY, Columbia, MO; St. Joseph, MO; Milan, OH; Knoxville, TN; Castroville, TX; College Station, TX; and Janesville, WI.

[‡] Percent material removed by abrasion. Kernels that are softer give higher values.

[§] Rated on a scale in which 1 represents complete removal and 5 represents no removal.

[¶] Rated on a scale in which 1 represents a very light yellow kernel color and 5 represents a very dark orange kernel color. A 2 to 3 rating is desirable.

[#] W represents a white cob, R represents a red cob, and P represents a pink cob. A white cob is desirable.

Table 26. Test weight (lb/bu) data from 11 locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Janes- ville, WI	Com- bined
<i>Asgrow X6953</i>	1	62.3	61.9	63.5	63.3	59.3	--	62.8	61.4	59.8	59.7	56.9	61.1
<i>Asgrow XP9292</i>	2	63.0	63.4	64.8	64.3	60.7	61.9	61.9	62.4	58.7	60.8	56.9	61.7
Cargill 6409 GQ	3	64.4	64.1	64.8	63.3	61.7	63.8	62.3	62.9	61.0	60.7	59.8	62.6
<i>Cargill 7557</i>	4	63.3	62.8	65.3	64.6	61.9	63.1	61.7	61.8	60.2	60.4	58.3	62.1
Cargill 7997	5	62.3	62.2	62.4	63.3	59.5	62.1	61.7	61.8	58.1	58.8	57.1	60.8
Cargill 8327	6	62.3	60.7	62.3	61.9	58.1	60.3	60.7	60.2	57.1	59.4	57.1	60.0
<i>DeKalb Genetics EXP274</i>	7	61.9	62.2	63.0	62.2	59.7	60.6	61.2	61.4	59.1	60.7	56.8	60.8
<i>DeKalb Genetics EXP360</i>	8	62.3	59.6	62.0	62.8	60.8	62.2	61.2	59.3	58.3	59.0	57.4	60.4
<i>DeKalb Genetics EXP367</i>	9	62.8	62.3	63.7	64.1	60.7	62.3	61.7	60.5	59.0	59.8	57.6	61.3
ICI Seeds 8326	10	61.2	63.4	62.6	62.9	59.3	61.9	60.7	59.8	58.0	60.0	57.4	60.7
ICI Seeds 8382	11	62.6	62.8	62.8	64.0	60.9	61.9	61.1	60.0	60.0	62.8	57.8	61.5
ICI Seeds 8400	12	63.0	63.2	62.9	64.1	59.3	61.8	60.7	59.3	59.1	59.7	56.6	60.9
<i>ICI Seeds 8481</i>	13	62.3	62.8	61.9	61.0	59.6	62.3	61.7	59.5	58.8	58.0	58.3	60.6
IFSI 93-3Y	14	62.6	63.8	62.6	62.8	60.0	62.4	61.2	59.4	58.7	59.3	58.4	61.0
IFSI 93-4Y	15	63.0	--	63.5	63.8	59.8	62.6	62.1	60.7	59.7	59.7	58.1	61.3
<i>IFSI 94-1Y</i>	16	63.4	63.1	63.3	63.3	59.4	61.6	62.4	61.9	59.4	60.4	58.2	61.5
NC+ 5860	17	63.5	63.2	63.6	64.3	61.9	61.9	62.4	62.2	60.0	59.4	57.7	61.8
NC+ 7117	18	61.2	62.6	62.9	62.2	59.4	61.4	61.4	60.6	58.6	59.3	55.5	60.5
Pioneer Brand 3146	19	62.3	64.3	63.5	63.6	60.5	62.7	63.8	61.6	59.8	60.7	56.9	61.8
Pioneer Brand 3162	20	63.2	63.6	63.1	64.1	60.7	58.6	62.6	60.7	60.2	61.5	56.6	61.4
Pioneer Brand 3225	21	62.3	60.7	64.1	65.5	60.7	61.9	61.7	60.5	60.2	60.0	57.0	61.3
Pioneer Brand 3245	22	63.3	63.4	64.6	63.6	61.4	62.6	62.9	61.7	60.4	60.4	59.7	62.2
<i>Pioneer Brand X1133Z</i>	23	62.1	61.0	62.9	63.1	60.7	62.7	61.7	59.0	58.1	59.3	58.3	60.8
<i>Pioneer Brand X1183A</i>	24	63.8	63.6	63.6	64.7	62.4	62.1	62.9	62.4	60.2	60.9	58.8	62.3
<i>Pioneer Brand X1183B</i>	25	63.7	64.1	65.0	65.0	61.8	62.4	62.8	62.9	60.6	61.9	58.3	62.6
<i>Tennessee EXP 93-2</i>	26	57.2	60.0	58.3	59.5	56.5	56.1	57.7	56.0	55.7	56.0	50.2	56.7
Triumph 1650FG	27	63.8	--	64.3	64.8	61.2	--	62.4	62.8	60.4	63.4	58.7	62.4
<i>Triumph 1772</i>	28	63.6	--	65.5	65.5	61.9	--	62.4	62.9	60.2	60.4	58.4	62.3
Vineyard FC534	29	63.2	62.6	63.7	63.6	60.5	62.5	62.2	61.7	60.7	--	57.6	61.8
<i>Vineyard FCx5213</i>	30	63.5	62.8	64.8	63.9	61.4	62.4	61.7	60.5	61.0	61.5	57.8	61.9

