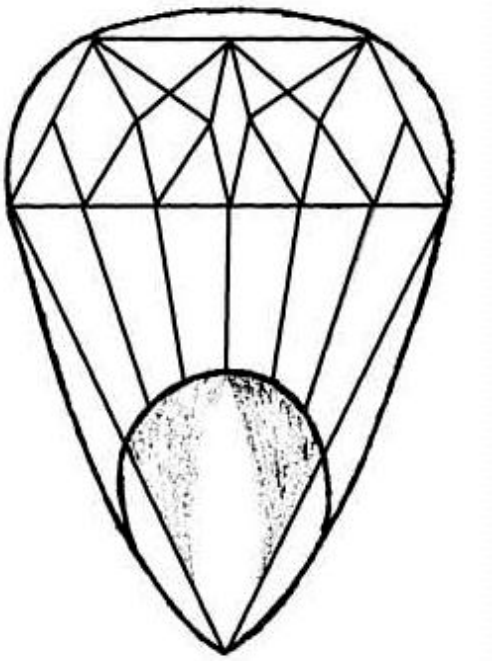
United States Department of Agriculture

Agricultural Research Service



Germplasm Enhancement of Maize

2010 GEM Cooperator Booklet

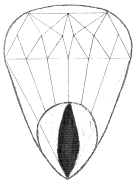
December 8th 2010

The information in this report is shared cooperatively.
The data are not published, but are presented with the understanding
that they will not be used in publications without specific consent of the public cooperator.

GEM Mission:

The mission of the GEM (Germplasm Enhancement of Maize) Project is to effectively increase the diversity of U.S. maize germplasm utilized by producers, global end-users and consumers. The mission will be achieved through a collaborative effort between USDA-ARS, and both public and private research scientists by utilizing exotic, public, and proprietary maize germplasm. The resulting germplasm and associated knowledge, derived via the identification and incorporation of favorable alleles for prioritized traits from exotic sources, is utilized in private and public breeding programs and ultimately contributes to increased genetic diversity of maize grown by producers and improved product performance. In addition, the GEM project provides opportunities for training plant scientists in the enhancement and utilization of un-adapted germplasm. This contributes to the global sustainability of agricultural production, economic stability and the nutrition and well being of society.

Cooperator Meeting Table of Contents:

 **G**ermplasm **E**nhancement of **M**aize	**GEM Cooperator Meeting:** **DATE:** **December 8, 2010** **HOUR:** **8:30A.M.-12:00 P.M.** **LOCATION:** **Plaza Ball Room, East Tower** **Hyatt Regency Hotel, Chicago Illinois**

Meeting called by: T. Hoegemeyer, Chair		
Agenda Topics		
Minutes	N. deLeon	8:30-8:40 AM
Election of TSG members	T. Hoegemeyer	8:40-8:50 AM
GEM Annual Report	M. Blanco, M. Krakowsky	8:50-9:00 AM
Yield Test Results and Recommendations-Midwest & Southeast	M. Blanco, M. Krakowsky, M. Shen	9:00-9:45 AM
Break		**9:45 -10:00 AM**
Breeding Nutritionally Enhanced Maize: The Tropical Experience	K. Pixley	10:00-10:45 AM
Genetic Architecture of Kernel Composition in the Nested Association Mapping (NAM) Population	S. Flint-Garcia	10:45-11:30 AM
Discussion		11:30-12:00
Adjourn		12:00

Annual Reports

2010 Annual Report of the GEM Project

GEM- Ames 2010 Highlights (Dr. Michael Blanco)

Midwest Germplasm releases and development:

- 235 GEM releases are now available to Cooperators
- Six GEM lines from the Ames program are recommended for release to GEM Cooperators for the 2011 planting year. Yield data, and NIR results for protein, oil, and starch can be found on the CD and in the handout for 2010 recommended lines. Releases include two lines derived from CUBA164:S2012-459/GEMS-0002, and one line derived from GEMS-0113/GEMS-0091. The first pedigree is derived from a GEM x GEM line mating, tracing back to CUBA164:S2012 (Mixed Creole) x FS8A(S), and the second to Tuxpeño/Tuxpeño Olotillo. The other releases include BR105, MBRC10, and a waxy conversion of CUBA164:S2012-444 (Mixed Creole). The MBRC10 population is "Multiple borer resistant composite" and this is the first GEM release from this material.

Table 1. Recommended Ames GEM Lines for 2011 Release

Pedigree	Race	Type	Heterotic Gr.
(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	Mixed(Creole)/Mixed	100% Temperate	SSS
(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	Mixed(Creole)/Mixed	100% Temperate	SSS
(GEMS-0113/GEMS-0091)-B-058-001	Tuxpeño/Tuxpeño Olotillo	100% Temperate	SSS
BR105:N1641-159-001	Composite (Suwan)	25% Tropical	NSS
MBRC10:S1741-B-057	Multi. Borer Comp.	25% Tropical	SSS
CUBA164:S2012-444-001-B wx	Mixed(Creole)	25% Tropical	SSS

- The second selfing generation was made to produce the BC1S2 generation of the CUBA164 mapping populations. Two hundred forty one (241) BC1S2's were made from the CUBA164xB73) x B73 population, and 241 BC1S2's were made from the CUBA164xPHB47) x PHB47 population.
- 119 new breeding crosses were made by the GEM Project in Ames; 95 of these were tropical x temperate crosses using the shade house structure to induce flowering. GEM Cooperators made 18 new breeding crosses as part of their in kind support.
- Twelve new breeding cross populations were worked in Ames and 13 were assigned to Cooperators for in kind support. Twelve families of single seed descent (SSD) balanced bulks were advanced to S2 in Ames, and eight were advanced by Cooperators.
- Ear and kernel images of 58 GEM recommended lines and phenotypic descriptions were posted on the GEM website.

Pathology/Entomology:

Disease data for 2010 is reported on the GEM CD, and will be posted to our website (http://www.public.iastate.edu/~usda-gem/) in January. Pathology and entomology research collaborators from the private and public sectors screened GEM lines, top crosses, and breeding

crosses for anthracnose, Northern Leaf Blight (NLB), Southern Leaf Blight (SLB), Goss's Wilt, Gray Leafspot (GLS), Common Rust, Diplodia ear rot, Head Smut, Aspergillus (aflatoxin and other mycotoxins), European Corn Borer (ECB), Corn ear worm (CEW), Western corn root worm (WCR), and miscellaneous tropical and southern insects.

Appreciation is extended for the in-kind support and extensive efforts by private GEM Cooperators DuPont/Pioneer Hi-Bred International (Bill Dolezal). Due to flooding throughout central IA, there are more missing plots than usual for Diplodia ear rot evaluations in Johnston, and it was not possible to collect data for NLB. However, this is the first year to have data collected on head smut in Woodland, CA by Pioneer. Thanks also to Professional Seed Research (Jim Dodd) for their efforts collecting data on GLS, NLB, SLB, Goss's Wilt, and common rust; and to 3rd Millennium Genetics for tropical insect evaluations on GEM lines in Puerto Rico. Collaboration by USDA-ARS cooperators included Peter Balint-Kurti and Jim Holland, PSRU, Raleigh, NC; Xinzhi Ni, CGBRU, Tifton, GA, (southern insects-piercing sucking); Bruce Hibbard and Sherry Flint-Garcia, PGRU, Columbia, MO; and Paul Williams and Brien Henry, CHPRRU, Mississippi State, MS. Public university Specific Cooperator Agreement (SCA) reports for disease and insect research can be found under Public Cooperator Reports for M. Bohn (WCR, ECB); M. Smith (anthracnose); and W. Xu (CEW, grain mold). 2010 disease evaluation data will be posted to our web site in early 2011 and can be found on the GEM CD from the following cooperators:

- USDA-ARS PSRU in Raleigh, NC (SLB)
- DuPont/Pioneer Hi-Bred (Diplodia ear rot from Johnston, IA, and head smut from Woodland, CA)
- Professional Seed Research (NLB, SLB, GLS, Goss's Wilt, and Common Rust from IL).
- 3rd Millennium Genetics (Corn Earworm/Army Worm complex in Puerto Rico).

Aflatoxin data is pending analysis for aflatoxin by the USDA-ARS CHPRRU in Mississippi and will be posted on our web site in early 2011.

Second year disease evaluation data (collected in 2010) will be updated on our website under "GEM Germplasm Releases and Key Traits" data for the following releases. See CD for data.

- One additional GEM release with GLS resistance (GEMN-0186); 24 total released lines with GLS resistance for all years.
- Eight additional GEM releases with SLB resistance; 74 total released lines with SLB resistance over years.
- Two new anthracnose stalk rot resistant inbreds (derived from GEM germplasm) were released by Cornell University (Margaret Smith) as NY212 and NY215.

Ames 2010 Allelic Diversity:

- Approximately 379 DH lines were developed from the allelic diversity populations, representing 118 populations and 74 maize races.
- Self pollinations were made in 417 rows of BC_1F_1 allelic diversity project germplasm to generate the BC_1F_2 generation, representing 85 races from 10 countries.
- Severe storms damaged the haploid induction and doubling nurseries during flowering, and also seriously damaged the inducer line increase.

Ames 2010 Yield Test Highlights:

- Three hundred and forty two (342) top crosses exceeded the mean yield of the check hybrids in Midwest trials in 2010. This was a substantial increase above 2009 (132 above the check mean in 2009). Of the 342 hybrids tested, 259 were from first year trials, and 83 from second year trials.
- Approximately 17,000 plots (3,106 entries) were managed or coordinated through Ames in 2010. Among these, 480 entries (15.5%) were in second year trials, and 2,626 entries were in first year trials.
- Approximately 6,400 nursery rows and 2,166 isolation rows were managed by Ames.
- Ninety (90) new breeding crosses were observed and evaluated for breeding potential in Ames, IA, Mt. Vernon, IN (Mycogen), and Memphis, TN (C&S Crop Services). Twenty (20) promising breeding crosses were identified with favorable phenotypic appearance and/or grain quality traits at two or more locations and are candidates for future development.
- Presentations and Publications: Ten GEM Field Days (three in IA, one in NY, four in ND, and two in TX) were held. Approximately 250 people visited these Field Days. Six peer reviewed manuscripts related to GEM germplasm utilization were published by research scientists in 2010, and 14 abstracts. Five presentations were made by students at Truman State University in Kirksville, MO.

Quality Traits:

- Two new released lines, GEMS-0218 and GEMS-0219, have high protein content of 13.0 and 14.5%, respectively.
- GEMS-0223 was released as a new waxy conversion of GEMS-0092 (conversion made by National Starch as in-kind-support)
- BASF collected extensive silage quality data (milk/acre, %DM, %NDF, ADF, CP, etc.) over eight locations (in-kind support). Top cross evaluation data for 45 SS and 45 NS GEM releases are on the CD.
- Five new silage inbreds W606S, W607S, W608S, W609S, and W610, derived from GEM germplasm, were released by the University of Wisconsin (Natalia de Leon).

New GEM Cooperators in 2010:

Three new GEM Cooperators joined the GEM Project in 2010. Semilia Genetica, an international private company from Brazil has provided tropical germplasm sources for making GEM breeding crosses. They will continue to collaborate for germplasm development, and evaluate hybrids for stress and Southern Rust resistance. The Louisiana State Agricultural Center (Dr. Brooks Blanche) will collaborate for aflatoxin and stress tolerance evaluations. Dr. Nick Lauter from the USDA-ARS-CICGRU, Ames, is interested in collaborating for genomic mapping applications for Corn Rootworm resistance.

GEM-Raleigh Highlights (Dr. Matt Krakowsky)

Field Day/Summer TSG meeting:

- The annual mid-year TSG meeting was held in Clayton, NC this past August at the Central Crops Research Station, providing members with an opportunity to view the GEM-Raleigh program on site and observe nursery and yield plots in the field.

Germplasm development:

- Overall, there were about 3200 GEM nursery plots and 1150 GEM isolation plots in Raleigh, with additional GEM-related nursery managed by Major Goodman
- S_1 families were developed from eight breeding crosses that had not been previously worked in Raleigh, including four 25% exotic/75% temperate breeding crosses, two white 50% tropical breeding crosses, and two 50% subtropical/temperate breeding crosses.
- Families from twenty-one GEM breeding crosses were advanced from S_1 to S_2, and S_1 and S_2 families were developed from two temperate-adapted all-tropical populations.
- S_2 families were developed from approximately 30 GEM x GEM combinations.
- Approximately 100 new breeding crosses were developed between seven tropical inbreds (89291, CML343, CML373, CML423, Ki43, NC296 and TZI8) and mostly early-maturing ex-PVP inbreds (DJ7, DK_78010, DK_4676A, LH51, LH57, LH59, LH61, LH82, NK794, NKS8326, NS701, PHB47, PHG47, and Seagull 17). Both groups of inbreds were selected based on performance in yield trials in North Carolina.

Germplasm Evaluation in 2010:

- Overall, almost 12,000 yield plots were coordinated from Raleigh in 2010, with approximately 6000 planted in NC and the rest planted by eight cooperators at various locations throughout the Southeast and Midwest.
- Forty-seven entries were evaluated at eleven locations in a second year trial (EXL7), of which nineteen will be advanced to a third-year trial.
- 220 entries were evaluated in 2010 first year trials, seventy-five of which will be evaluated again in 2011.
- EX25 evaluated the potential of different combinations of ex-PVPs for use as testers, though no combinations outperformed the testers we are currently using.
- A group of seventy inbreds from CIMMYT and IITA were evaluated at five locations in North Carolina in 2009 and seven locations overall in 2010 (Exp. M7), and a few show promise for use in new breeding crosses.
- Evaluations of GEM releases from Raleigh and Ames were conducted in four experiments in 2010 (EX26, EX27, EX28 and EX29) to identify those with the best potential for use in GEM x GEM crosses. EX26 (NSSS releases from Raleigh) and EX27 (SSS releases from Raleigh) were planted at locations in the southern Corn Belt and southeast, while EX28 (NSSS releases from Ames) and EX29 (SSS releases from Ames) were planted in North Carolina and the Corn Belt.
- Tropical germplasm was also evaluated in two other trials in 2010 as well; selections from BS28 and BS29 were evaluated in EX40, and families from CIMMYT germplasm pools were evaluated at five locations in NC.

Allelic Diversity:

- There were over 600 nursery rows dedicated to the Allelic Diversity project and a related PhD project (Ott) in Raleigh in 2010, along with 150 rows and 300 rows devoted to those projects in the winter 2009 and winter 2010 nurseries, respectively.
- Sherry Flint-Garcia provided approximately 100 rows of summer nursery space for the production of BC_1s with PHZ51.

GEM-Raleigh Recommendations:

- Based on evaluations over two years, several inbreds from CIMMYT that were derived from La Posta Sequia appear to be promising (i.e., La Posta_Seq C7-F71-1-1-1-2-B*3 and La Posta Seq C7-F96-1-1-1-1-B-B) and CML494. La Posta Sequia is the population from which CMLs 339-343 were also derived, and those lines have performed very well in our trials over several years.
- Four of the best entries in EX26 were GEMN-0043, GEMN-0103, GEMN0108, and GEMN-0170, all four of which were very close to the check mean for yield. GEMN-0170 is derived from GEMN-0108.
- Four of the best entries from EX27 were GEMS-0008, GEMS-0018, GEMS-0027, and GEMS-0032, the last of which was very close to the check mean for yield.
- Three of the best entries from EX28 were GEMN-0095, GEMN-0097, and GEMN-0178, all of which were not significantly different from the check mean for yield. GEMN-0097 was particularly good for Y/M.
- Four of the best entries from EX29 were GEMS-0049, GEMS-0050, GEMS-0052 and GEMS-0113. GEMS-0113 had the highest yield among the GEMS entries and was the within 10% of the check mean for yield.
- No GEM recommended lines are expected from Raleigh this year.

Public Cooperator Reports (GEM Ames) Funded by Specific Cooperative Agreements (SCA):

Seven university projects were funded in 2010 for a total of $110,271 (Table 2).