Table 26. Continued.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Janes- ville, WI	Com- bined
<i>Wilson Demand 119</i>	31	63.4	62.2	64.2	63.8	59.1	62.3	58.9	62.7	--	61.0	55.6	61.3
Yellow check B73 × Mo17	32	60.2	59.7	62.3	61.2	58.0	59.5	60.0	57.1	57.4	58.8	55.4	59.1
Mean		62.3	62.4	63.4	63.4	60.3	61.7	61.6	60.9	59.3	60.1	57.4	61.2
LSD 0.05													0.7
CV%													1.3

[†] Irrigated location.

Table 27. 1000-kernel weight (g) data from 11 locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Janes- ville, WI	Com- bined
<i>Asgrow X6953</i>	1	390	360	348	332	278	--	358	345	325	315	325	338
<i>Asgrow XP9292</i>	2	462	432	370	392	355	425	398	402	370	375	387	397
Cargill 6409 GQ	3	350	300	305	292	347	312	315	317	298	255	302	308
<i>Cargill 7557</i>	4	360	325	328	315	260	347	352	352	322	325	345	330
<i>Cargill 7997</i>	5	358	350	285	298	322	363	345	338	340	305	327	330
<i>Cargill 8327</i>	6	342	330	330	332	322	375	358	347	345	330	350	342
<i>DeKalb Genetics EXP274</i>	7	350	332	310	305	262	342	335	340	312	335	352	325
<i>DeKalb Genetics EXP360</i>	8	392	310	340	300	335	383	355	320	335	345	342	342
<i>DeKalb Genetics EXP367</i>	9	368	348	302	322	320	372	352	328	352	345	325	339
ICI Seeds 8326	10	475	440	398	385	352	432	390	412	405	285	345	393
ICI Seeds 8382	11	355	348	322	285	308	312	348	315	307	360	320	325
ICI Seeds 8400	12	445	405	375	362	365	378	380	352	350	370	340	375
<i>ICI Seeds 8481</i>	13	332	295	278	380	300	320	308	300	290	285	252	304
IFSI 93-3Y	14	402	332	338	335	355	378	342	348	338	330	315	347
IFSI 93-4Y	15	370	--	322	318	305	332	360	328	305	315	330	329
<i>IFSI 94-1Y</i>	16	355	308	312	305	255	270	312	312	312	310	292	304
NC+ 5860	17	335	342	325	335	285	328	348	322	328	295	352	327
NC+ 7117	18	410	410	330	338	325	398	380	375	352	340	362	365
Pioneer Brand 3146	19	398	400	368	308	300	362	348	375	335	365	365	357
Pioneer Brand 3162	20	380	328	328	328	352	358	363	378	355	345	328	349
Pioneer Brand 3225	21	365	278	312	335	283	315	340	350	322	305	302	319
Pioneer Brand 3245	22	440	392	380	372	375	410	363	402	387	290	370	380
<i>Pioneer Brand X1133Z</i>	23	410	358	342	365	312	413	348	365	362	340	355	361
<i>Pioneer Brand X1183A</i>	24	398	372	312	322	310	413	335	352	332	330	300	343
<i>Pioneer Brand X1183B</i>	25	398	402	300	338	340	348	360	380	365	370	338	358
<i>Tennessee EXP 93-2</i>	26	442	498	342	395	352	415	402	395	390	375	362	397
Triumph 1650FG	27	398	--	318	345	335	--	368	358	325	325	342	346
<i>Triumph 1772</i>	28	395	--	318	320	340	--	333	345	345	330	320	338
Vineyard FC534	29	380	365	328	292	300	362	335	338	325	310	312	332
<i>Vineyard FCx5213</i>	30	360	298	300	280	295	313	308	298	300	275	305	303

Table 27. Continued.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Janes- ville, WI	Com- bined
<i>Wilson Demand 119</i>	31	398	425	380	365	277	412	360	372	375	350	325	367
Yellow check B73 × Mo17	32	352	352	318	300	295	325	315	312	315	305	332	320
Mean		386	360	330	331	316	363	350	349	338	326	332	343
LSD 0.05													18
CV%													6.3

[†] Irrigated location.

Table 28. Kernel density (g/cc) data from 11 locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX†	College Station, TX†	Janes- ville, WI	Com- bined
<i>Asgrow X6953</i>	1	1.31	1.33	1.33	1.33	1.29	--	1.34	1.33	1.32	1.32	1.31	1.32
<i>Asgrow XP9292</i>	2	1.32	1.34	1.32	1.33	1.31	1.32	1.33	1.33	1.33	1.32	1.34	1.33
Cargill 6409 GQ	3	1.33	1.34	1.33	1.33	1.30	1.33	1.34	1.33	1.32	1.30	1.32	1.32
<i>Cargill 7557</i>	4	1.31	1.33	1.33	1.34	1.30	1.32	1.33	1.32	1.32	1.31	1.34	1.32
Cargill 7997	5	1.30	1.33	1.29	1.33	1.30	1.32	1.34	1.32	1.30	1.28	1.32	1.31
Cargill 8327	6	1.30	1.31	1.31	1.30	1.29	1.31	1.32	1.30	1.29	1.31	1.32	1.31
<i>DeKalb Genetics EXP274</i>	7	1.33	1.34	1.33	1.31	1.31	1.32	1.33	1.33	1.32	1.31	1.33	1.32
<i>DeKalb Genetics EXP360</i>	8	1.30	1.28	1.29	1.29	1.29	1.30	1.32	1.30	1.29	1.28	1.32	1.30
<i>DeKalb Genetics EXP367</i>	9	1.33	1.32	1.32	1.34	1.32	1.32	1.34	1.31	1.31	1.31	1.33	1.32
ICI Seeds 8326	10	1.30	1.33	1.30	1.32	1.29	1.31	1.33	1.29	1.30	1.30	1.31	1.31
ICI Seeds 8382	11	1.33	1.35	1.32	1.34	1.32	1.33	1.34	1.33	1.32	1.32	1.33	1.33
ICI Seeds 8400	12	1.31	1.33	1.30	1.31	1.29	1.30	1.32	1.28	1.30	1.29	1.31	1.30
<i>ICI Seeds 8481</i>	13	1.32	1.33	1.30	1.31	1.31	1.30	1.33	1.30	1.30	1.29	1.33	1.31
IFSI 93-3Y	14	1.32	1.34	1.32	1.33	1.32	1.30	1.33	1.30	1.31	1.30	1.32	1.32
IFSI 93-4Y	15	1.34	--	1.33	1.35	1.32	1.33	1.34	1.32	1.33	1.32	1.34	1.33
<i>IFSI 94-1Y</i>	16	1.34	1.34	1.33	1.34	1.30	1.32	1.33	1.33	1.33	1.32	1.33	1.33
NC+ 5860	17	1.34	1.34	1.32	1.33	1.32	1.33	1.34	1.33	1.33	1.30	1.35	1.33
NC+ 7117	18	1.30	1.32	1.30	1.30	1.30	1.30	1.31	1.30	1.30	1.29	1.31	1.30
Pioneer Brand 3146	19	1.34	1.35	1.34	1.33	1.31	1.32	1.35	1.32	1.33	1.32	1.35	1.33
Pioneer Brand 3162	20	1.33	1.33	1.32	1.33	1.31	1.31	1.33	1.31	1.32	1.31	1.32	1.32
Pioneer Brand 3225	21	1.32	1.31	1.32	1.34	1.31	1.32	1.33	1.31	1.32	1.30	1.32	1.32
Pioneer Brand 3245	22	1.33	1.34	1.34	1.34	1.33	1.33	1.34	1.33	1.34	1.32	1.33	1.33
<i>Pioneer Brand X1133Z</i>	23	1.33	1.34	1.32	1.34	1.31	1.32	1.33	1.30	1.30	1.32	1.32	1.32
<i>Pioneer Brand X1183A</i>	24	1.34	1.34	1.34	1.36	1.32	1.34	1.34	1.34	1.34	1.33	1.34	1.34
<i>Pioneer Brand X1183B</i>	25	1.33	1.36	1.33	1.35	1.32	1.33	1.34	1.33	1.33	1.32	1.34	1.33
<i>Tennessee EXP 93-2</i>	26	1.27	1.29	1.26	1.29	1.26	1.27	1.32	1.26	1.27	1.26	1.32	1.28
Triumph 1650FG	27	1.34	--	1.33	1.34	1.32	--	1.34	1.33	1.32	1.31	1.34	1.33
<i>Triumph 1772</i>	28	1.34	--	1.33	1.35	1.34	--	1.34	1.34	1.33	1.32	1.34	1.34
Vineyard FC534	29	1.32	1.32	1.32	1.32	1.30	1.32	1.32	1.31	1.32	1.29	1.31	1.31
<i>Vineyard FCx5213</i>	30	1.33	1.34	1.34	1.33	1.32	1.33	1.33	1.32	1.33	1.31	1.32	1.33

Table 28. Continued.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [†]	College Station, TX [†]	Janes- ville, WI	Com- bined
<i>Wilson Demand 119</i>	31	1.33	1.34	1.34	1.34	1.30	1.33	1.36	1.34	--	1.32	1.34	1.33
Yellow check B73 × Mo17	32	1.29	1.30	1.29	1.29	1.28	1.29	1.30	1.27	1.28	1.28	1.30	1.29
Mean		1.32	1.33	1.32	1.33	1.31	1.32	1.33	1.31	1.31	1.31	1.33	1.32
LSD 0.05													0.01
CV%													0.7

[†] Irrigated location.