Table 2. Public Cooperators Supported In 2010

Name	Institute	Amount
Martin Bohn	University of Illinois	$15,820
Mark Campbell	Truman State University	10,000
Marcelo Carena	North Dakota State University	10,000
Natalia de Leon	University of Wisconsin	18,451
Jay-lin Jane	Iowa State University	23,000
Margaret Smith	Cornell University	13,000
Wenwei Xu	Texas A&M University	20,000
		Total $110,271

A short summary of key highlights from each SCA report is included below. Significant progress was made this year by all SCA researchers. Space does not allow extensive discussion of methods, germplasm development, and results in the summaries below. **Please see the full report on the CD submitted by each cooperator.** These will also be available on the GEM website in January 2011.

Martin Bohn, University of Illinois: GEM Germplasm-Unlocking maize diversity for improving host plant resistance against Western corn rootworm and other biotic stresses

Pest management systems integrating host plant resistance and well designed refuges are an important aspect to manage the Western Corn Rootworm (WCR). This is particularly important in light of 2008 reports of WCR developing resistance to Bt toxin under greenhouse conditions (PNAS 105:19177-19182 and J. Appl. Entomol. 132:189-204). The specific goals of this project are to (1) evaluate GEM materials for their resistance against Western Corn Rootworm (1st selection step), (2) evaluate GEM materials with higher levels of WCR resistance for their resistance against European Corn Borer and Fusarium (2nd selection step), (3) recombine new GEM lines with improved levels of resistance to combine or 'stack' different resistance mechanisms, and (4) continue the Illinois WCR long term recurrent selection program to develop new maize cultivars with improved WCR resistance. A set of 50 S4 were testcrossed in collaboration with Pioneer to three proprietary testers. Test crosses with inbreds derived from CUBA117:S1520 yielded in the 200 bushel range similar to yields of the commercial checks (but on average were about two days later and 10 cm taller). Inbreds derived from UR13085N0204 had the lowest ratings for European Corn Borer (ECB). Although significant differences were reported for ECB resistance, feeding damage from the Western Corn Rootworm (WCR) were not significantly different from the susceptible check, B37xH84. Levels of fumonisin will be measured from the grain collected in the ECB trials. In a separate experiment 36 maize hybrids developed from crosses between twelve S6 lines derived from GEM breeding crosses were evaluated for yield, WCR, ECB, and root system size, and re-growth. For the most part, no significant differences were found for yield, ear and plant height, and flowering time. Although ECB damage was low for ECB, all test crosses had high ECB damage. Since the WCR pressure is extremely high (fields are planted to trap crops the previous year) the potential to identify moderate levels of resistance may be limited. A greenhouse assay will be explored to pre-select

promising material before field testing. The most resistant S1 families from Cycle 0 S1 from the *Illinois WCR Synthetic* were recombined to form 10 new base populations. For the first time double haploid (DH) technology was used to develop DH inbreds from selected second cycle crosses. Efforts are continuing in collaboration with Drs B. Hibbard, and S. Flint-Garcia (USDA-ARS, Columbia, MO), for identification and fine structure mapping of QTL regions of the maize genome for WCR resistance.

Mark Campbell, Truman State University: Development and evaluation of specialty starch germplasm utilizing GEM biodiversity to optimize grain quality, composition, and yield

The objectives of the Truman State University research include 1) develop inbred lines and evaluate hybrids for specialty starches with high amylose class V *(ae),* class VII *(ae sbe1::gems67),* and double mutants *wx su1, wx su2, ae du, ae wx,* and *ae wx sbe1::gems67* 2) continue identification of closely linked markers to aid in selection of genotypes with the amylose modifier *sbe1::gems67,* 3) evaluate variation in endosperm protein for quality and quantity and expression of *sbe1::gems67*, 4) investigate GEM germplasm to improve starch yield and grain quality, particularly for double mutants such as *ae wx*, 5) investigate allelic variation in sbe2ae locus (bin 8.06) within GEM germplasm using a gene centered approach called MAGIC (mutant assisted gene identification and characterization). For the first objective, converted GEM sources were evaluated and reported for percent starch and amylose using the conventional method and DMSO extraction. In addition, yield trial results of 50 entries were reported for 2010 in Ames, IA. All of the entries were GEM x GEM crosses, with two commercial amylose checks, and one normal check included. It was found that the highest yielding pedigree (Amylomaize VII) involved *sbe1::gems67* converted SS GEM lines derived from GEMS-0113 (CHIS775:S1911b-120-001), and AR16035:S02-615-001; and NS male conversions involving AR03056:N09-191, AR03056:N09-182, and CH05015:N15-3-001. For the second objective, 9 SSR markers were reported within 15 cM of the modifier, *sbe1::gems67* which may facilitate marker assisted selection (MAS). Differences among various mutants were reported for protein and classes of zein for the third objective. For the fourth objective differences in kernel weight and visual quality were reported when various double mutants were evaluated in different GEM backgrounds. When GEMS-0067 (source of *sbe1::gems67*) was used, improved kernel quality was observed in *ae wx* genotypes. Future studies are planned to study grain density, protein, and starch content in this material. For the fifth objective, progress was made towards the development of gene specific marker for the *sbe1::gems67* allele. A marker was identified that indicated amplification of a unique sequence of this allele. It was found that GEMS-0067 had a mutant form of the *sbe1a* allele on chromosome 5 (Bin 5.03), which enhanced amylose from 55-70% (research in collaboration with Alan Meyers at Iowa State). By screening with primers of *sbe1a*, a PCR product of GEMS-0067 amplified a larger DNA fragment (~419bp) compared to other normal maize lines that do not carry the amylose modifier from GEMS-0067. It was hypothesized that an insertion segment is present in *sbe1::gems67*and a splicing mutation may have occurred in the modifier gene.

Marcelo Carena, North Dakota State University: Development of early maturity GEM lines with value-added traits: Moving US Corn Belt GEM lines Northward

The objective of the corn breeding program at NDSU is to move elite tropical and temperate germplasm northward. The hypothesis of this research is that early maturing recovered versions of GEM lines can be obtained retaining grain yield, agronomic quality, and traits while

maintaining useful genetic diversity. The NDSU Early GEM program started with nine source populations that consist of three Stiff Stalk (SSS) and six non Stiff Stalk (NSS) populations. Stiff Stalk donors (CUBA117:S1520-388-1-B, CHIS775:S1911b-B-B, and AR16026:S17-66-1-B) and non-Stiff Stalk ones (BR52051:N04-70-1, SCR01:N1310-265-1-B-B, FS8B(T):N1802-35-1-B-B, UR13085:N215-11-1-B-B, CH05015:N15-184-1-B-B, and CH05015:N12-123-1-B-B) were advanced through modified pedigree selection with early and late generation hybrid testing across industry testers. GEM derived lines were crossed twice to ND2000 for development, and progenies were crossed to the SS tester TR3026xTR2040, or NS tester LH176. Relative to commercial checks, some entries in the early generation trials were identified with better grain yield, oil, protein, and extractable starch. Among the NS lines, high end yield included lines derived from the BR52051 accession, and high oil and protein were lines from SCRO and CH05015 respectively. Among the SS's, DK888 accession had high yield and high extractable starch. For the late generation trials, two lines derived from EarlyGEM AR16026:S17-66-1-B x ND2000) x ND2000 were identified for increase and release to Foundation Seed Companies. Twenty-three new breeding crosses were backcrossed in 2010 summer and selfing of the backcrosses is scheduled for 2011. In addition, over 1,000 NDSU EarlyGEM early generation lines were advanced with a duplication nursery to assess seedling vigor and emergence.

Natalia de Leon, Jim Coors, Dustin T. Eilert, University of Wisconsin: Development of maize inbreds, hybrids, and enhanced GEM breeding populations for superior silage, biofeedstock yield, and compositional attributes

In 2010, The UW Corn Silage Breeding Program continued to evaluate silage yield and nutritive value of the most productive GEM crosses identified in grain yield evaluations conducted over the past several years by the GEM project throughout the U.S. Corn Belt. The 2010 trials focused primarily of the advanced-generation inbred testing and some re-testing of different GEM materials. Six trials involved GEM materials (AR16026, DK212T_888, GEM0175, GEM0176, GEM0183, and GUAT209) and one involving GQS C0. Trials were planted at a density of 32,800 plants/acre in West Madison and Arlington. Summer temperatures were above average and a rapid accumulation of GDU was typical for the region. Highlights of the trials were as follows:

AR16026 highlights: Yields were generally higher with the tester W604S than with LH287. It was of interest that the mean of all AR16026 testcrosses (7.74 t/a) was equivalent to the check mean (7.71 t/a). The highest yielding hybrid (9.2 t/a) was the GEM derived line W605S x LH244. Some of the highest yielding hybrids in this trial included the 2009 releases from WI that were also derived from GEM material. This includes W606S, W607S, W608S, W609S, and W610S (all of which had higher yield than the check mean.

DK212T_888 highlights: Among the 25 hybrids tested, eight DK888 and four DK212T were higher than the check mean. Some of these hybrids were later than desirable for WI silage.

GEM0175 highlights: Four of fifteen hybrids exceeded the trial mean but none exceeded the commercial check mean. Quality evaluation will be made on these four hybrids.

GEM0176 highlights: Six of fifteen hybrids exceeded the trial mean and two of the six exceeded the mean of commercial checks.

GEM0183_0184: Among the 10 hybrids of GEM0183 evaluated forage yield, one exceeded the check mean. Among the 10 hybrids evaluated of GEM0184, three exceeded the check mean.

GUAT209 highlights: This was also a high yielding trial with the mean of all the entries (8.3 t/a), about equal to commercial check mean (8.2 t/a). Quality evaluation will be performed on 13 of the 17 hybrids in the trial.

GQSC0 highlights: The GEM Quality Synthetic (GQS) is approximately 75% Stiff Stalk derived from CUBA164 and CUBA117. The objective is to provide a high tonnage/quality forage synthetic that can be used to cross with the non-stiff stalk Wisconsin Quality Synthetic (WQS). Among the 32 GQS C0 hybrids tested, 11 exceeded the mean of the commercial checks. Quality evaluation will be performed on 20 of the 32 hybrids tested.

Quality evaluation for neutral detergent fiber (NDF), in vitro true digestibility (IVD), in vitro NDF digestibility (IVNDFD), crude protein (CP), and starch will be done on selected test crosses from each of the experiments. Based on these values, milk/ton of forage and milk/acre will be estimated based on MILK2006, which uses forage composition (NDF, IVTD, IVNDFD, CP, and starch) to estimate potential milk production per ton of forage. Forage yield is then used to estimate potential milk per acre. Nursery activities include advancement of the GQS using a second generation (S2) top cross method. Nine new GEM families including two waxy GEM lines were selfed for further advancement in summer. These lines will be crossed to testers and evaluated in the future. Advanced inbreds from six families were sent to 2010-2011 winter nursery for advancement and crossing to testers.

Jay-lin Jane, Iowa State University: Development of GEM line starch to improve nutritional value and bio-fuel production

The objective of this project is to characterize starches from GEM germplasm with value-added utilization for (1) resistant starch derived from high amylose maize, and (2) normal and waxy starch for nutritional value and improvement for ethanol content. For the first objective (research starch), studies were conducted on germplasm with various dosages of high amylose modifier (HAM) genes and their impact on resistant content. The GEM line, GEMS-0067, has the amylose extender gene (*ae*), and HAM genes in homozygous condition. Therefore, GEMS-0067 has three dosages of HAM (embryo + two in endosperm), and is designated G/G (G refers to GEMS-0067). The inbred H99*ae* has no known HAM genes and was designated H/H (H refers to H99*ae*). By making reciprocal crosses with H99*ae* to GEMS-0067, additional germplasm having various levels of HAM genes were studied. This included two dosages of HAM (G/H), a single dosage (H/G), and no HAM (H/H). It was shown that dosage of HAM genes is a contributing factor to the level of amylose found. Percent amylose was 63.7, 54.2, 55.8, and 42.1 for G/G, G/H, H/G, and H/H respectively. This corresponds to approximate resistant starch percentages of 35.0, 28.1, 12.9, and 15.7 for G/G, G/H, H/G, and H/H respectively (data from a previous study, J. Ag. Food Chem. (2010) 58:5633-5639). The branch chain length of the small molecular weight intermediate components (IG) also increased with increased dosage of HAM genes, although no differences were found for the branch chain length of amylopectin, or the structure of amylose. For the second objective (normal and waxy maize), four normal and nine waxy GEM sources were studied using a cold fermentation process. The ethanol yield ranged from 16.5% to 18.6%. Starch derived from waxy inbreds was generally higher in ethanol content than starch obtained from normal inbreds. The highest ethanol yield was 18.3% from the waxy GEM line AR16035:S02-615*wx* (source 08GEM05036), followed by two other waxy inbreds, CUBA164:S2012-444wx (08GEM05037) at 18.3%, and CUBA164:S2012-966*wx* (08GEM05038) at 18.3%, and a normal inbred GEMS-0002 (08GEM04702) at 18.2%. Starch content ranged from 59.3% for the genotype with the lowest ethanol, DKXL370:N11a20-036*wx*

(08GEM05042) to 68.75 for the highest ethanol. A positive correlation ($R=0.93$, $p<0.01$) was found for starch content and ethanol yield. Further research is in progress to characterize waxy and normal starch and the attributes which contribute to high ethanol potential and digestibility.

Margaret Smith, Cornell University: Anthracnose stalk rot resistance from exotic maize germplasm

Anthracnose stalk rot (ASR) is caused by *Colletotrichum graminicola* (Ces.) G.W. Wils., and is one of the most important pathogens contributing to stalk lodging in the US. A multi-year inbred development effort at Cornell is designed to identify and release lines from GEM breeding crosses having high levels of resistance to stalk rot and good yield potential. The objectives of the project for 2010 include (1) conduct stalk rot resistance and yield data for lines derived from CH05015:N1204, (2) complete S2 by tester crosses for lines derived from UR10001:N1702, (3) select the best S1 families from GEM NSS ASR Synthetic testcross evaluations and advance to S2 under stalk rot selection, and (4) release Cycle 0 of GEM NSS Synthetic. For the first objective, second cycle yield trials were conducted at Kingston and Pittsford for selected lines of CH05015:N1204 x LH198; ASR was evaluated on the same lines crossed to B37 (susceptible) at Aurora. Yield data was collected and stalks split for ASR and results are pending. For the second objective yield data was collected from selected lines of UR10001:N1702 in 2008 and 40 selected S2 ears were planted in 2009 and 2010 for test cross seed to be used for yield trials and ASR evaluation in 2011. For the third objective, work continued on the GEM NSS ASR Synthetic. This synthetic was initiated in 2005 by intercrossing the most resistant GEM NSS lines followed by two generations of random mating. S1's were evaluated per se in 2007 and crossed to testers. Yield data and ASR ratings collected in 2009 from the NSS ASR Synthetic are presented in Table 1 (see full report). Seven families were selected from NSS ASR Synthetic based on rank sums of yield and ASR resistance. These families were planted ear to row in 2010, self pollinated and inoculated with ASR. Seed from the most resistant plants in each family were saved for making testcrosses in 2011. Seed increase and characterization data were collected from Cycle 0 of the GEM NSS ASR Synthetic in 2009 and 2010. Descriptive data will soon be summarized for a future germplasm release for Cycle 0.