Table 29. Kernel hardness index[†] data from 11 locations of the 1994 Yellow Food Corn Performance Test. Data are averages of two duplicate determinations. New entries for 1994 are shown in italics.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [‡]	College Station, TX [‡]	Janes- ville, WI	Com- bined
<i>Asgrow X6953</i>	1	38.7	44.4	42.5	41.9	44.2	--	43.2	43.0	40.7	41.1	54.6	43.4
<i>Asgrow XP9292</i>	2	37.2	43.4	40.9	39.6	38.9	37.1	43.7	41.6	39.7	39.2	51.5	41.2
Cargill 6409 GQ	3	36.4	41.2	40.4	41.3	38.3	37.0	41.5	39.8	38.3	45.0	52.6	41.1
<i>Cargill 7557</i>	4	41.2	47.7	41.2	40.4	42.1	40.0	46.4	45.6	40.6	42.7	54.2	43.8
Cargill 7997	5	44.1	47.0	49.6	--	43.8	38.5	42.7	46.3	43.5	49.3	53.9	45.9
Cargill 8327	6	43.6	50.1	45.6	50.0	47.9	41.3	47.1	47.7	45.9	47.5	54.0	47.3
<i>DeKalb Genetics EXP274</i>	7	37.5	44.9	41.3	48.7	46.0	39.4	43.3	43.5	40.8	42.3	54.4	43.8
<i>DeKalb Genetics EXP360</i>	8	40.4	52.6	49.3	53.2	50.2	44.6	54.3	51.5	46.8	50.1	57.3	50.0
<i>DeKalb Genetics EXP367</i>	9	35.6	47.4	44.9	39.8	38.7	37.9	50.1	49.9	41.9	42.7	53.3	43.8
ICI Seeds 8326	10	35.7	41.0	44.1	44.7	46.1	40.1	53.6	46.9	42.1	45.9	55.1	45.0
ICI Seeds 8382	11	37.0	44.4	45.1	42.4	43.9	39.8	54.0	47.5	43.5	42.2	56.1	45.1
ICI Seeds 8400	12	37.6	43.1	47.9	46.6	50.7	44.0	56.2	54.2	47.8	48.6	58.8	48.7
<i>ICI Seeds 8481</i>	13	37.6	46.2	49.2	44.9	44.7	43.3	53.4	46.9	46.3	47.8	57.2	47.0
IFSI 93-3Y	14	37.2	46.0	44.3	43.3	42.8	41.4	52.9	46.7	42.5	43.2	55.9	45.1
IFSI 93-4Y	15	40.3	--	41.0	43.0	38.8	36.6	43.4	45.0	40.1	43.2	56.1	42.8
<i>IFSI 94-1Y</i>	16	43.4	44.9	42.9	44.7	43.1	39.8	46.8	42.5	41.2	42.8	57.4	44.5
NC+ 5860	17	36.8	43.9	43.6	42.5	40.9	37.5	44.6	41.8	38.2	45.5	53.3	42.6
NC+ 7117	18	42.8	41.9	45.6	48.1	43.8	38.0	46.4	47.2	42.2	46.2	54.0	45.1
Pioneer Brand 3146	19	39.7	42.8	42.0	47.5	44.0	38.0	45.8	44.7	39.2	41.9	56.2	43.8
Pioneer Brand 3162	20	42.4	44.6	45.7	45.0	42.0	39.0	51.8	46.7	42.8	44.2	57.0	45.6
Pioneer Brand 3225	21	45.6	49.5	44.2	41.5	42.2	42.2	50.6	49.5	43.1	49.0	57.6	46.8
Pioneer Brand 3245	22	40.3	42.4	40.2	39.4	39.2	36.2	40.8	45.1	38.1	42.6	53.9	41.7
<i>Pioneer Brand X1133Z</i>	23	41.9	46.8	43.7	39.9	43.1	40.2	44.4	47.2	43.7	42.0	55.2	44.4
<i>Pioneer Brand X1183A</i>	24	37.9	39.9	36.4	34.5	35.2	32.7	38.6	40.3	37.2	38.3	51.8	38.4
<i>Pioneer Brand X1183B</i>	25	42.1	39.7	42.2	36.5	39.5	38.6	43.0	43.1	41.0	42.7	55.1	42.1
<i>Tennessee EXP 93-2</i>	26	55.1	43.5	54.1	47.6	49.8	46.6	52.2	56.7	48.1	50.6	58.4	51.2
Triumph 1650FG	27	41.0	--	41.1	38.3	37.7	--	39.6	42.4	37.1	39.7	53.6	41.2
<i>Triumph 1772</i>	28	39.8	--	39.1	37.9	33.9	--	43.2	41.2	38.1	40.4	53.0	40.7
Vineyard FC534	29	47.5	46.7	42.0	41.8	43.1	41.1	47.3	44.2	40.7	46.6	57.3	45.3
<i>Vineyard FCx5213</i>	30	45.0	45.2	42.5	46.0	42.3	39.5	46.2	43.6	40.8	43.9	55.2	44.6

Table 29. Continued.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [‡]	College Station, TX [‡]	Janes- ville, WI	Com- bined
<i>Wilson Demand 119</i>	31	35.3	33.6	31.8	36.6	36.7	31.3	44.1	38.0	--	37.3	49.2	37.4
Yellow check B73 × Mo17	32	46.0	52.2	47.6	48.4	45.1	40.3	47.0	50.6	46.3	48.7	53.8	47.8
Mean		40.7	44.7	43.5	43.1	42.5	39.4	46.8	45.7	41.9	44.2	54.9	44.3
LSD 0.05													2.1
CV%													5.7

[†] Percent material removed by abrasion. Kernels that are softer give higher values.

[‡] Irrigated location.

Table 30. Pericarp removal[†] data from 11 locations of the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [‡]	College Station, TX [‡]	Janes- ville, WI	Com- bined
<i>Asgrow X6953</i>	1	4.5	1.5	4.0	3.0	4.0	--	4.5	2.8	3.5	2.8	3.5	3.4
<i>Asgrow XP9292</i>	2	4.5	2.3	3.0	4.0	2.0	1.8	2.5	2.0	2.8	2.8	4.5	2.9
<i>Cargill 6409 GQ</i>	3	3.5	3.0	4.5	3.0	3.0	3.5	4.5	3.0	3.0	2.8	3.0	3.3
<i>Cargill 7557</i>	4	3.0	2.8	3.0	3.5	3.0	3.3	3.3	4.0	3.0	3.5	4.0	3.3
<i>Cargill 7997</i>	5	5.0	3.5	3.0	3.0	3.0	3.5	4.0	4.0	2.0	2.8	4.0	3.4
<i>Cargill 8327</i>	6	4.5	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.5	1.5	3.0	2.6
<i>DeKalb Genetics EXP274</i>	7	4.5	4.5	5.0	3.5	3.5	4.0	3.5	4.5	4.5	3.0	4.5	4.1
<i>DeKalb Genetics EXP360</i>	8	2.0	2.0	3.0	2.0	3.0	2.0	2.0	2.5	2.5	3.5	3.5	2.5
<i>DeKalb Genetics EXP367</i>	9	3.5	3.0	3.5	3.5	4.0	2.0	3.0	3.0	1.5	2.0	3.0	2.9
<i>ICI Seeds 8326</i>	10	5.0	4.5	5.0	4.5	4.0	4.0	4.0	4.5	4.0	3.0	4.5	4.3
<i>ICI Seeds 8382</i>	11	5.0	4.3	4.5	4.5	4.5	5.0	3.5	5.0	4.5	2.8	4.0	4.3
<i>ICI Seeds 8400</i>	12	1.5	4.0	1.5	1.5	2.5	4.0	2.5	2.5	2.0	2.0	2.5	2.4
<i>ICI Seeds 8481</i>	13	4.0	3.0	4.0	3.0	2.0	1.5	4.0	4.0	2.8	3.0	3.5	3.2
<i>IFSI 93-3Y</i>	14	4.5	4.5	4.5	3.5	2.8	4.5	4.5	3.5	3.5	4.0	3.5	3.9
<i>IFSI 93-4Y</i>	15	5.0	--	4.5	3.8	4.0	5.0	3.0	4.0	3.5	4.0	4.5	4.1
<i>IFSI 94-1Y</i>	16	4.0	4.0	4.5	4.0	3.5	4.0	3.3	3.5	4.0	4.0	4.5	3.9
<i>NC+ 5860</i>	17	3.5	1.8	2.5	2.5	3.5	2.5	4.0	2.5	4.0	2.0	4.0	3.0
<i>NC+ 7117</i>	18	5.0	4.0	4.0	4.0	2.5	4.5	4.0	3.5	4.0	2.5	4.0	3.8
<i>Pioneer Brand 3146</i>	19	4.0	3.5	5.0	4.0	4.5	4.5	3.5	4.0	4.0	3.0	5.0	4.1
<i>Pioneer Brand 3162</i>	20	3.5	1.5	2.0	1.5	1.5	2.5	1.5	1.5	3.0	2.0	3.0	2.1
<i>Pioneer Brand 3225</i>	21	5.0	1.5	3.8	3.0	2.8	2.0	2.5	2.0	2.5	3.0	3.0	2.8
<i>Pioneer Brand 3245</i>	22	2.0	2.5	2.0	2.5	1.5	1.5	2.5	1.5	3.0	4.5	1.5	2.3
<i>Pioneer Brand X1133Z</i>	23	1.5	1.5	1.5	2.0	2.0	3.0	3.0	1.8	2.5	2.5	1.5	2.1
<i>Pioneer Brand X1183A</i>	24	4.5	4.0	5.0	4.0	4.5	4.5	4.5	4.0	4.0	4.0	3.5	4.2
<i>Pioneer Brand X1183B</i>	25	2.0	1.5	3.0	2.8	1.5	2.5	2.5	2.3	2.5	2.5	2.8	2.4
<i>Tennessee EXP 93-2</i>	26	4.5	3.5	4.5	3.8	3.5	3.8	2.5	2.8	4.0	3.0	3.0	3.5
<i>Triumph 1650FG</i>	27	5.0	--	2.0	3.0	3.0	--	3.5	3.0	4.0	2.5	4.5	3.4
<i>Triumph 1772</i>	28	4.5	--	4.5	4.0	3.8	--	4.0	2.0	4.0	3.3	3.0	3.7
<i>Vineyard FC534</i>	29	3.5	3.3	4.0	1.5	2.5	4.5	2.5	3.8	4.5	3.0	2.5	3.2
<i>Vineyard FCx5213</i>	30	4.5	3.0	4.5	2.8	3.5	4.0	3.5	3.5	4.0	3.3	3.0	3.6

Table 30. Continued .