Wenwei Xu, Texas A&M University: Use of GEM germplasm for evaluation and development of drought tolerance, corn ear worm (CEW) resistance, and low aflatoxin level grain

The objectives of this project includes (1) select, advance, and release stress tolerant lines derived from GEM germplasm (2) evaluate GEM breeding crosses for drought and heat tolerance, corn ear worm (CEW) resistance, and agronomic performance in Texas, and (3) assay aflatoxin levels in GEM test crosses. Approximately 100 testcrosses (derived from GEM lines developed in Lubbock) were evaluated for grain yield, CEW resistance, and drought tolerance at three locations under well-watered and drought conditions. (This data is pending). Hybrids derived from DK888:Na08f and DKXL380:S08a had lower grain yield, similar maturity, and better stay green compare to commercial checks. Lines derived from ANTIG01:N16 had excellent grain quality (low grain mold), high ear placement, similar flowering time, and yield only slightly lower than the checks. Evaluation for aflatoxin resistance was conducted for a second year at multiple locations in TX, and MS. Three hybrids with germplasm derived from DKXL370:N11a20, and two hybrids of Tx205 (derived from AR01150:N0406) had low aflatoxin in 2009 and were included in 2010 for retesting (data pending). Silage evaluation was

conducted for 36 entries of which nine pedigrees were derived from GEM lines. One line derived from BR52051:N04, and one from GUAT209::N19 produced 31.7 and 31.6 tons per acre adjusted to 65% moisture. These yields were comparable to the best commercial checks in the trial. Five GEM lines were included in the Texas State Silage Corn Performance Test at Halfway and Etter in the High Plains. Inbred line seed from GEM derived pedigrees were distributed to 14 seed companies, and two Field Days with GEM pedigrees were held in College Station (June 29, 2010), and Etter (August 25, 2010).

LAB REPORT (Sue Duvick):
Whole grain composition data for protein, oil, and starch content were generated using an NIR Infratech 1241 with a sample transport module and whole grain calibration from Iowa State Grain Quality Lab. All lab data are reported on a dry matter basis and available on the CD, and will be posted on the GEM web site in early 2011. Samples are obtained from a bulk of 8 ears from self pollinated rows. NIR data on the CD includes 2009 characterization, two year data (2009-10) for retest GEM lines, and 2009 DSC data. A Diamond Differential Scanning Calorimeter (DSC) with a 48 position auto sampler was used to measure the thermal properties of extracted starch. Selected GEM corn lines are first wet milled with a bench top wet milling procedure and the resulting starch is evaluated for starch applications using DSC. The variations in thermal properties are important for identifying and selecting corn lines with unique endosperm types.

Data for protein, oil, and starch content for the 2011 recommended lines from Ames, IA are in Table 3. Data are from Ames and are 2 year averages (2009 and 2010).

Table 3. Two year NIR summary (2009-2010) from self pollinated bulk seed.
2011 Line Recommendations- Ames

GEM Code	Pedigree	Country	Protein	Oil	Starch	Density
GEMS-0218	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	USA	**13.0**	3.5	63.0	1.310
GEMS-0219	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	USA	**14.5**	3.1	62.5	1.312
GEMS-0220	(GEMS-0113/GEMS-0091)-B-058-001	USA	12.6	3.8	63.0	1.312
GEMN-0221	BR105:N1641-159-001	Brazil	10.5	3.1	65.4	1.293
GEMS-0222	MBRC10:S1741-B-057	Mexico	11.9	3.6	63.8	1.305

GEM TSG Meeting, Aug 10, 2010- Highlights:
The GEM Technical Steering Group (TSG) meeting was held at the Clayton Crops Research Center near Raleigh, NC on August 10, 2010, and hosted by Matt Krakowsky, Major Goodman and David Marshall. An interesting tour of the nurseries was hosted by Matt Krakowsky and Major Goodman, and included observations of Ames and Raleigh germplasm. This included new breeding crosses, 2nd year potential releases, Ex-PVP lines, and the DH observation rows. We were honored to have former TSG Chair, Dr. Wilfredo Salhuana, join the meeting. Wilfredo made an interesting presentation on potential new tropical germplasm sources and suggested various ideas for their use in the GEM Project. An update was presented by Jim Holland on the status of fumonisin research and germplasm sources. Mike Blanco presented an update of GEM's disease evaluation program, and discussed germplasm sources from the NCRPIS and

GEM Project which are being increased for potential Southern Rust host differentials. An important topic discussed was the DH project vs. traditional selfing of the GEM allelic diversity races. This topic will receive additional attention at the December TSG meeting.

PERSONNEL UPDATE:

Ames: ***USDA-ARS Plant Introduction Research Unit***

Dr. Mike Blanco, GEM Coordinator and Geneticist
Andrew Smelser, GEM Technician
Fred Engstrom, GEM Technician
Dr. Mack Shen, IT Specialist
Sue Duvick, Quality Traits Lab Manager
Dr. Candice Gardner, Research Leader and Fundholder

Raleigh: ***USDA-ARS Plant Science Research Unit***

Dr. Matt Krakowsky, Southeast GEM Coordinator
Dale Dowden, Agricultural Research Technician
Dr. Jim Holland, Maize Research Geneticist, GEM Collaborator.
Dr. Peter Balint-Kurti, Research Geneticist, GEM Collaborator
Dr. David Marshall, Research Leader and Fundholder.

NC State University
Dr. Major Goodman, William Neal Reynolds Distinguished Professor

IN KIND SUPPORT MIDWEST GEM PROJECT IN 2010:

Table 4. Private In-Kind Nursery Support – Summer 2010

3rd Millennium Genetics	Insect evaluations
AgiWise LLC	Double haploid support
AgReliant Genetics LLC	Make new breeding crosses
	Make S1's in BR105:S1643
	Advance S1's in UR13088:S0650-B
APEX-AGRI (France)	Make S1's in MFNS1/GEMN-0178
	Breeding cross evaluations
BASF Plant Science LLC	Make S1's in (GEMN-0117/DKXL212:N11a-139)-B
	Advance S1's in (GEMN-0131/ DKXL212:N11a-139)-B
	Top Cross GEM lines
	Make S1's in (GEMN-0156/GEMN-0139)-B
Beck's Superior Hybrids, Inc.	Make new breeding crosses
	Advance S1's in AR16021:N2149a-B
Biomatrix (Brazil)	Donate tropical germplasm for GEM develop
Brandy Wine Seed Farms LLC	Advance S1's in CML341:S99y99ah-B
	Regenerations
FFR Cooperative	Make new breeding crosses
Forage Genetics	Make S1's in BR105:N1652
	Top cross GEM lines
G and S Crop Services LLC	Advance S1's in NEI9008:N082699ai-B
	Breeding cross evaluations

GDU Inc	Make S1's in (GEMS-0175/GEMS-0184)-B
Genetic Enterprises Int'l	Make S1's in DK212T:S1640
Hyland Seeds (Canada)	Make S1's in UR11003:S17h49b
Illinois Foundation Seeds, Inc.	Make new breeding crosses
	Advance S1's in CML329:N1546-B
JFS & Associates, Ltd.	Top cross GEM lines
MayAgro (Turkey)	Advance S1's in NEI9004:N0846-B
MBS Genetics LLC	Top cross GEM lines
Michael Fields Ag. Inst.	Advance allelic diversity populations
Monsanto	Make new breeding crosses
	Make S1's in NS1:S0852
	Make S1's in MBRC10:N1730
Mycogen Seeds	Make new breeding crosses
	Advance S1's in BR105:N1643-B
	Advance S1's in BR106:S99a99kT47-B
	Breeding cross evaluations
National Starch	Backcross wx into adv GEM lines
	Top cross wx GEM lines
PANNAR Seed	Top cross GEM lines
Pioneer Hi-Bred, Int.	Make new breeding crosses
	Allelic Diversity support
	Multiple disease evaluations of GEM lines
Professional Seed Research	Multiple disease evaluations of GEM lines
Prosemillas (Peru)	Make breeding crosses
	Breeding cross evaluations
Seed Asia Co. Ltd. (Thailand)	Breeding cross evaluations
	Southern Rust evaluations
Semilia Genetica (Brazil)	Donate tropical germplasm for GEM develop
Syngenta Seeds, Inc.	Make new breeding crosses
	Makes S1's in BR105:S1641
Terrell Seed Research	Makes S1's in BR106:S99a99k
Wyffels Hybrids	Makes S1's in DKXL212:S11b46

Table 5. Private In-Kind Nursery Support – Winter 2010-2011

AgReliant Genetics LLC	Double haploid progeny row increases
	Top cross GEM lines
BASF Plant Science LLC	Self F3 BBK of (GEMN-0117/DKXL212:N11a-139)-B
	Top cross (GEMN-0131/ DKXL212:N11a-139)-B
Beck's Superior Hybrids, Inc.	Top cross GEM lines
Illinois Foundation Seeds, Inc.	Top cross GEM lines
Monsanto	Double haploid progeny row increases
	Self F2 BBK of NS1:S0852
	Self F2 BBK of MBRC10:N1730
Mycogen Seeds	Top cross GEM lines
National Starch	Backcross wx into adv GEM lines
Pioneer Hi-Bred, Int.	Allelic Diversity Support
Semillas Tuniche	Make S1's in CUBA164:S2008c-289/S49w
Sursem SA (Argentina)	Make new breeding crosses

Table 6. Yield Trials 2010

Experiment	Cooperator Making Topcross*	Material	Tester	Number of Entries	Number of Reps
101301	GEM	BG070404:D27S42	LH287	65	5
101302	GEM	BR105:S1699n	LH287	65	5
101303	GEM	BVIR103:S3115	LH287	65	5
101304	GEM	DKXL370:S08c17c	LH287	65	5
101305	GEM	PASCO14:S0146	LH287	45	5
101306	GEM	CML329:N1834	HC33	65	5
101307	GEM	ANTIG03:N1242	HC33	65	5
101308	GEM	BR52051:N0412	HC33	55	5
101309	GEM	CML329:N1899d	HC33	65	5
101310	GEM	CUBA110:N1746	HC33	65	5
101311	GEM	DK212T:N11a10	HC33	125	5
101312	GEM	CML323:N1546	HC33	65	5
101313	MYC	CML323:N1550	MYC-SS	70	5
101314	AGR	CUBA173:S0446	AGR-nSS	15	4
101315	BEC	SCOGP3:N3215	BEC-SS	70	5
101316	BEC	NEI9004:N0803	BEC-SS	70	5
101317	IFS	ANTIG03:N1216	SGI014	43	5
101318	IFS	ANTIG03:N1216	SGI890HXT	43	5
101319	IFS	ANTIG03:N1216	SGI994HXTrr2	43	5
101320	AGR	CUBA173:S0446	AGR-nSS	70	5
101321	SYG	DKB844:N11b18	SYG-SS	73	6
101322	SYG	CUBA164:T26bS41	SYG-nSS	54	6
101401	GEM	PASCO14:N0405F44	HC33	55	5
101402	BAS	GEMS & DK212T	TR7322HX1	35	4
101403	GEM	Early Retest 2	Various	25	8
105201	GEM	AR13035:S23	LH287	55	5
105301	GEM	AR16035:S0209	LH287	65	5
105302	GEM	UR05017:S0409	LH287	65	5
105303	GEM	UR13085:S99g99s	LH287	70	5
105304	GEM	UR13085:S99g99u	LH287	45	5
105305	GEM	AR17026:S1648	LH287	65	5
105306	GEM	AR16021:S08b09b	LH287	65	5
105307	GEM	AR01150:N0406	HC33	65	5
105308	GEM	AR03056:N1625	HC33	65	5
105309	GEM	AR16021:N2199q	HC33	65	5
105310	GEM	AR17026:N1019	HC33	65	5
105311	GEM	UR10001:N1708e	HC33	55	5
105312	GEM	AR17056:S1216	MBS8814CBLLRW	55	5

105313	MYC	AR17056:N2016	MYC-SS	55	5
105314	HYL	UR10001:N1708e	TR4010	43	6
106301	GEM	Retest	HC33	55	8
106401	GEM	Early Retest 1	Various	55	8
106402	GEM	Retest	MBS9508	55	8
106403	GEM	Retest	LH287	65	8
106404	GEM	GEM x GEM 1	GEM	45	5
106405	GEM	GEM x GEM 2	GEM	45	5
106406	MYC	Retest	MYC-SS	75	8
106407	AGR	BC Test	Various	45	8
106408	STA	Waxy Test	Various	30	6
SF3701	BASF	Silage Trial	Various	41	8
SF3702	BASF	Silage Trial	Various	35	8
SF3703	BASF	Silage Trial	Various	32	8
SF3704	BASF	Silage Trial	Various	42	8
Total				**2994**	

PUBLICATIONS:

Carena, M.J. 2010. Exploiting exotic germplasm in the development of early-maturing drought tolerant maize cultivars: Public breeding efforts for the MonDak region (western ND and eastern MT). In: Agronomy Abstracts [CD-ROM computer file]. ASA, Madison, WI (poster presentation).

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Gardner, C., A. Smelser, M. Blanco, T. Lubberstedt, E. Brenner, A. Vanous, and U. Frey. 2010. Maize haploid induction and doubling-Recent experience with exotic and elite maize populations. ASA-CSSA-SSSA Annual Meetings Abstract 89-10 [CD-ROM] Long Beach, CA, Oct 31-Nov 3, 2010.

Goodman, M., and M. Krakowsky. Increasing Maize Yields Using Exotic Germplasm. ASA-CSSA-SSSA Annual Meetings Abstract 209-1 [CD-ROM] Long Beach, CA, Oct 31-Nov 3, 2010.

Hallauer, A.R., Carena, M.J., and Miranda Fo, J.B. 2010. Quantitative genetics in maize breeding. 3rd Ed., Springer, New York, NY.

Jiang, H., Campbell, M., Blanco, and Jane, J. 2010. Characterization of maize amylose-extender (*ae*) mutant starches: Part II. Structures and properties of starch residues remaining after enzymatic hydrolysis at boiling-water temperature. *Carbohydrate Polymers*. 80(1), 1-12.

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Jiang, H., Jane, J., Acevedo, D., Green, A., Shinn, G., Schrenker, D., Srichuwong, S., Campbell, M., and Wu, Y. 2010. Variations in starch physicochemical properties from a generation-means analysis study using amylomaize V and VII parents. *Journal of Agricultural and Food Chemistry*. 58(9), 5633-5639.

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Jiang, H. and Jane, J. Oct 24-27, 2010. Starch-granule development in high-amylose maize. Annual Meeting of American Association of Cereal Chemists in Savannah, GA, USA.

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Jiang, H., Campbell, M., and Jane, J. July 17-20, 2010. Development of elongated starch granules in high-amylose maize. IFT Annual Meeting & Food Expo in Chicago, IL, USA.

Jiang, H. and Jane, J. Jun 7-9, 2010. Resistant starch in high-amylose maize starch. 7th Corn Utilization and Technology Conference in Atlanta, GA, USA

Hasjim, J., Jiang, H., Campbell, M., Lee, S.-O., Hendrich, S. and Jane, J. (2009). Development and health benefits of resistant starch. In: Starch Update 2009: The 5th International Conference on Starch Technology, Queen Sirikit National Convention, Bangkok, Thailand, (7-12). 24-25 September 2009.

Kim A. Rohlfing, Linda M. Pollak, and Pamela J. White. 2010. Exotic Corn Lines with Increased Resistant Starch and Impact on Starch Thermal Characteristics Cereal Chem. 87(3):190–193

Li Li, Man-Yu Yum, Pamela White, Mark Campbell, and Suzanne Hendrich. Long-term in vitro fermentation of high amylose starch digestion residues by human fecal inocula. FASEB J. April 2010 24 (Meeting Abstract Supplement) 720.2

Sharma, S., and Carena, M.J. 2010. Adding value to the US northern Corn Belt hybrids with temperate and tropical exotic germplasms. In: Agronomy Abstracts [CD-ROM computer file]. ASA, Madison, WI (oral presentation).

Sharma, S., and Carena, M.J. 2010. NDSU EarlyGEM program: Moving GEM germplasm northward and westward. In North Central Corn Breeding Research Conference (NCCC167), Chicago, IL, 5-7 April, 2010.

Wenwei Xu, Junping Chen, and Zhanguo Xin. Exploring native genetic variation for improving drought tolerance and water use efficiency in corn. ASA-CSSA-SSSA Annual Meetings Abstract 283-13 [CD-ROM] Long Beach, CA, Oct 31-Nov 3, 2010.

Weiwei Wen, Tingting Guo, Victor Chavez Tovar, Jianbing Yan, and Suketoshi Taba. The strategy and potential utilization of temperate germplasm for tropical germplasm improvement-A case study in maize. ASA-CSSA-SSSA Annual Meetings Abstract 91-4 [CD-ROM] Long Beach, CA, Oct 31-Nov 3, 2010.