Entry	No.	Cham- paign, IL	W. La- fayette, IN	Hender- son, KY	Lexing- ton, KY	Colum- bia, MO	St. Joseph, MO	Milan, OH	Knox- ville, TN	Castro- ville TX [‡]	College Station, TX [‡]	Janes- ville, WI	Com- bined
<i>Wilson Demand 119</i>	31	3.5	3.5	4.5	2.0	2.5	2.5	4.0	2.0	--	3.0	3.0	3.1
Yellow check B73 × Mo17	32	4.0	3.8	4.0	2.0	2.5	3.5	3.5	2.5	3.8	3.5	3.5	3.3
Mean		3.9	3.1	3.7	3.1	3.0	3.3	3.3	3.1	3.3	3.0	3.5	3.3
LSD 0.05													0.6
CV%													20.7

[†] Rated on a scale in which 1 represents complete removal and 5 represents no removal.

[‡] Irrigated location.

Table 31. Grain quality data from Purdue University for West Lafayette, IN. Means differing by more than two standard deviations are statistically different. New entries for 1994 are shown in italics.

Entry	No.	Test weight [†] (lb/bu)	Density [†] (g/ml)	Sten-vert value [‡] (sec)	MEF [§] (%)	Protein [¶] (%)	Kernel		
							Length [#] (mm)	Width [#] (mm)	Thick-ness [#] (mm)
<i>Asgrow X6953</i>	1	-- ^{††}	1.30	18.8	45.2	10.1	13.5	9.3	4.4
Asgrow XP9292	2	64.4	1.31	20.8	49.1	11.1	14.5	10.0	4.8
Cargill 6409 GQ	3	--	1.33	19.9	51.9	9.9	12.8	8.1	4.4
<i>Cargill 7557</i>	4	63.0	1.29	16.0	51.3	10.0	13.3	8.6	4.2
Cargill 7997	5	62.4	1.29	16.9	51.6	9.6	14.9	8.5	4.4
Cargill 8327	6	62.4	1.29	14.6	47.2	9.5	14.3	9.5	4.5
<i>DeKalb Genetics EXP274</i>	7	61.5	1.30	16.6	53.2	10.7	14.0	8.6	4.0
<i>DeKalb Genetics EXP360</i>	8	60.7	1.25	13.3	45.9	9.6	14.2	9.3	4.3
<i>DeKalb Genetics EXP367</i>	9	62.0	1.29	15.0	53.0	9.6	13.5	9.1	4.2
ICI Seeds 8326	10	62.9	1.30	17.4	52.1	11.7	14.3	10.1	4.5
ICI Seeds 8382	11	62.1	1.31	16.5	50.1	10.7	14.7	9.1	4.3
ICI Seeds 8400	12	63.1	1.31	18.0	50.6	11.5	14.4	9.7	4.8
<i>ICI Seeds 8481</i>	13	62.6	1.29	13.0	54.2	10.4	13.2	8.2	4.1
IFSI 93-3Y	14	--	1.31	16.1	52.9	10.1	12.9	9.0	4.2
IFSI 93-4Y	15	63.1	1.31	16.5	52.8	9.8	13.7	9.7	4.3
<i>IFSI 94-1Y</i>	16	62.1	1.31	16.4	47.2	10.7	13.8	8.3	4.1
NC+ 5860	17	62.8	1.30	17.4	48.9	10.6	13.6	9.4	4.5
NC+ 7117	18	62.9	1.29	19.8	47.1	10.9	14.7	9.5	4.6
Pioneer Brand 3146	19	63.6	1.31	20.6	51.4	11.2	14.5	10.0	4.3
Pioneer Brand 3162	20	63.3	1.30	17.5	51.7	10.7	14.3	8.8	4.5
Pioneer Brand 3225	21	61.0	1.28	14.5	48.0	9.4	13.4	8.6	4.2
Pioneer Brand 3245	22	63.2	1.31	22.8	53.7	11.3	14.7	9.0	4.6
<i>Pioneer Brand X1133Z</i>	23	60.3	1.29	17.0	51.3	10.3	14.8	9.1	4.4
<i>Pioneer Brand X1183A</i>	24	62.9	1.32	20.2	53.9	11.6	14.4	9.0	4.4
<i>Pioneer Brand X1183B</i>	25	62.2	1.33	18.7	53.0	11.0	14.0	9.1	4.5
<i>Tennessee EXP 93-2</i>	26	60.8	1.27	19.0	51.0	10.5	14.3	11.1	4.7
Triumph 1650FG	27	--	--	--	--	--	--	--	--
<i>Triumph 1772</i>	28	--	--	--	--	--	--	--	--
Vineyard FC534	29	61.8	1.28	16.9	49.0	10.3	14.1	8.5	4.4
<i>Vineyard FCx5213</i>	30	61.7	1.30	19.6	50.6	10.1	14.0	8.5	4.1
<i>Wilson Demand 119</i>	31	62.5	1.31	24.8	55.1	12.6	14.0	9.8	4.4
Yellow check B73×Mo17	32	59.6	1.27	15.4	44.6	10.5	15.2	8.3	4.2
Mean		62.3	1.30	17.7	50.6	10.5	14.1	9.1	4.4
Standard deviation		1.1	0.02	2.7	2.8	0.8	0.6	0.7	0.2

[†] Data are averages of duplicate determinations on one field replication.