OUTREACH, PUBLIC RELATIONS AND FIELD DAYS:

Agricultural Research, September 2010, Corn: Boosting Quality, Productivity, and Safety pp. 2-17. Published by Agricultural Research Service, U.S. Department of Agriculture (USDA).

2010 Student Research Conference:23rd Annual Student Research Conference, April 23, Truman State University, Kirksville, MO

•Effective Extraction of High Amylose Starch through the Use of a Novel Method of Dimethyl Sulfoxide (DMSO) Leachate Poster (Agricultural Science, Biology, Chemistry) Samah Hassan A. Hassan* and Suzanne N. Pitts. Mark Campbell, Faculty Mentor (P-6-4, 4:15, SUB-GEO)

•Evaluation of marker assisted backcross selection for the development of high amylose Corn Poster (Agricultural Science)Avinash Karn. Mark Campbell, Faculty Mentor (P-6-2, 4:15, SUB-GEO)

•Marker Assisted Selection for the Development of Amylomaize VII Germplasm Poster (Agricultural Science, Biology)Stacy A. Marshall. Mark Campbell, Faculty Mentor (P-6-3, 4:15, SUB-GEO)

•Comparison of Rumen Fermentation of Corn Starch Varying in Amylose and Amylopectin Concentration .Oral Paper(Agricultural Science) Kathryn M. Miluski Dr. Glenn R. Wehner, Faculty Mentor(19-4, 10:15, MG 2001)

•Effects of Resistant Starch from High Amylose Corn on Swine Growth, Feed Efficiency, and Fecal and Blood Volatile Fatty Acid and Aromatic Concentrations Oral Paper (Agricultural Science, Biology) Amanda M. Zerkel Dr. Thomas E. Marshall, Faculty Mentor(19-3, 10:00, MG 2001)

2010 Missouri Livestock Symposium. Dec 6, 2010. University of Missouri Extension
Corn Research and Your Health ~ Dr. Mark Campbell, Professor of Agronomy, Truman State University, Kirksville, MO. Session: Dogs, Chef Dave & Eating Healthy, 9am.

Wenwei Xu, Gary Odvody, Paul Willaims, and Mike Blanco. Use of tropical germplasm to improve stress tolerance and aflatoxin acculumlation in corn. NCC167 North Central Corn Breeding Committee Meeting in Chicago on April 6-7, 2010.

Wenwei Xu, Thomas Marek, Andy Cranmer, Bruce Carlson, Jonny Beck, Brent Bean, and Dennis Pietsch. 2010. 2010 State Silage Corn Performance Test on the Texas High Plains. Texas AgriLife Research and Extension-Lubbock Center Technical Report No.10-3. pp.12.

Wenwei Xu. Developing drought and heat tolerant crops to mitigate the effects of climate change. An invited plenary talk at the Symposium 'Plants meeting future challenges - food and energy for the society in a changing environment". University of Zurich, Switzerland.

Wenwei Xu. Genetic resources for corn breeding, part of the Moelcular Corn Breeding Training Course (invited). National Maize Research Institute, Hanois, Vietnam, May 10-14, 2010.

Wenwei Xu. Breeding drought tolerant corn (invited talk). Maize Research Institute, Agricultural Academy of Jilin Province, Changchun, China, November 11, 2010.

Wenwei Xu. Genetic improvement of maize water use efficiency (invited talk). Crop Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China, November 12, 2010.

Iowa Field Days, Ames, IA, September 1, 7, 9 (GEM Project). Since a windstorm on July 17 destroyed the main demonstration plantings the scheduled Field Day was cancelled but special tours were scheduled to view the double haploid (DH) nursery and shade house crosses made with tropical germplasm.

New York Field Day, Aurora, NY, July 22, 2010 (Cornell-M. Smith). GEM lines and hybrid plots shown.

North Dakota Field Day, Fargo, ND, Aug 30, 2010 (NDSU-M. Carena). Presentation made at Barry Hall and nursery tour for South American delegation of 33 participants.

North Dakota Field Day, Fargo, ND, Sep. 9, 2010 (NDSU-M. Carena). Nursery and trials tour for North Dakota Corn Council Utilization, board members and farmers.

North Dakota Field Day, Fargo, ND, Sep. 20, 2010 (NDSU-M. Carena). Field Day presentation at Fargo breeding station for Kenyan delegation from government and non-government organizations.

North Dakota Field Day, Fargo, ND, Sep. 22, 2010 (NDSU-M. Carena). Plant Breeding and Education tour for graduate students from South Dakota State University.

Texas Field Day, College Station, TX (Texas A&M-W. Xu). June 29, 2010. GEM lines and hybrid demo plots shown to producers, seed companies, policy makers, and underground water conservation districts.

Texas Field Day, Etter, TX (Texas A&M-W. Xu). August 25, 2010. GEM lines and hybrid demo plots shown to producers, seed companies, policy makers, and underground water conservation districts.

GEM Releases

Summary of the 6 GEM Ames Recommended Lines for 2011

GEM Code	Pedigree	Race	Type	Country	Heterotic Group	Cob Color	Grain Type	Grain Color
GEMS-0218	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	Mixed(Creole)/Mixed	100% Temperate	Cuba/USA	SS	Red & White	5	6
GEMS-0219	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	Mixed(Creole)/Mixed	100% Temperate	Cuba/USA	SS	White	6	6
GEMS-0220	(GEMS-0113/GEMS-0091)-B-058-001	Tuxpeño/Tuxpeño	100% Temperate	Mexico	SS	Red	6	3
GEMN-0221	BR105:N1641-159-001	Composite (Suwan)	25% Tropical	Brazil	NS	Red	6	5
GEMS-0222	MBRC10:S1741-B-057	Multi Borer Comp.	25% Tropical	Mexico	SS	Red & White	4	5
GEMS-0223	CUBA164:S2012-444-001-B wx	Mixed(Creole)	25% Tropical	Cuba	SS	Red	5	5

Grain Type: 1 = Very Dent, 9 = Flint (5 similar to B73)
Grain Color: 1 = White, 9 = Orange (5 similar to B73)

2010 Growing Season							NIR Data			
		Days to	GDU's to	Plant	Ear	1000 k	2 year Average (2009-2010)			
GEM Code	Pedigree	Pollination	Pollination	Ht. (cm)	Ht. (cm)	Wt (g)	Protein	Oil	Starch	Density
GEMS-0218	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	65	1420	180	80	260	13.0	3.5	63.0	1.310
GEMS-0219	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	65	1420	205	110	250	14.5	3.1	62.5	1.312
GEMS-0220	(GEMS-0113/GEMS-0091)-B-058-001	64	1392	190	100	240	12.6	3.8	63.0	1.312
GEMN-0221	BR105:N1641-159-001	68	1497	160	90	290	10.5	3.1	65.4	1.293
GEMS-0222	MBRC10:S1741-B-057	62	1342	205	110	280	11.9	3.6	63.8	1.305
	B73	67	1474	185	95	260	10.8	3.6	64.4	1.298
2009 Growing Season Only										
GEMS-0223	CUBA164:S2012-444-001-B wx	85	1432	210	95	240	11.1	3.6	58.5	1.333
	B73	83	1390	200	110	260	12.1	3.4	57.2	1.304

2011 Ames Recommended Lines Yield Trials

	08642 Tester: LH287VT3 (5 Reps)							106402 Tester: MBS9508 (7 Reps)							106403 Tester: LH287 (7 Reps)						
Pedigree	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.
(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	11	208.4	21.6	9.6	55.7	4.5	0.9	20	163.9	18.5	9	59.3	0.0	0.0	13	180.9	20.8	8.8	55.9	1.2	1.7
(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	31	205.1	18.8	10.9	57.2	11.9	1.8	24	166.3	16.1	10.6	61.0	0.3	3.3	17	184.8	19.5	9.7	57.7	0.7	2.2
GP280/MBS9508								54	167.7	18.7	9.1	57.9	0.9	1.7							
Pioneer 31D58	72	225.7	24.2	9.3	55.5	18.3	2.1	57	190.1	23.4	8.3	57.0	1.0	0.3	68	195.5	24.1	8.2	56.3	0.3	0.0
Pioneer 33F85	73	216.7	22.1	9.8	55.9	20.0	0.0	58	171.9	20.5	8.5	57.1	2.4	1.4	69	171.3	21.1	8.2	56.9	6.1	0.9
Pioneer 34R65	74	199.3	19.9	10.0	57.1	0.9	0.3	59	165.4	18.4	9.1	58.8	0.0	0.3	70	171.0	19.4	8.9	58.7	0.0	0.0
LH200xLH262	71	202.6	24.8	8.2	54.9	11.8	10.3	56	163.6	23.9	6.9	56.1	1.4	4.1	67	170.8	24.3	7.1	55.2	1.6	12.4
HC33xLH287	70	197.8	18.7	10.7	56.7	0.0	0.0	55	166.8	17.9	9.5	58.1	4.4	3.2	66	162.9	18.8	9.1	58.5	1.9	5.4
Test Entry Means		193.7	19.9	9.7	56.3	14.4	3.4		166.0	18.3	9.1	58.9	1.8	2.7		167.4	21.3	8.0	55.8	1.9	5.6
Check Means		208.4	21.9	9.5	56.0	11.0	2.5		170.9	20.5	8.4	57.5	1.7	1.8		174.3	21.5	8.3	57.1	2.0	3.7
CV		9.8	6.2						11.5	5.1						10.2	5.4				
F-value		1.4	6.5						1.6	20.0						3.8	13.6				
LSD (p=0.05)		23.8	1.6						20.5	1.0						18.0	1.2				

	08142 Tester: LH287 (5 Reps)							106402 Tester: MBS9508 (7 Reps)							106403 Tester: LH287 (7 Reps)						
Pedigree	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.
(GEMS-0113/GEMS-0091)-B-058-001	17	187.0	24.1	7.8	52.3	0.0	16.5	1	187.8	18.8	10.0	58.7	1.2	1.2	1	189.7	20.5	9.4	56.4	2.0	4.9
GP280/MBS9508								54	167.7	18.7	9.1	57.9	0.9	1.7							
Pioneer 31D58	53	219.1	26.9	8.2	54.9	1.4	15.9	57	190.1	23.4	8.3	57.0	1.0	0.3	68	195.5	24.1	8.2	56.3	0.3	0.0
Pioneer 33F85	54	194.3	23.4	8.3	55.8	1.4	7.6	58	171.9	20.5	8.5	57.1	2.4	1.4	69	171.3	21.1	8.2	56.9	6.1	0.9
Pioneer 34R65	55	166.9	21.1	8.0	56.6	1.7	18.8	59	165.4	18.4	9.1	58.8	0.0	0.3	70	171.0	19.4	8.9	58.7	0.0	0.0
LH200xLH262	52	189.2	27.6	6.9	54.0	1.8	20.9	56	163.6	23.9	6.9	56.1	1.4	4.1	67	170.8	24.3	7.1	55.2	1.6	12.4
HC33xLH287	51	185.6	20.9	8.9	54.0	1.2	6.3	55	166.8	17.9	9.5	58.1	4.4	3.2	66	162.9	18.8	9.1	58.5	1.9	5.4
Test Entry Means		167.0	22.8	7.3	52.9	3.2	19.6		166.0	18.3	9.1	58.9	1.8	2.7		167.4	21.3	8.0	55.8	1.9	5.6
Check Means		191.0	24.0	8.0	55.1	1.5	13.9		170.9	20.5	8.4	57.5	1.7	1.8		174.3	21.5	8.3	57.1	2.0	3.7
CV		11.9	4.2						11.5	5.1						10.2	5.4				
F-value		3.2	12.2						1.6	20.0						3.8	13.6				
LSD (p=0.05)		25.4	1.2						20.5	1.0						18.0	1.2				

2011 Ames Recommended Lines Yield Trials

	08137 Tester: SGI890HXT (5 Reps)							106301 Tester: HC33 (6 Reps)							106406 Tester: MYC-SS (7 Reps)						
Pedigree	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.
BR105:N1641-106-002	37	184.6	24.6	7.5	54.5	0.0	0.0	19	159.8	18.0	9.2	59.8	0.8	0.0	40	170.8	22.2	8.0	55.6	0.66	2.3
Pioneer 31D58	57	173.5	24.1	7.3	54.5	0.3	1.8	58	217.3	23.3	9.5	56.7	0.0	0.0	78	171.5	22.9	7.8	57.2	0.4	1.1
Pioneer 33F85	58	176.1	21.0	8.4	54.9	1.2	0.0	59	195.4	21.0	9.4	56.8	3.0	0.4	79	162.9	20.3	8.3	57.6	0.0	0.0
Pioneer 34R65	59	162.9	20.1	8.2	56.9	0.0	0.6	60	166.7	18.7	9.2	59.1	1.1	0.0	80	163.3	18.1	9.2	59.6	0.0	0.3
LH200xLH262	61	200.9	24.6	8.2	55.2	0.9	11.2	57	168.5	24.9	6.7	55.6	2.6	2.7	77	165.9	24.7	7.1	55.9	2.3	4.7
HC33xLH287	60	168.9	19.9	8.4	55.0	0.7	0.9	56	183.1	18.0	10.7	58.7	1.7	2.7	76	178.4	18.2	10.5	59.0	0.4	8.4
Test Entry Means		169.3	22.0	7.7	55.9	1.0	0.6		161.4	18.9	8.7	58.6	2.0	1.3		158.5	21.2	7.8	56.0	1.5	2.8
Check Means		176.5	22.0	8.0	55.3	0.6	2.9		186.2	21.2	9.1	57.4	1.7	1.1		168.4	20.8	8.6	57.9	0.6	2.9
CV		14.6	5.2						10.3	5.8						11.3	8.0				
F-value		1.4	6.8						5.3	12.9						2.8	8.7				
LSD (p=0.05)		31.1	1.4						19.1	1.3						19.3	1.8				

	08136 Tester: AGR-nSS1 (6 Reps)							106402 Tester: MBS9508 (7 Reps)							106403 Tester: LH287 (7 Reps)						
Pedigree	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.
MBRC10:S1741-B-057	57	224.1	19.0	11.8	54.3	6.6	2.9	33	172.2	16.5	10.5	59.2	3.0	2.7	26	178.8	18.7	9.8	56.2	1.4	4.7
GP280/MBS9508								54	167.7	18.7	9.1	57.9	0.9	1.7							
Pioneer 31D58	73	243.6	23.5	10.4	53.5	2.5	2.2	57	190.1	23.4	8.3	57.0	1.0	0.3	68	195.5	24.1	8.2	56.3	0.3	0.0
Pioneer 33F85	74	218.8	19.0	11.5	54.8	2.1	1.6	58	171.9	20.5	8.5	57.1	2.4	1.4	69	171.3	21.1	8.2	56.9	6.1	0.9
Pioneer 34R65	80	223.8	20.6	10.9	54.3	14.4	5.6	59	165.4	18.4	9.1	58.8	0.0	0.3	70	171.0	19.4	8.9	58.7	0.0	0.0
LH200xLH262	71	224.2	22.2	10.1	53.7	12.3	3.3	56	163.6	23.9	6.9	56.1	1.4	4.1	67	170.8	24.3	7.1	55.2	1.6	12.4
HC33xLH287	72	209.6	18.9	11.1	55.1	6.0	13.3	55	166.8	17.9	9.5	58.1	4.4	3.2	66	162.9	18.8	9.1	58.5	1.9	5.4
Test Entry Means		192.9	21.6	8.9	53.4	10.7	10.3		166.0	18.3	9.1	58.9	1.8	2.7		167.4	21.3	8.0	55.8	1.9	5.6
Check Means		214.7	20.8	10.3	54.4	5.8	3.7		170.9	20.5	8.4	57.5	1.7	1.8		174.3	21.5	8.3	57.1	2.0	3.7
CV		14.4	7.5						11.5	5.1						10.2	5.4				
F-value		2.8	4.8						1.6	20.0						3.8	13.6				
LSD (p=0.05)		34.2	1.9						20.5	1.0						18.0	1.2				

	08644 Tester: NSC-Male 1 (4 Reps)							096003 Tester: wsNS-M1 (6 Reps)							106408 Tester: wxNS-M1 (6 Reps)						
Pedigree	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.	Entry	Yield B/A	% Moist	Yield/ Moist	TWT	% S.L.	% R.L.
CUBA164:S2012-444-001-B wx	7	199.08	18.0	11.1	58.0	4.8	5.225	18	194.27	27.1	7.2	52	0.52	0.85	2	145.9	12.8	11.4	60.0	3.13	0.0
NS-Waxy Check	5	216.68	16.3	13.3	59.1	12.7	4.2	35	211.55	23.6	9.0	55.4	0.0	0.0	39	145.2	11.7	12.4	57.7	5.9	0.0
Pioneer 31D58	36	231.6	20.3	11.4	59.8	8.2	0.0	38	216.82	26.6	8.2	56.2	2.7	0.0	33	162.2	13.5	12.0	60.7	3.82	0.0
Pioneer 33F85	37	227.2	18.4	12.4	59.6	3.8	0.4	39	212.92	24.2	8.8	55.9	2.6	0.3	34	166.8	12.9	13.0	59.6	3.45	0.0
Pioneer 34R65	38	211.4	18.0	11.8	60.4	12.9	1.1	40	210.38	22.6	9.3	57.5	0.6	0.0	35	156.4	12.9	12.1	60.4	3.05	0.0
LH200xLH262	40	230.9	17.5	13.2	58.2	12.1	2.8	36	200.87	27.4	7.3	55.2	4.3	0.9	31	136.0	14.3	9.7	60.8	7.52	0.0
HC33xLH287	39	222.6	22.8	9.8	58.4	7.7	19.7	37	194.47	21.8	8.9	54.7	2.0	1.5	32	152.6	11.9	12.9	58.4	3.08	0.0
Test Entry Means		182.4	18.6	9.8	59.2	8.4	6.9		181.29	25.3	7.2	54.7	2.3	1.7		138.5	13.2	10.5	60.5	5.3	0.5
Check Means		224.7	19.4	11.6	59.3	8.9	4.8		207.83	24.3	8.5	55.8	2.0	0.4		154.4	12.8	12.1	59.7	4.35	0.0
CV		13.8	6.7						8.3	3.9						12.81	5.3				
F-value		3.1	12.7						6.0	29.2						2.23	12.1				
LSD (p=0.05)		37.1	1.8						17.6	1.1						20.62	0.8				

GEM Germplasm Releases and Key Traits

Pedigree	Code	Race	Country	Site Released	Year Released	Prot	AA	Oil	Starch Prop.	Silage	GLS	NLB	SLB	Drought	Fumon.	Fuser	Aflatox	ASR	Diplodia	YM
GEMS-001(PI503806xB94///B94)	**GEMS-0001**	Alazan	Peru	Ames	2001															
GEMS-002 (FS8A(S):S09-43-2)	**GEMS-0002**	Mixed	USA	Ohio St.	2003								√		√	√				
BR52051(SE32):S17-B-023-001-B-B	GEMS-0003	Dente Amarelo	Brazil	NC	2003	√		√			√	√			√	√			√	
DK212T:S11-B-013-002-B-B	**GEMS-0004**	Hybrid-tropical	Thailand	NC	2003							√	√			√				
DK212T:S11-B-015-001-B-B	**GEMS-0005**	Hybrid-tropical	Thailand	NC	2003							√								
DK212T:S11-B-017-001-B-B	**GEMS-0006**	Hybrid-tropical	Thailand	NC	2003							√				√				
DK212T:S11-B-018-001-B-B	GEMS-0007	Hybrid-tropical	Thailand	NC	2003	√							√							
DK212T:S11-B-038-001-B-B	GEMS-0008	Hybrid-tropical	Thailand	NC	2003															
DK212T:S11-B-040-001-B-B	**GEMS-0009**	Hybrid-tropical	Thailand	NC	2003											√				
DK212T:S11-B-041-002-B-B	**GEMS-0010**	Hybrid-tropical	Thailand	NC	2003															
DK212T:S11-B-045-002-B-B	**GEMS-0011**	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-003-001-B-B	**GEMS-0012**	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-004-004-B-B	**GEMS-0013**	Hybrid-tropical	Thailand	NC	2003								√							
DK888:S11-B-010-001-B-B	GEMS-0014	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-014-001-B-B	**GEMS-0015**	Hybrid-tropical	Thailand	NC	2003								√							
DK888:S11-B-015-003-B-B	GEMS-0016	Hybrid-tropical	Thailand	NC	2003						√	√				√				
DK888:S11-B-025-001-B-B	**GEMS-0017**	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-026-002-B-B	**GEMS-0018**	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-029-001-B-B	**GEMS-0019**	Hybrid-tropical	Thailand	NC	2003						√									
DK888:S11-B-033-001-B-B	**GEMS-0020**	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-035-002-B-B	**GEMS-0021**	Hybrid-tropical	Thailand	NC	2003										√	√				
DK888:S11-B-035-003-B-B	GEMS-0022	Hybrid-tropical	Thailand	NC	2003															
DK888:S11-B-039-002-B-B	**GEMS-0023**	Hybrid-tropical	Thailand	NC	2003															
DKB830:S11-B-045-001-B-B	**GEMS-0024**	Hybrid-tropical	Mexico	NC	2003						√									
DKXL370:S11-B-001-002-B-B	GEMS-0025	Hybrid-tropical	Brazil	NC	2003															
DKXL370:S11-B-025-001-B-B	GEMS-0027	Hybrid-tropical	Brazil	NC	2003							√					√			
DKXL370:S11-B-025-002-B-B	**GEMS-0028**	Hybrid-tropical	Brazil	NC	2003						√						√			
DKXL370:S11-B-028-001-B-B	**GEMS-0029**	Hybrid-tropical	Brazil	NC	2003							√				√				
DKXL380:S11-B-004-003-B-B	**GEMS-0030**	Hybrid-tropical	Brazil	NC	2003		√				√	√	√			√	√			
DKXL380:S11-B-028-001-B-B	**GEMS-0031**	Hybrid-tropical	Brazil	NC	2003	√	√					√								
DKXL380:S11-B-029-001-B-B	GEMS-0032	Hybrid-tropical	Brazil	NC	2003							√					√			
BR51403(PE001):N16-B-044-B	**GEMN-0033**	Cateto	Brazil	NC	2003				√		√									
BR51403(PE001):N16-B-172-B	**GEMN-0035**	Cateto	Brazil	NC	2003				√		√	√								
BR51403(PE001):N16-B-176-B	**GEMN-0036**	Cateto	Brazil	NC	2003				√											
BR51403(PE001):N16-B-181-B	**GEMN-0037**	Cateto	Brazil	NC	2003				√		√									
BR51403(PE001):N16-B-239-B	**GEMN-0039**	Cateto	Brazil	NC	2003	√			√			√								
BR51403(PE001):N16-B-431-B	**GEMN-0040**	Cateto	Brazil	NC	2003				√											
BR51403(PE001):N16-B-521-B	**GEMN-0041**	Cateto	Brazil	NC	2003				√											
BR51403(PE001):N16-B-705-B	**GEMN-0042**	Cateto	Brazil	NC	2003				√											
BR51403(PE001):N16-B-857-B	**GEMN-0043**	Cateto	Brazil	NC	2003				√											
CH05015:N12-20-1-B-B	GEMN-0044	Camelia	Chile	Ames	2003															
CH05015:N12-140-1-B-B	GEMN-0045	Camelia	Chile	Ames	2003	√														
CH05015:N15-8-1-B-B	GEMN-0046	Camelia	Chile	Ames	2003				√											
UR13085:N0215-014-001	GEMN-0047	Cateto Sulino	Uruguay	Ames	2003															
DKXL370:N11a20-31-1-B-B	GEMN-0048	Hybrid-tropical	Brazil	Ames	2003	√														
DKB844:S1601-512-1-B	GEMS-0049	Hybrid-tropical	Mexico	Ames	2003	√														
DKB844:S1601-517-1-B	GEMS-0050	Hybrid-tropical	Mexico	Ames	2003															
CUBA164:S2008a-83-1-B	GEMS-0051	Mixed (Creole)	Cuba	Ames	2003															
CUBA164:S2008a-326-1-B	GEMS-0052	Mixed (Creole)	Cuba	Ames	2003															
CUBA164:S15-192-2-B	GEMS-0053	Mixed (Creole)	Cuba	Ames	2003															
AR16035:S02-450-1-B	GEMS-0054	Cristalino Colorado	Argentina	Ames	2003															
AR16035:S02-443-1-B-B	GEMS-0055	Cristalino Colorado	Argentina	Ames	2003															

Pedigree	Code	Race	Country	Site Released	Year Released	Prot	AA	Oil	Starch Prop.	Silage	GLS	NLB	SLB	Drought	Fumon.	Fuser	Aflatox	ASR	Diplodia	YM
FS8B(T):N1809-946-1-B	GEMN-0056	Mixed	USA	Ames	2003															
AR01150:N04-545-1-B	GEMN-0057	Dent. Blanco Rugoso	Argentina	Ames	2003															
AR01150:N04-696-1-B	GEMN-0058	Dent. Blanco Rugoso	Argentina	Ames	2003	√														
SCRO1:N1310-398-1-B	GEMN-0059	St. Croix	St. Croix	Ames	2003				√											
CHIS775:N1912-519-1-B-B	GEMN-0060	Tuxpeño	Mexico	Ames	2003															
AR16026:S17-10-1-B-B	GEMS-0061	Cristalino Colorado	Argentina	Ames	2003			√							√	√	√			
AR16026:S17-16-1-B-B	GEMS-0062	Cristalino Colorado	Argentina	Ames	2003															
CUBA164:S1511b-325-001	GEMS-0063	Mixed (Creole)	Cuba	Ames	2003	√														
CUBA164:S1511b-249-1-B-B	GEMS-0064	Mixed (Creole)	Cuba	Ames	2003															
CUBA117:S1520-41-1-B-B	GEMS-0065	Argentino	Cuba	Ames	2003			√												
CUBA117:S1520-52-1-B-B	GEMS-0066	Argentino	Cuba	Ames	2003															
GUAT209:S13 x (H99*ae* x OH43*ae*)-4-4-2-1	**GEMS-0067**	Tusón	Guatemala	Truman St	2007															
AR16026:S1704-153-001	GEMS-0068	Cristalino Colorado	Argentina	Ames	2003															
AR16035:S19-161-001	GEMS-0069	Cristalino Colorado	Argentina	Ames	2003															
CH05015:N12-183-001	GEMN-0070	Camelia	Chile	Ames	2003															√
CH05015:N15-003-001	GEMN-0071	Camelia	Chile	Ames	2003															√
CHIS775:S1911b-439-001	GEMS-0072	Tuxpeño	Mexico	Ames	2003															
CUBA117:S15-372-001	GEMS-0073	Argentino	Cuba	Ames	2003		√						√			√				
CUBA164:S1517-163-001	GEMS-0074	Mixed (Creole)	Cuba	Ames	2003															
CUBA164:S1517-241-002	GEMS-0075	Mixed (Creole)	Cuba	Ames	2003								√							
DKB844:N11b-118-001	GEMN-0076	Hybrid-tropical	Mexico	Ames	2003															
DKXL370:N11a20-604-001	GEMN-0077	Hybrid-tropical	Brazil	Ames	2003						√		√							
FS8A(S):S09-362-001	GEMS-0078	Mixed	USA	Ames	2003								√							
FS8B(S):S0316-802-001	GEMS-0079	Mixed	USA	Ames	2003								√							
FS8B(S):S0316-814-001	GEMS-0080	Mixed	USA	Ames	2003								√							
FS8B(T):N1802-382-001	GEMN-0081	Mixed	USA	Ames	2003								√							
FS8B(T):N1802-525-001	GEMN-0082	Mixed	USA	Ames	2003						√		√							
GUAT209:N1925-081-001	GEMN-0083	Tusón	Guatemala	Ames	2003		√				√									
PASCO14:S0105-198-001	GEMS-0084	Cuban yellow	Peru	Ames	2003							√								
UR01089:S0525-519-001	GEMS-0085	Cateto Sulino	Uruguay	Ames	2003								√							
UR10001:S1813-257-001	GEMS-0086	Dente Branco	Uruguay	Ames	2003															
AR03056:N09-024-001	GEMN-0087	Dentado Blanco	Argentina	Ames	2004															
AR03056:N09-182-001	GEMN-0088	Dentado Blanco	Argentina	Ames	2004						√									√
AR03056:N09-191-001	GEMN-0089	Dentado Blanco	Argentina	Ames	2004															
AR03056:N09-250-001	GEMN-0090	Dentado Blanco	Argentina	Ames	2004															
CHIS740:S1411a-783-002	GEMS-0091	Tuxpeño/Olotillo	Mexico	Ames	2004		√													
CUBA164:S2012-444-001	GEMS-0092	Mixed (Creole)	Cuba	Ames	2004							√		√		√				
CUBA164:S2012-966-001	GEMS-0093	Mixed (Creole)	Cuba	Ames	2004															
DKXL370:N11a20-199-002	GEMN-0094	Hybrid-tropical	Brazil	Ames	2004															
DKXL370:N11a20-234-002	GEMN-0095	Hybrid-tropical	Brazil	Ames	2004						√	√								
DKXL370-:N11a20-322-001	GEMN-0096	Hybrid-tropical	Brazil	Ames	2004				√											√
FS8B(T):N11a-087-001	GEMN-0097	Mixed	USA	Ames	2004											√				√
FS8B(T):N11a-110-001	GEMN-0098	Mixed	USA	Ames	2004															
FS8B(T):N11a-322-001	GEMN-0099	Mixed	USA	Ames	2004						√									
UR11003:S0302-937-001	GEMS-0100	Dente Branco	Uruguay	Ames	2004											√				√
DK888:S11b-007-B-B	GEMS-0101	Hybrid-tropical	Thailand	NC	2004								√							
DK888:S11b-001-B	GEMS-0102	Hybrid-tropical	Thailand	NC	2004								√							
DK888:N11(95)-B-027-010-B-B	GEMN-0103	Hybrid-tropical	Thailand	NC	2004							√	√							
DK888:N11(95)-B-027-012-B-B	GEMN-0104	Hybrid-tropical	Thailand	NC	2004							√	√							
DK888:N11(95)-B-027-015-B-B	GEMN-0105	Hybrid-tropical	Thailand	NC	2004								√							
DK888:N11(95)-B-022-007-B-B	GEMN-0106	Hybrid-tropical	Thailand	NC	2004															
DK888:N11(95)-B-022-012-B-B	GEMN-0107	Hybrid-tropical	Thailand	NC	2004								√							
DK888:N11(95)-B-027-001-B-B	GEMN-0108	Hybrid-tropical	Thailand	NC	2004								√							
DKXL380:N11-B-015-003-B-B	GEMN-0109	Hybrid-tropical	Brazil	NC	2004															