[‡] Stenvert hardness value; hard kernels require longer grinding times than softer kernels.

[§] Milling evaluation factor; results from a short-flow dry milling procedure. The MEF increases when both total endosperm product yield and flaking grit yield increase. Due to insufficient sample size, only one determination was made for Asgrow X6953 and IFSI 93-3Y.

[¶] Protein content is reported on a dry matter basis.

[#] Data are averages of 30 kernel measurements on one field replication.

^{††} Insufficient seed for measurements.

Table 32. Grain quality data from Purdue University for College Station, TX. Means differing by more than two standard errors are statistically different. New entries for 1994 are shown in italics.

Entry	No.	Test weight [†] (lb/bu)	Den- sity [†] (g/ml)	Sten- vert value [‡] (sec)	MEF [§] (%)	Protein [¶] (%)	Kernel		
							Length [#] (mm)	Width [#] (mm)	Thick- ness [#] (mm)
<i>Asgrow X6953</i>	1	59.3	1.31	16.4	44.0	11.1	13.9	9.8	4.3
<i>Asgrow XP9292</i>	2	60.6	1.31	17.2	45.3	10.9	14.8	10.3	4.4
Cargill 6409 GQ	3	61.9	1.32	16.8	49.1	10.8	14.4	9.4	4.4
<i>Cargill 7557</i>	4	61.3	1.32	15.8	49.1	10.6	14.2	10.0	4.4
<i>Cargill 7997</i>	5	60.2	1.30	14.7	40.7	10.6	15.3	9.7	4.4
Cargill 8327	6	58.5	1.29	13.8	36.2	10.9	16.1	10.6	4.4
<i>DeKalb Genetics EXP274</i>	7	59.8	1.32	16.9	44.9	12.1	16.2	10.7	4.1
<i>DeKalb Genetics EXP360</i>	8	-- ^{††}	--	--	--	10.5	15.2	10.8	4.5
<i>DeKalb Genetics EXP367</i>	9	--	--	--	--	10.7	14.6	10.0	4.3
ICI Seeds 8326	10	59.6	1.30	15.2	40.7	11.9	14.4	10.9	4.5
ICI Seeds 8382	11	60.0	1.32	15.6	43.3	11.0	13.4	8.9	4.2
ICI Seeds 8400	12	59.2	1.29	15.2	39.1	10.3	14.6	10.2	4.5
<i>ICI Seeds 8481</i>	13	58.7	1.29	13.8	44.5	10.2	14.0	9.3	4.3
IFSI 93-3Y	14	58.8	1.31	16.9	43.6	11.3	14.7	9.8	4.4
IFSI 93-4Y	15	60.6	1.33	17.7	48.3	11.4	13.9	10.2	4.3
<i>IFSI 94-1Y</i>	16	60.3	1.33	16.8	45.3	10.4	14.7	10.0	4.3
NC+ 5860	17	61.6	1.33	18.5	47.7	11.3	14.9	10.6	4.2
NC+ 7117	18	61.2	1.30	16.2	43.0	11.3	14.2	10.2	4.6
Pioneer Brand 3146	19	--	--	--	--	11.1	14.6	10.5	4.1
Pioneer Brand 3162	20	61.8	1.33	15.2	43.3	10.3	15.6	10.0	4.5
Pioneer Brand 3225	21	60.5	1.32	14.7	45.1	10.2	14.4	9.4	4.4
Pioneer Brand 3245	22	61.0	1.34	15.8	46.0	10.3	15.4	9.9	4.5
<i>Pioneer Brand X1133Z</i>	23	--	--	--	--	10.2	14.8	10.0	4.4
<i>Pioneer Brand X1183A</i>	24	61.1	1.34	16.5	48.1	11.0	15.6	10.1	4.4
<i>Pioneer Brand X1183B</i>	25	--	--	--	--	10.1	15.4	10.9	4.4
<i>Tennessee EXP 93-2</i>	26	--	--	--	--	10.0	16.0	10.9	4.5
Triumph 1650FG	27	60.4	1.33	17.6	45.5	11.5	15.0	10.1	4.4
<i>Triumph 1772</i>	28	62.0	1.33	15.9	46.7	10.7	13.6	9.6	4.7
Vineyard FC534	29	60.6	1.33	16.1	47.8	10.9	14.6	9.6	4.3
<i>Vineyard FCx5213</i>	30	60.9	1.34	17.4	46.6	10.0	15.3	9.5	4.2
<i>Wilson Demand 119</i>	31	--	--	--	--	--	--	--	--
Yellow check B73×Mo17	32	--	1.28	14.3	35.9	11.3	15.1	9.9	4.0
Mean		60.4	1.31	16.0	44.4	10.8	14.8	10.1	4.4
Standard deviation		1.0	0.02	1.2	3.6	0.5	0.7	0.5	0.2

[†] Data are averages of duplicate determinations on one field replication. Due to insufficient sample size, no determination was made for the yellow check B73×Mo17.

[‡] Stenvert hardness value; hard kernels require longer grinding times than softer kernels.