Pedigree	Code	Race	Country	Site Released	Year Released	Prot	AA	Oil	Starch Prop.	Silage	GLS	NLB	SLB	Drought	Fumon.	Fuser	Aflatox	ASR	Diplodia	YM
BARBGP2:N08a18-332-001	GEMN-0110	Tusón	Barbados	Ames	2005							√								
CH05015:N1204-057-001	GEMN-0111	Camelia	Chile	Ames	2005	√	√	√								√				
CH05015:N1502-086-001	GEMN-0112	Camelia	Chile	Ames	2005	√							√							√
CHIS775:S1911b-120-001	GEMS-0113	Tuxpeño	Mexico	Ames	2005				√				√							
DK212T:N11a12-191-001	GEMN-0114	Hybrid-tropical	Thailand	Ames	2005															
DKB844:S1601-073-001	GEMS-0115	Hybrid-tropical	Mexico	Ames	2005				√											
DKB844:S1601-003-002	GEMS-0116	Hybrid-tropical	Mexico	Ames	2005	√			√			√								
DREP150:N2011d-624-001	GEMN-0117	Mixed	Dom. Republic	Ames	2005	√	√						√							
UR11003:S0302-1011-001	GEMS-0118	Dente Branco	Uruguay	Ames	2005		√													√
CHS775:N19-042-001-B	GEMN-0119	Tuxpeño	Mexico	NC	2005							√	√							
CHS775:N19-042-003-B	GEMN-0120	Tuxpeño	Mexico	NC	2005							√	√							
CHS775:N19-027-010-B	GEMN-0121	Tuxpeño	Mexico	NC	2005				√			√	√							
CHS775:N19-093-002-B	GEMN-0122	Tuxpeño	Mexico	NC	2005				√			√	√							
CHS775:N19-030-011-B	GEMN-0123	Tuxpeño	Mexico	NC	2005				√				√							
DK212T:N11-B-003-001-B	GEMN-0124	Hybrid-tropical	Thailand	NC	2005			√				√	√			√				
DK888:S11-B-029-001-B	GEMS-0125	Hybrid-tropical	Thailand	NC	2005								√							
DK888:S11-B-029-006-B	GEMS-0126	Hybrid-tropical	Thailand	NC	2005								√						√	
DK888:N11(95)-B-017-001-B	GEMN-0127	Hybrid-tropical	Thailand	NC	2005				√				√							
DKXL370:N11-B-005-002-B	GEMN-0128	Hybrid-tropical	Brazil	NC	2005	√	√						√							
DKXL370:N11-B-005-006-B	GEMN-0129	Hybrid-tropical	Brazil	NC	2005	√						√	√							
DKXL370:N11-B-005-010-B	GEMN-0130	Hybrid-tropical	Brazil	NC	2005		√						√		√	√	√			
DKXL370:N11-B-005-011-B	GEMN-0131	Hybrid-tropical	Brazil	NC	2005	√	√	√					√							
DKXL370:N11-B-005-021-B	GEMN-0132	Hybrid-tropical	Brazil	NC	2005	√	√						√							
DKXL370:N11-B-029-002-B	GEMN-0133	Hybrid-tropical	Brazil	NC	2005	√	√					√	√							
DKXL380:N11-B-010-017-B	GEMN-0134	Hybrid-tropical	Brazil	NC	2005							√	√			√				
DKXL380:N11-B-007-025-B	GEMN-0135	Hybrid-tropical	Brazil	NC	2005			√				√	√							
DKXL380:N11-B-007-028-B	GEMN-0136	Hybrid-tropical	Brazil	NC	2005	√		√					√							
SCR Gp3:N14-028-003-003-B	GEMN-0137	Tusón	St. Croix	NC	2005		√						√							
AR17056:N2035-421-001	GEMN-0138	Cristalino Colorado	Argentina	Ames	2006						√	√	√							
AR17056:N2035-473-001	GEMN-0139	Cristalino Colorado	Argentina	Ames	2006						√	√	√							
BR51675:N0620-033-001	GEMN-0140	Dente Amarelo	Brazil	Ames	2006						√		√							√
BR51675:N0620-053-001	GEMN-0141	Dente Amarelo	Brazil	Ames	2006								√							
BR52060:S0210-143-001	GEMS-0142	Dente Amarelo	Brazil	Ames	2006															√
BR52060:S0210-147-001	GEMS-0143	Dente Amarelo	Brazil	Ames	2006			√												√
MDI022:N2120-284-001	GEMN-0144	Cuban yellow	Peru	Ames	2006								√							
MDI022:N2120-333-001	GEMN-0145	Cuban yellow	Peru	Ames	2006		√													
NEI9004:S2818-003-001	GEMS-0146	Suwan	Thailand	Ames	2006	√														
NEI9004:S2818-025-001	GEMS-0147	Suwan	Thailand	Ames	2006	√														
NEI9004:S2818-376-001	GEMS-0148	Suwan	Thailand	Ames	2006	√														
UR05017:S0415-180-002	GEMS-0149	Semidentado Riograndense	Uruguay	Ames	2006	√														
UR05017:S0415-187-001	GEMS-0150	Semidentado Riograndense	Uruguay	Ames	2006	√														
CHIS775:N19-042-001-003-B-B-B-B	GEMN-0151	Tuxpeño	Mexico	NC	2006							√	√			√				
DK212T:N11-B-016-005-B-B-B	GEMN-0152	Hybrid-tropical	Thailand	NC	2006						√	√	√							
DKXL380:N11-B-007-027-B-B-B-B	GEMN-0153	Hybrid-tropical	Brazil	NC	2006								√							
AR13026:N08b15-016	GEMN-0154	Cristalino Colorado	Argentina	Ames	2007															
AR13026:N08b15-086	GEMN-0155	Cristalino Colorado	Argentina	Ames	2007															
BR51721:N2012-098-002	GEMN-0156	Dente Amarelo	Brazil	Ames	2007				√		√									
BR51721:N2012-164-002	GEMN-0157	Dente Amarelo	Brazil	Ames	2007				√			√								
BR51721:N2012-397-001	GEMN-0158	Dente Amarelo	Brazil	Ames	2007				√			√				√			√	
CASH:N1410-018-001	GEMN-0159	Corn Belt Dent	USA	Ames	2007															√
CUBA117:S1542-037-002	GEMS-0160	Argentino	Cuba	Ames	2007	√														
CUBA117:S1542-057-001	GEMS-0161	Argentino	Cuba	Ames	2007	√	√	√												
CUBA117:S1542-057-002	GEMS-0162	Argentino	Cuba	Ames	2007	√		√												
CUBA164:S2012-456-001	GEMS-0163	Mixed (Creole)	Cuba	Ames	2007															

Pedigree	Code	Race	Country	Site Released	Year Released	Prot	AA	Oil	Starch Prop.	Silage	GLS	NLB	SLB	Drought	Fumon.	Fuser	Aflatox	ASR	Diplodia	YM
DK212T:N11-B-003-022-B-B-B	GEMN-0164	Hybrid-tropical	Thailand	NC	2007							√	√							
DK888:N11(95)-B-022-012-026-B-B	GEMN-0165	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-008-B-B	GEMN-0166	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-018-B-B	GEMN-0167	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-019-B	GEMN-0168	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-027-B	GEMN-0169	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-030-B	GEMN-0170	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-037-B	GEMN-0171	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-001-040-B	GEMN-0172	Hybrid-tropical	Thailand	NC	2007								√							
DK888:N11(95)-B-027-012-009-B	GEMN-0173	Hybrid-tropical	Thailand	NC	2007							√	√							
AR17056:N2025-574-001	GEMN-0174	Cristalino Colorado	Argentina	Ames	2008	√			√			√								
BVIR155:S2012-029-001	GEMS-0175	Tusón	British Virgin Is.	Ames	2008	√														
CUBA164:S2008c-289-001	GEMS-0176	Mixed (Creole)	Cuba	Ames	2008	√														
DK888:N11a08a-395-001	GEMN-0177	Hybrid-tropical	Thailand	Ames	2008							√	√							
DK888:N11a08a-440-001	GEMN-0178	Hybrid-tropical	Thailand	Ames	2008								√							
FS8B(T):N11a08c-030-002	GEMN-0179	Mixed	USA	Ames	2008			√				√								
GUAT209:S1308a-047-001	GEMS-0180	Tusón	Guatemala	Ames	2008				√			√	√							
GUAT209:S1308a-068-001	GEMS-0181	Tusón	Guatemala	Ames	2008						√									
GUAT209:S1308a-084-001	GEMS-0182	Tusón	Guatemala	Ames	2008						√		√							
GUAT209:S1308a-104-001	GEMS-0183	Tusón	Guatemala	Ames	2008															
GUAT209:S1308a-120-001	GEMS-0184	Tusón	Guatemala	Ames	2008															
CUBA164:S2012-966-001-B wx	GEMS-0185	Mixed (Creole)	Cuba	Ames	2008															
DKXL370:N11a20-036-002-B wx	GEMN-0186	Hybrid-tropical	Brazil	Ames	2008						√		√							
ANTIG03:N1218-056-001	GEMN-0187	Criollo	Antigua	Ames	2009															
DKXL212:S0912-012-001	GEMS-0188	Tropical Hybrid	Brazil	Ames	2009	√														
DKXL212:S0912-117-001	GEMS-0189	Tropical Hybrid	Brazil	Ames	2009	√														
PASCO14:N0424-078-001	GEMN-0190	Cuban yellow	Peru	Ames	2009															
SCROGP3:N2017-003-001	GEMN-0191	Tusón	St. Croix	Ames	2009															
SCROGP3:N2017-172-001	GEMN-0192	Tusón	St. Croix	Ames	2009			√					√							
UR11002:N0308b-086-001	GEMN-0193	Dente Branco	Uruguay	Ames	2009															
DK888:N11(95)-B-027-001-011-B	GEMN-0194	Tropical Hybrid	Thailand	NC	2009								√							
DK888:N11(95)-B-027-001-015-B	GEMN-0195	Tropical Hybrid	Thailand	NC	2009								√							
DK888:N11(95)-B-003-001-001-B	GEMN-0196	Tropical Hybrid	Thailand	NC	2009								√							
DK888:N11(95)-002-021-008-B-B	GEMN-0197	Tropical Hybrid	Thailand	NC	2009								√							
DK212T:N11-040-001-007	GEMN-0198	Tropical Hybrid	Thailand	NC	2009							√	√							
AR16021:S0908a-039-001	GEMS-0199	Cristalino Colorado	Argentina	Ames	2010															
BR105:S1612-008-001	GEMS-0200	Composite (Suwan)	Brazil	Ames	2010															
BR105:S1612-057-001	GEMS-0201	Composite (Suwan)	Brazil	Ames	2010															
BR105:S1640-128-001	GEMS-0202	Composite (Suwan)	Brazil	Ames	2010															
CUBA164:S2008dF44-012-001	GEMS-0203	Mixed (Creole)	Cuba	Ames	2010															
FS8A(T):N1804-006-001	GEMN-0204	Mixed	USA	Ames	2010															
GUAD05:N3215-197-001	GEMN-0205	Early Caribbean	Guadalupe	Ames	2010															
AR16035:S02-615-001-B wx	GEMS-0206	Cristalino Colorado	Argentina	Ames	2010															
BR51403(PE001):N16-B-044-004-001-001C-001	GEMN-0207	Cateto	Brazil	NC	2010															
BR51403(PE001):N16-B-044-004-001-002G-003	GEMN-0208	Cateto	Brazil	NC	2010															
BR51721(RN07):N20-B-017-002	GEMN-0209	Dente Amarelo	Brazil	NC	2010															
CL-G1607(CML420):N11-008-001-007	GEMN-0210	Tropical Line	CIMMYT	NC	2010															
DK212T:N11-B-016-005-B-004	GEMN-0211	Tropical Hybrid	Thailand	NC	2010															
DK888:N11-B-027-012-B-007	GEMN-0212	Tropical Hybrid	Thailand	NC	2010															
DKXL380:N11-B-007-010-B-002	GEMN-0213	Tropical Hybrid	Brazil	NC	2010															
MDI022:N21-B-002-003	GEMN-0214	Cuban yellow	Peru	NC	2010															
NS1:S08-006-001-002	GEMS-0215	Suwan	Thailand	NC	2010															
PASCO14:N11b-B-001-002	GEMN-0216	Cuban Yellow	Peru	NC	2010															
DK888:N11-B-027-001-B-001	GEMN-0217	Hybrid-tropical	Thailand	NC	2010															

Pedigree	Code	Race	Country	Site Released	Year Released	Prot	AA	Oil	Starch Prop.	Silage	GLS	NLB	SLB	Drought	Fumon.	Fuser	Aflatox	ASR	Diplodia	YM
(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	GEMS-0218	Mixed (Creole)/Mixed	Cuba/USA	Ames	2011															
(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	GEMS-0219	Mixed (Creole)/Mixed	Cuba/USA	Ames	2011															
(GEMS-0113/GEMS-0091)-B-058-001	GEMS-0220	Tuxpeño/Tuxpeño	Mexico	Ames	2011															
BR105:N1641-159-001	GEMN-0221	Composite (Suwan)	Brazil	Ames	2011															
MBRC10:S1741-B-057	GEMS-0222	Multiple Borer Comp.	Mexico	Ames	2011															
CUBA164:S2012-444-001-B wx	GEMS-0223	Mixed (Creole)	Cuba	Ames	2011															
DE3 (DKXL212:N11a-191)	**DE3**	Hybrid-tropical	Brazil	UDEL	2002							√								
DE4 (DKXL212:N11a-365)	**DE4**	Hybrid-tropical	Brazil	UDEL	2002						√	√	√							
DE6 (DKXL212:N11a-234)	DE6	Hybrid-tropical	Brazil	UDEL	2005	√														
Tx204 (AR01150:N0406)	Tx204	Dent. Blanco Rugoso	Argentina	Texas A&M	2004									√						
Tx205 (AR01150:N0406)	Tx205	Dent. Blanco Rugoso	Argentina	Texas A&M	2004									√						
W605S (AR17026:N1019)	W605S	Cristalino Colorado	Argentina	U of Wisc.	2004					√										
W606S (SCRO1:N1310)	W606S	St. Croix	St. Croix	U of Wisc.	2009					√										
W607S (BR52051:N04)	W607S	Dente Amarelo	Brazil	U of Wisc.	2009					√										
W608S (CH05015:N15)	W608S	Camelia	Chile	U of Wisc.	2009					√										
W609S (FS8B(T):N11a)	W609S	Mixed	USA	U of Wisc.	2009					√										
W610S (CUBA164:S2012)	W610S	Mixed (Creole)	Cuba	U of Wisc.	2009					√										
NY212 (FS8B(T):N1802-212)	NY212	Mixed	USA	Cornell U	2009													√		
NY215 (FS8B(T):N1802-215)	NY215	Mixed	USA	Cornell U	2009													√		
NY266 (AR01150:N0406-266)	NY266	Dent. Blanco Rugoso	Argentina	Cornell U	2009													√		
DKXL212:N11a-139-001-001	DE EXP	Hybrid-tropical	Brazil	UDEL	2003		√					√								

Legend:

Agro traits = Yield, lodging, and moisture w/in 10% of check mean

Y/M = Yield moisture ratio similar to or above check mean

ECB = European corn borer tolerance

GLS = Gray leafspot resistance

MDR = Mal de Rio Cuarto virus tolerance

NLB = Northern leaf blight resistance

SLB = Southern leaf blight resistance

Fuser = Fusarium ear rot resistance

Fumonisin = Low level of fumonisin (Fusarium mycotoxin)

Aflatoxin = Low level of aflatoxin (Aspergillus mycotoxin)

ASR=Anthracnose stalk rot resistance

AAI = Amino acid index of lysine, methionine, and tryptophan

Oil = Oil content > 4.5%, Protein = Protein content > 13%, and Starch = Starch thermal property

Bolded codes are Crop Science Registered

Racial Background of 235 GEM Releases

Race	Ames Releases	NC Releases	Other Releases	Total Releases
Alazan	1	0	0	1
Argentino	6	0	0	6
Camelia	7	0	1	8
Canilla	0	0	0	0
Cateto	0	11	0	11
Cateto Sulino	2	0	0	2
Corn Belt Dent	1	0	0	1
Criollo	1	0	0	1
Cristalino Colorado	13	0	1	14
Cuban yellow	4	2	0	6
Dent. Blanco Rugoso	2	0	3	5
Dentado Blanco	4	0	0	4
Dente Amarelo	7	2	1	10
Dente Branco	4	0	0	4
Early Caribbean	1	0	0	1
Multiple Borer Composite	1	0	0	1
Hybrido Blanco	0	0	0	0
Semidentado Riograndense	2	0	0	2
Southern Dent	0	0	0	0
St. Croix	1	0	1	2
Suwan	3	1	0	4
Tusón	10	1	1	12
Tuxpeño	3	6	0	9
Tuxpeño/Olotillo	1	0	0	1
Hybrid-tropical	16	71	4	91
Composite (Suwan)	4	0	0	4
Composite (Tuxpeño)	0	0	0	0
Line	0	1	0	1
Mixed (Tropical + Temperate)	12	0	4	16
Mixed (Creole)	14	0	1	15
Mixed(Creole)/Mixed (Tropical + Temperate)	2	0	0	2
Tuxpeño/Tuxpeño	1	0	0	1
Totals	**123**	**95**	**17**	**235**

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GEM Recommended Lines

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Yield Trials

101301 Tester: LH287 Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	204.9	22.2	9.3	57.4	0.4	2.1
69	Pioneer 33F85	194.6	19.5	10.0	58.2	1.3	8.7
64	BG070404:D27S42-B-068	190.5	19.5	9.8	56.7	2.6	9.5
16	BG070404:D27S42-B-016	187.0	20.8	9.0	55.2	0.4	17.0
38	BG070404:D27S42-B-039	183.8	19.7	9.3	57.0	1.7	18.7
32	BG070404:D27S42-B-033	183.7	19.5	9.4	56.7	0.9	10.5
7	BG070404:D27S42-B-007	183.4	20.1	9.1	56.8	1.4	16.2
46	BG070404:D27S42-B-047	179.6	19.4	9.3	57.2	0.4	4.4
14	BG070404:D27S42-B-014	179.5	20.9	8.6	56.2	1.2	21.0
53	BG070404:D27S42-B-055	179.4	20.1	8.9	58.0	3.2	13.9
55	BG070404:D27S42-B-057	179.3	19.6	9.2	57.4	2.3	17.6
1	BG070404:D27S42-B-001	179.3	17.8	10.1	58.2	3.9	8.5
28	BG070404:D27S42-B-029	179.2	18.3	9.8	56.6	2.7	9.9
26	BG070404:D27S42-B-027	179.0	20.1	8.9	56.9	0.4	18.2
57	BG070404:D27S42-B-060	178.7	18.9	9.5	58.0	0.4	7.0
61	BG070404:D27S42-B-065	176.8	22.5	7.9	55.8	1.6	19.6
63	BG070404:D27S42-B-067	173.7	18.2	9.6	56.7	2.7	13.5
56	BG070404:D27S42-B-059	173.5	18.0	9.6	57.8	1.4	18.8
62	BG070404:D27S42-B-066	171.8	16.8	10.2	58.8	8.2	23.0
22	BG070404:D27S42-B-022	171.4	20.2	8.5	58.1	1.1	21.2
	Test Entry Means	163.0	19.4	8.4	57.4	3.2	19.9
	Check Means	173.7	19.9	8.7	58.2	0.8	10.0
	CV	17.2	5.0				
	F-value	1.1	5.9				
	LSD (p=0.05)	39.4	1.4				

101302 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
54	BR105:S1699n-B-059	166.5	19.6	8.5	57.5	1.3	13.3
68	Pioneer 31D58	163.9	21.9	7.5	57.8	0.0	0.0
69	Pioneer 33F85	160.9	19.5	8.3	58.5	6.8	1.1
34	BR105:S1699n-B-038	160.6	19.3	8.3	58.0	2.5	11.3
40	BR105:S1699n-B-044	152.7	20.9	7.3	57.0	2.6	30.4
52	BR105:S1699n-B-056	152.0	18.7	8.1	58.6	1.3	7.0
67	LH200xLH262	151.9	25.1	6.1	56.4	2.9	7.9
56	BR105:S1699n-B-061	151.0	18.1	8.4	58.5	1.6	17.6
11	BR105:S1699n-B-012	150.2	18.2	8.3	58.6	2.4	8.1
19	BR105:S1699n-B-022	150.2	19.0	7.9	56.0	3.4	28.3
17	BR105:S1699n-B-020	149.2	17.3	8.6	58.2	4.4	19.0
63	BR105:S1699n-B-068	149.0	16.9	8.8	58.1	2.7	25.4
33	BR105:S1699n-B-037	147.3	20.7	7.1	58.1	2.6	20.8
9	BR105:S1699n-B-010	147.1	20.0	7.4	56.9	2.4	27.4
46	BR105:S1699n-B-050	146.9	18.6	7.9	55.6	6.0	22.5
45	BR105:S1699n-B-049	145.8	19.3	7.6	57.9	2.1	27.9
44	BR105:S1699n-B-048	144.8	17.3	8.4	57.6	8.7	18.1
55	BR105:S1699n-B-060	144.0	18.8	7.7	57.1	1.6	16.7
27	BR105:S1699n-B-031	143.5	16.1	8.9	58.3	4.6	12.5
32	BR105:S1699n-B-036	143.3	17.9	8.0	56.7	3.0	17.8
	Test Entry Means	133.2	18.6	7.2	57.5	4.3	21.6
	Check Means	146.6	20.1	7.3	58.1	2.8	3.9
	CV	16.3	5.4				
	F-value	2.1	10.2				
	LSD (p=0.05)	27.4	1.3				

101303 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
67	Pioneer 31D58	185.0	22.7	8.1	58.5	2.4	0.0
69	Pioneer 34R65	170.8	19.6	8.7	57.9	10.0	0.6
3	BVIR103:S3115-B-003	169.8	19.8	8.6	57.6	3.1	4.3
47	BVIR103:S3115-B-050	169.6	20.6	8.2	57.2	6.7	9.0
31	BVIR103:S3115-B-034	163.7	21.0	7.8	56.5	0.6	6.2
15	BVIR103:S3115-B-015	162.9	18.5	8.8	56.0	7.9	18.8
66	LH200xLH262	162.0	23.3	7.0	57.2	2.9	4.0
36	BVIR103:S3115-B-039	161.2	22.4	7.2	56.6	5.3	4.1
25	BVIR103:S3115-B-028	160.5	20.7	7.8	57.0	1.7	6.5
35	BVIR103:S3115-B-038	159.8	19.8	8.1	55.6	2.3	7.3
5	BVIR103:S3115-B-005	158.9	19.7	8.1	55.0	4.1	2.1
19	BVIR103:S3115-B-022	157.6	20.9	7.6	55.3	1.8	0.6
65	HC33xLH287	157.2	17.8	8.8	56.8	5.9	10.5
45	BVIR103:S3115-B-048	155.2	20.3	7.7	56.9	2.2	8.3
21	BVIR103:S3115-B-024	154.4	19.4	7.9	56.5	3.3	14.0
6	BVIR103:S3115-B-006	152.7	18.2	8.4	56.7	7.1	5.2
40	BVIR103:S3115-B-043	152.6	20.3	7.5	55.9	0.6	14.0
58	BVIR103:S3115-B-062	151.5	19.5	7.8	56.4	3.9	10.5
62	BVIR103:S3115-B-066	151.4	19.1	7.9	58.8	6.4	7.8
63	BVIR103:S3115-B-067	150.7	18.5	8.1	54.2	18.8	17.0
	Test Entry Means	142.8	19.3	7.4	56.0	7.5	7.5
	Check Means	161.7	20.3	8.0	57.8	4.9	3.0
	CV	13.9	4.4				
	F-value	2.3	9.0				
	LSD (p=0.05)	25.3	1.1				

101304 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	195.3	23.5	8.3	57.4	1.3	0.0
25	DKXL370:S08c17c-B-029	194.7	19.2	10.2	55.0	14.4	5.8
36	DKXL370:S08c17c-B-040	181.5	20.9	8.7	55.0	2.3	1.1
4	DKXL370:S08c17c-B-004	181.1	19.5	9.3	55.4	4.5	6.7
69	Pioneer 33F85	177.4	20.0	8.9	58.5	16.1	2.7
29	DKXL370:S08c17c-B-033	176.9	19.5	9.1	54.1	3.8	1.7
3	DKXL370:S08c17c-B-003	176.7	20.5	8.6	57.6	5.6	2.8
22	DKXL370:S08c17c-B-026	176.1	19.6	9.0	57.5	2.6	15.3
63	DKXL370:S08c17c-B-068	176.1	21.3	8.3	54.7	1.9	14.8
18	DKXL370:S08c17c-B-021	176.0	19.6	9.0	56.9	2.9	1.8
10	DKXL370:S08c17c-B-012	174.6	20.8	8.4	56.0	0.6	5.5
55	DKXL370:S08c17c-B-060	174.6	21.0	8.3	55.0	12.6	19.5
65	DKXL370:S08c17c-B-070	173.7	20.1	8.6	56.9	3.5	0.0
45	DKXL370:S08c17c-B-049	173.4	20.8	8.3	57.1	2.7	0.0
9	DKXL370:S08c17c-B-011	172.8	22.5	7.7	53.1	8.0	5.8
32	DKXL370:S08c17c-B-036	172.8	21.3	8.1	56.5	4.6	10.3
46	DKXL370:S08c17c-B-050	172.4	20.7	8.3	56.1	1.2	3.4
7	DKXL370:S08c17c-B-008	171.7	19.3	8.9	54.4	6.6	3.3
56	DKXL370:S08c17c-B-061	171.3	19.8	8.6	56.8	1.2	6.0
42	DKXL370:S08c17c-B-046	171.1	20.4	8.4	55.2	10.2	10.1
	Test Entry Means	160.9	20.3	7.9	55.8	4.5	7.2
	Check Means	166.5	21.1	7.9	57.6	4.3	3.3
	CV	13.3	4.7				
	F-value	2.0	7.0				
	LSD (p=0.05)	26.9	1.2				

101305 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
13	PASCO14:S0146-060-001	185.2	23.7	7.8	53.4	2.9	17.4
45	Pioneer 31D58	184.1	22.0	8.4	56.3	2.3	0.9
39	PASCO14:S0146-146-001	183.3	20.7	8.9	55.6	4.7	5.0
1	PASCO14:S0146-005-001	183.0	20.1	9.1	56.1	2.8	14.2
4	PASCO14:S0146-016-001	182.5	21.8	8.4	54.5	4.3	8.2
35	PASCO14:S0146-135-001	182.5	20.9	8.7	55.4	3.0	5.3
17	PASCO14:S0146-077-001	181.6	21.2	8.6	56.1	2.9	27.9
30	PASCO14:S0146-121-001	179.3	21.5	8.3	56.3	10.1	9.3
12	PASCO14:S0146-056-001	179.0	21.6	8.3	54.0	6.3	1.7
29	PASCO14:S0146-120-001	176.9	20.8	8.5	56.0	1.8	2.6
23	PASCO14:S0146-096-001	174.7	23.0	7.6	53.2	0.9	9.8
8	PASCO14:S0146-036-001	172.7	20.8	8.3	54.7	5.0	23.1
37	PASCO14:S0146-143-001	172.5	21.5	8.0	55.6	0.9	2.7
3	PASCO14:S0146-013-001	169.7	20.6	8.2	54.9	8.5	12.5
40	PASCO14:S0146-150-001	169.6	21.3	8.0	54.4	7.3	19.2
32	PASCO14:S0146-128-001	169.6	19.7	8.6	56.6	3.8	19.2
22	PASCO14:S0146-088-001	166.5	19.6	8.5	56.6	4.9	11.0
36	PASCO14:S0146-136-001	166.1	21.8	7.6	54.4	3.6	11.9
20	PASCO14:S0146-085-001	166.0	21.3	7.8	55.1	2.8	9.2
24	PASCO14:S0146-099-001	163.4	22.6	7.2	54.1	5.3	26.7
	Test Entry Means	164.8	21.3	7.7	55.0	4.2	11.5
	Check Means	160.3	19.8	8.1	56.3	3.6	1.4
	CV	11.7	4.8				
	F-value	1.8	4.9				
	LSD (p=0.05)	23.9	1.3				

101306 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	191.5	25.8	7.4	57.6	0.0	0.0
67	LH200xLH262	187.5	24.3	7.7	56.7	6.7	9.9
69	Pioneer 33F85	171.3	21.1	8.1	57.8	11.5	0.0
28	CML329:N1834-B-031	168.6	19.1	8.8	58.8	1.3	1.2
66	HC33xLH287	166.2	18.6	8.9	59.0	0.4	3.4
34	CML329:N1834-B-038	162.8	20.1	8.1	55.2	0.5	2.2
70	Pioneer 34R65	162.8	19.4	8.4	60.1	0.9	0.5
55	CML329:N1834-B-060	162.0	20.7	7.8	59.1	2.7	3.3
60	CML329:N1834-B-065	159.9	20.7	7.7	57.0	0.8	1.6
4	CML329:N1834-B-006	159.7	19.1	8.4	59.8	2.1	1.2
15	CML329:N1834-B-018	158.3	18.5	8.5	58.9	4.1	1.2
24	CML329:N1834-B-027	158.1	20.7	7.6	58.4	1.1	1.4
6	CML329:N1834-B-008	157.7	19.3	8.2	58.1	0.9	1.5
10	CML329:N1834-B-013	157.7	19.8	8.0	57.7	0.5	2.6
36	CML329:N1834-B-040	156.5	20.5	7.6	56.9	1.7	0.8
54	CML329:N1834-B-059	156.3	21.2	7.4	58.7	0.0	8.8
51	CML329:N1834-B-056	156.0	18.7	8.3	59.8	2.2	0.4
29	CML329:N1834-B-033	155.6	20.9	7.5	57.1	6.1	0.0
63	CML329:N1834-B-068	153.3	20.9	7.3	59.2	5.9	8.0
65	CML329:N1834-B-070	152.4	21.5	7.1	57.9	1.5	6.7
	Test Entry Means	144.8	20.3	7.1	58.3	2.1	2.3
	Check Means	175.8	21.8	8.0	58.2	3.9	2.7
	CV	11.1	5.1				
	F-value	3.8	7.5				
	LSD (p=0.05)	20.8	1.3				

101307 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	187.5	23.5	8.0	57.0	0.8	0.4
67	LH200xLH262	181.4	23.3	7.8	57.0	2.2	6.0
69	Pioneer 33F85	178.9	20.7	8.7	57.3	4.7	0.4
66	HC33xLH287	170.0	18.8	9.1	56.2	0.5	0.9
7	ANTIG03:N1242-B-007	165.3	20.0	8.3	58.3	0.8	3.5
38	ANTIG03:N1242-B-041	161.4	20.2	8.0	57.1	2.0	1.3
31	ANTIG03:N1242-B-031	161.2	18.2	8.9	58.5	3.1	0.0
52	ANTIG03:N1242-B-056	157.3	19.6	8.0	59.6	0.5	4.2
57	ANTIG03:N1242-B-062	156.8	17.3	9.1	57.8	3.4	1.3
36	ANTIG03:N1242-B-038	156.6	18.2	8.6	57.7	0.9	0.0
18	ANTIG03:N1242-B-018	155.1	18.2	8.5	57.1	6.2	1.4
21	ANTIG03:N1242-B-021	155.0	18.2	8.5	58.7	1.8	0.5
43	ANTIG03:N1242-B-046	154.6	18.1	8.6	57.1	3.3	2.8
4	ANTIG03:N1242-B-004	154.3	18.9	8.2	57.5	2.5	0.8
28	ANTIG03:N1242-B-028	152.4	20.1	7.6	57.0	2.2	3.6
5	ANTIG03:N1242-B-005	152.3	18.6	8.2	58.2	3.3	2.0
63	ANTIG03:N1242-B-068	149.5	19.3	7.7	59.3	2.4	2.1
49	ANTIG03:N1242-B-053	149.1	18.6	8.0	58.5	8.6	1.0
65	ANTIG03:N1242-B-070	149.0	18.1	8.2	57.2	2.2	1.1
62	ANTIG03:N1242-B-067	148.8	18.0	8.3	57.6	2.5	0.5
	Test Entry Means	139.9	18.7	7.5	57.7	2.4	1.8
	Check Means	171.8	21.0	8.2	57.3	1.7	1.6
	CV	13.7	5.1				
	F-value	2.8	8.0				
	LSD (p=0.05)	24.4	1.2				