[§] Milling evaluation factor; results from a short-flow dry milling procedure. The MEF increases when both total endosperm product yield and flaking grit yield increase. Due to insufficient sample size, only one determination was made for the yellow check B73×Mo17.

[¶] Protein content is reported on a dry matter basis.

[#] Data are averages of 30 kernel measurements on one field replication.

^{††} Because of insect contamination, samples for DeKalb Genetics EXP360, DeKalb Genetics EXP367, Pioneer Brand 3146, Pioneer Brand X1133Z, Pioneer Brand X1183B, and Tennessee EXP 93-2 could not be evaluated for test weight, density, Stenvert value, or milling evaluation factor. No grain of Wilson Demand 119 was available.

Table 33. Agronomic, grain quality, and overall performance indices and rankings for entries in the 1994 Yellow Food Corn Performance Test. New entries for 1994 are shown in italics.

Entry	No.	Agronomic		Grain quality		Overall		Kernel color [¶] (1-5)	Cob color [#]
		Index [†]	Rank	Index [‡]	Rank	Index [§]	Rank		
<i>Asgrow X6953</i>	1	8.5	15	-0.2	14	8.2	11	2.0	W
<i>Asgrow XP9292</i>	2	-8.9	23	28.1	4	19.2	8	3.0	W
Cargill 6409 GQ	3	-8.6	22	8.8	11	0.2	17	3.0	W
<i>Cargill 7557</i>	4	4.9	17	3.0	13	7.9	12	5.0	P
Cargill 7997	5	21.6	7	-13.0	24	8.6	10	2.5	P
Cargill 8327	6	3.8	18	-6.4	21	-2.7	19	3.0	R
<i>DeKalb Genetics EXP274</i>	7	11.7	14	-14.7	28	-3.0	20	2.0	P
<i>DeKalb Genetics EXP360</i>	8	19.7	9	-14.2	25	5.5	14	2.5	R
<i>DeKalb Genetics EXP367</i>	9	19.7	10	7.0	12	26.6	7	3.5	P
ICI Seeds 8326	10	16.5	11	-14.5	26	2.0	15	4.0	P
ICI Seeds 8382	11	21.1	8	-14.5	27	6.5	13	3.5	R
ICI Seeds 8400	12	2.0	19	-2.2	16	-0.2	18	3.5	R
<i>ICI Seeds 8481</i>	13	-0.8	20	-17.8	30	-18.6	24	4.0	R
IFSI 93-3Y	14	12.5	13	-11.1	23	1.4	16	2.5	R
IFSI 93-4Y	15	-24.7	28	-5.7	20	-30.5	28	2.5	W
<i>IFSI 94-1Y</i>	16	-20.6	24	-10.3	22	-31.0	29	2.0	W
NC+ 5860	17	-23.9	26	12.6	10	-11.4	23	2.0	W
NC+ 7117	18	7.7	16	-16.3	29	-8.7	22	3.5	R
Pioneer Brand 3146	19	-4.5	21	-2.1	15	-6.6	21	3.0	W
Pioneer Brand 3162	20	31.2	5	15.8	6	47.0	4	3.0	R
Pioneer Brand 3225	21	36.2	3	-2.6	17	33.7	6	2.5	R
Pioneer Brand 3245	22	34.6	4	34.9	1	69.5	2	2.0	R
<i>Pioneer Brand X1133Z</i>	23	40.4	2	18.4	5	58.8	3	2.0	R
<i>Pioneer Brand X1183A</i>	24	25.3	6	14.3	9	39.7	5	3.0	W
<i>Pioneer Brand X1183B</i>	25	41.4	1	30.7	2	72.1	1	2.5	R
<i>Tennessee EXP 93-2</i>	26	-84.6	32	-46.0	32	-130.6	32	2.5	W
Triumph 1650FG	27	-35.5	30	15.8	7	-19.7	25	2.5	W
<i>Triumph 1772</i>	28	-35.3	29	14.8	8	-20.5	26	1.5	W
Vineyard FC534	29	-20.8	25	-4.1	18	-25.0	27	2.5	W
<i>Vineyard FCx5213</i>	30	14.6	12	-4.7	19	9.8	9	2.0	W
<i>Wilson Demand 119</i>	31	-81.0	31	29.0	3	-52.1	30	2.5	W
Yellow check B73×Mo17	32	-24.0	27	-32.4	31	-56.4	31	3.0	R
Mean		0.0		0.0		0.0		2.8	

[†] Weights for the standardized agronomic index were yield = 10, stand percentage = 1, root lodging percentage = -3, stalk lodging percentage = -3, ear height = -1, days to flower = -2, and grain moisture = -2. Numerically higher values of traits are desired if weighting is positive and numerically lower values of traits are desired if weighting is negative.

[‡] Weights for the standardized grain quality index were test weight = 1, 1000-kernel weight = 1, kernel density = 1, kernel hardness index = -2, and pericarp removal = -3.

[§] For the overall index, the agronomic and grain quality index values were added.

[¶] Rated on a scale in which 1 represents a very light yellow kernel color and 5 represents a very dark orange kernel color. A 2 to 3 rating is desirable.

[#] W represents a white cob, R represents a red cob, and P represents a pink cob. A white cob is desirable.

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