101308 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
57	Pioneer 31D58	194.4	22.6	8.6	55.9	1.2	1.2
55	HC33xLH287	170.8	17.8	9.6	55.8	2.7	9.5
56	LH200xLH262	167.5	20.9	8.0	56.8	2.6	1.0
58	Pioneer 33F85	162.8	19.9	8.2	55.8	14.4	2.1
59	Pioneer 34R65	161.9	18.2	8.9	57.9	1.9	0.8
49	BR52051:N0412-B-064	158.5	18.6	8.5	57.6	3.3	4.9
39	BR52051:N0412-B-049	157.7	17.4	9.1	54.9	5.5	3.7
19	BR52051:N0412-B-024	157.1	19.3	8.1	58.1	2.2	0.6
38	BR52051:N0412-B-048	156.6	17.6	8.9	55.2	8.5	3.6
30	BR52051:N0412-B-038	154.8	18.2	8.5	56.7	0.4	0.8
2	BR52051:N0412-B-005	154.4	18.2	8.5	56.0	1.5	0.5
47	BR52051:N0412-B-062	150.7	17.6	8.6	56.5	3.2	0.5
33	BR52051:N0412-B-042	150.6	19.3	7.8	56.8	1.5	3.4
36	BR52051:N0412-B-046	149.1	18.1	8.2	57.5	5.1	1.1
50	BR52051:N0412-B-065	148.5	18.5	8.0	57.2	1.6	2.7
5	BR52051:N0412-B-008	147.7	17.1	8.6	56.6	2.4	4.3
54	BR52051:N0412-B-069	146.7	19.0	7.7	58.3	2.3	0.0
34	BR52051:N0412-B-043	145.9	18.8	7.8	55.6	3.4	5.3
27	BR52051:N0412-B-035	145.4	18.2	8.0	58.0	3.2	1.9
8	BR52051:N0412-B-012	144.5	20.4	7.1	57.9	5.0	1.9
	Test Entry Means	132.1	18.7	7.0	57.0	4.0	1.7
	Check Means	171.5	19.9	8.6	56.4	4.6	2.9
	CV	14.7	6.5				
	F-value	5.2	4.6				
	LSD (p=0.05)	25.2	1.5				

101309 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	202.4	21.3	9.5	56.5	0.0	1.4
69	Pioneer 33F85	188.2	18.9	10.0	57.3	2.9	1.1
67	LH200xLH262	185.1	21.1	8.8	56.6	9.7	1.2
30	CML329:N1899d-B-031	172.2	17.7	9.7	57.2	7.8	1.6
50	CML329:N1899d-B-053	171.2	18.8	9.1	58.1	3.0	4.5
66	HC33xLH287	168.9	17.1	9.9	56.3	1.7	1.1
11	CML329:N1899d-B-011	168.7	17.0	9.9	57.0	3.8	1.6
25	CML329:N1899d-B-026	167.4	17.5	9.6	58.7	6.5	1.8
64	CML329:N1899d-B-069	167.3	16.4	10.2	57.5	3.1	2.6
51	CML329:N1899d-B-054	164.9	17.5	9.4	58.8	2.8	5.7
13	CML329:N1899d-B-013	164.6	18.6	8.8	58.7	5.6	10.9
3	CML329:N1899d-B-003	163.5	16.6	9.8	58.8	5.9	0.0
9	CML329:N1899d-B-009	162.0	16.5	9.8	56.9	4.0	0.0
26	CML329:N1899d-B-027	161.0	18.1	8.9	56.3	3.0	1.1
22	CML329:N1899d-B-023	160.8	17.5	9.2	56.4	6.5	1.8
44	CML329:N1899d-B-047	160.3	18.1	8.8	57.8	5.4	1.6
32	CML329:N1899d-B-033	159.7	17.6	9.1	57.7	1.8	0.6
40	CML329:N1899d-B-043	159.7	17.6	9.1	56.4	3.7	0.0
47	CML329:N1899d-B-050	159.6	16.5	9.7	57.3	9.6	8.3
70	Pioneer 34R65	159.6	18.2	8.8	58.8	1.9	3.2
	Test Entry Means	152.5	17.3	8.8	57.8	4.0	1.9
	Check Means	180.8	19.3	9.4	57.1	3.2	1.6
	CV	11.1	4.6				
	F-value	2.7	7.3				
	LSD (p=0.05)	21.4	1.0				

101310 Tester: HC33 Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
66	LH200xLH262	184.4	21.0	8.8	56.4	1.7	0.0
18	CUBA110:N1746-B-018	182.2	18.3	9.9	58.0	3.4	2.3
68	Pioneer 33F85	176.3	18.4	9.6	57.4	13.4	0.0
67	Pioneer 31D58	175.8	19.7	8.9	56.9	1.3	1.1
69	Pioneer 34R65	174.0	17.4	10.0	58.5	0.6	2.5
65	HC33xLH287	165.1	16.7	9.9	56.9	1.1	21.2
11	CUBA110:N1746-B-011	162.8	16.8	9.7	56.3	7.9	8.1
34	CUBA110:N1746-B-036	161.0	16.4	9.8	59.9	2.3	2.1
45	CUBA110:N1746-B-047	156.6	17.1	9.1	56.8	1.9	0.0
40	CUBA110:N1746-B-042	155.7	17.8	8.8	58.6	2.6	2.0
29	CUBA110:N1746-B-031	153.9	16.8	9.2	59.4	1.1	0.6
31	CUBA110:N1746-B-033	152.7	16.6	9.2	56.7	5.7	2.5
53	CUBA110:N1746-B-058	150.7	19.0	7.9	57.5	5.9	3.7
56	CUBA110:N1746-B-061	150.1	17.2	8.7	59.8	4.3	4.4
46	CUBA110:N1746-B-048	147.9	16.7	8.9	56.0	3.8	1.4
54	CUBA110:N1746-B-059	147.8	17.3	8.5	57.9	5.8	3.8
36	CUBA110:N1746-B-038	146.6	16.8	8.7	58.5	3.0	1.8
51	CUBA110:N1746-B-056	146.5	18.1	8.1	59.1	5.7	2.2
61	CUBA110:N1746-B-066	146.3	17.7	8.3	58.3	4.4	1.3
24	CUBA110:N1746-B-026	146.2	17.1	8.5	57.5	1.3	1.3
	Test Entry Means	134.6	17.3	7.8	58.1	4.2	2.9
	Check Means	175.1	18.6	9.4	57.2	3.6	5.0
	CV	12.8	4.3				
	F-value	4.4	5.7				
	LSD (p=0.05)	24.7	1.1				

101311 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
127	Pioneer 31D58	191.1	26.1	7.3	56.6	0.9	0.0
100	DK212T:N11a10-B-110	190.3	22.6	8.4	55.8	0.9	1.4
31	DK212T:N11a10-B-035	175.1	21.5	8.1	56.2	1.8	0.0
133	Pioneer 33F85	174.1	22.5	7.7	57.1	0.0	0.4
36	DK212T:N11a10-B-040	172.9	20.6	8.4	56.5	0.0	2.4
55	DK212T:N11a10-B-060	166.3	21.9	7.6	56.1	1.2	1.9
45	DK212T:N11a10-B-049	165.6	20.7	8.0	57.2	1.4	2.1
71	DK212T:N11a10-B-079	165.3	20.4	8.1	55.9	2.2	0.0
108	DK212T:N11a10-B-118	165.3	22.4	7.4	56.8	2.6	5.2
2	DK212T:N11a10-B-003	165.1	22.4	7.4	57.3	2.3	2.7
44	DK212T:N11a10-B-048	164.9	20.3	8.1	56.6	6.4	6.8
20	DK212T:N11a10-B-024	161.1	19.7	8.2	54.8	2.6	6.9
9	DK212T:N11a10-B-010	160.7	20.5	7.9	56.0	3.6	1.5
52	DK212T:N11a10-B-056	160.4	18.6	8.6	55.5	5.4	2.2
81	DK212T:N11a10-B-091	158.8	20.8	7.6	55.1	3.8	0.8
58	DK212T:N11a10-B-063	158.6	19.6	8.1	56.5	6.6	0.5
114	DK212T:N11a10-B-125	158.5	20.2	7.9	57.6	3.2	0.4
115	DK212T:N11a10-B-126	158.3	21.0	7.5	55.8	0.7	0.3
102	DK212T:N11a10-B-112	158.3	22.8	6.9	56.4	3.0	1.3
76	DK212T:N11a10-B-085	158.0	20.6	7.7	56.3	2.2	5.6
	Test Entry Means	140.4	20.8	6.8	56.4	2.6	2.4
	Check Means	160.2	23.1	6.9	56.6	3.6	1.2
	CV	16.4	5.4				
	F-value	2.4	6.5				
	LSD (p=0.05)	29.7	1.4				

101312 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	210.8	21.7	9.7	57.6	1.1	0.0
69	Pioneer 33F85	186.5	19.5	9.6	57.1	14.7	3.2
48	CML323:N1546-B-049	182.4	19.0	9.6	58.0	10.2	2.8
66	HC33xLH287	177.3	16.9	10.5	56.0	16.4	2.4
70	Pioneer 34R65	177.3	18.4	9.7	58.4	4.3	3.2
39	CML323:N1546-B-040	175.4	19.2	9.2	56.4	4.0	5.6
62	CML323:N1546-B-067	175.3	18.1	9.7	57.1	6.9	1.8
43	CML323:N1546-B-044	173.6	17.3	10.0	58.4	7.8	2.0
22	CML323:N1546-B-022	170.6	17.2	9.9	56.5	6.9	3.7
19	CML323:N1546-B-019	170.3	18.0	9.5	58.5	5.9	6.8
32	CML323:N1546-B-033	168.8	17.6	9.6	56.6	7.7	7.7
3	CML323:N1546-B-003	167.9	17.0	9.9	58.1	11.8	7.8
33	CML323:N1546-B-034	167.6	18.1	9.2	58.9	4.0	2.5
67	LH200xLH262	167.4	22.3	7.5	56.5	2.2	9.2
26	CML323:N1546-B-026	166.5	18.7	8.9	56.7	3.7	2.8
13	CML323:N1546-B-013	166.1	18.8	8.8	57.3	16.5	2.6
31	CML323:N1546-B-032	165.6	18.9	8.8	57.7	9.1	8.0
23	CML323:N1546-B-023	165.0	16.5	10.0	57.4	7.2	1.6
59	CML323:N1546-B-064	163.7	17.0	9.6	57.5	4.1	1.4
41	CML323:N1546-B-042	163.0	18.2	9.0	56.3	4.0	0.5
	Test Entry Means	151.9	18.2	8.3	57.4	7.1	3.3
	Check Means	183.8	19.7	9.3	57.1	7.7	3.6
	CV	11.7	3.9				
	F-value	4.1	9.1				
	LSD (p=0.05)	22.7	0.9				

101313 Tester: MYC-SS Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
73	Pioneer 31D58	169.3	18.1	9.4	59.5	4.1	4.1
51	CML323:N1550-B-0051	156.1	17.1	9.1	59.7	4.3	3.4
71	HC33xLH287	152.8	15.4	10.0	60.2	4.9	10.8
74	Pioneer 33F85	152.5	16.2	9.4	60.4	0.0	0.0
30	CML323:N1550-B-0030	150.8	17.7	8.5	59.2	6.8	4.8
23	CML323:N1550-B-0023	150.7	18.3	8.2	59.0	1.9	5.6
27	CML323:N1550-B-0027	150.0	19.1	7.9	58.1	21.3	6.5
72	LH200xLH262	149.0	18.5	8.0	59.4	3.4	20.0
69	CML323:N1550-B-0069	148.3	16.6	8.9	59.9	10.8	8.8
28	CML323:N1550-B-0028	147.0	19.5	7.5	58.3	2.8	9.3
18	CML323:N1550-B-0018	144.7	18.8	7.7	59.0	3.6	12.5
75	Pioneer 34R65	144.6	16.9	8.6	60.1	1.1	0.0
70	CML323:N1550-B-0070	143.9	18.9	7.6	58.7	15.8	1.9
19	CML323:N1550-B-0019	143.8	18.8	7.6	58.8	14.4	18.7
5	CML323:N1550-B-0005	143.8	17.5	8.2	59.7	3.9	2.0
3	CML323:N1550-B-0003	143.3	17.4	8.2	59.0	9.2	5.1
56	CML323:N1550-B-0056	142.9	17.5	8.2	59.4	0.9	14.3
13	CML323:N1550-B-0013	142.8	17.3	8.3	59.6	7.5	0.0
62	CML323:N1550-B-0062	142.7	18.6	7.7	58.8	2.5	12.5
40	CML323:N1550-B-0040	142.4	16.3	8.7	59.8	1.7	3.5
	Test Entry Means	135.5	18.0	7.5	59.2	6.7	9.0
	Check Means	153.6	17.0	9.0	59.9	2.7	7.0
	CV	12.4	4.9				
	F-value	1.4	5.1				
	LSD (p=0.05)	21.2	1.1				

101314 Tester: AGR-nSS Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
5	CUBA173:S0446-B-077	192.9	22.1	8.7	54.9	3.1	3.2
14	Pioneer 33F85	189.1	19.8	9.6	57.6	4.4	2.2
15	Pioneer 31D58	187.3	21.3	8.8	57.4	2.5	0.4
11	CUBA173:S0446-B-158	180.0	22.5	8.0	55.1	9.0	10.4
1	CUBA173:S0446-B-006	174.4	23.1	7.6	52.6	3.3	1.6
4	CUBA173:S0446-B-048	173.2	23.8	7.3	55.2	8.4	4.4
13	Pioneer 34R65	170.7	17.1	10.0	59.7	4.1	8.8
6	CUBA173:S0446-B-084	170.7	23.2	7.4	56.8	5.1	1.8
2	CUBA173:S0446-B-028	170.2	23.7	7.2	55.2	2.3	5.5
10	CUBA173:S0446-B-147	167.9	21.6	7.8	53.9	3.4	3.0
7	CUBA173:S0446-B-090	164.8	21.0	7.9	54.5	2.2	5.3
17	LH200xLH262	161.1	21.6	7.5	56.3	2.5	10.1
16	HC33xLH287	152.5	16.7	9.1	58.7	7.5	3.2
9	CUBA173:S0446-B-101	151.5	23.0	6.6	54.7	3.2	14.0
3	CUBA173:S0446-B-047	147.5	24.9	5.9	54.8	5.1	5.2
8	CUBA173:S0446-B-091	147.2	24.2	6.1	54.8	6.4	12.8
12	CUBA173:S0446-B-169	142.0	22.7	6.2	54.9	11.9	8.2
	Test Entry Means	165.2	23.0	7.2	54.8	5.3	6.3
	Check Means	172.1	19.3	8.9	57.9	4.2	4.9
	CV	15.3	7.3				
	F-value	1.2	7.7				
	LSD (p=0.05)	38.9	2.4				

101315 Tester: BEC-SS Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
72	LH200xLH262	208.1	25.2	8.3	54.6	2.8	0.6
73	Pioneer 31D58	197.4	25.4	7.8	54.1	0.6	0.6
4	SCROGP3:N3215-B-004	194.4	23.5	8.3	54.1	0.7	0.7
74	Pioneer 33F85	192.5	23.8	8.1	55.3	22.3	0.6
53	SCROGP3:N3215-B-053	189.6	24.9	7.6	54.4	0.6	3.6
19	SCROGP3:N3215-B-019	188.0	24.9	7.6	53.7	0.6	0.6
52	SCROGP3:N3215-B-052	185.7	24.5	7.6	53.7	0.6	1.9
35	SCROGP3:N3215-B-035	184.7	23.5	7.9	55.2	1.8	0.0
50	SCROGP3:N3215-B-050	184.2	23.4	7.9	54.4	6.3	0.5
17	SCROGP3:N3215-B-017	183.5	25.5	7.2	53.3	1.3	0.7
69	SCROGP3:N3215-B-069	182.4	23.6	7.7	54.6	1.6	0.0
58	SCROGP3:N3215-B-058	181.0	24.3	7.5	54.5	3.6	1.2
60	SCROGP3:N3215-B-060	180.9	24.9	7.3	53.5	2.5	0.6
75	Pioneer 34R65	180.8	19.6	9.2	57.1	0.9	0.9
1	SCROGP3:N3215-B-001	178.7	24.6	7.3	54.6	1.4	1.7
61	SCROGP3:N3215-B-061	178.4	25.1	7.1	53.1	1.2	0.7
49	SCROGP3:N3215-B-049	177.3	25.9	6.9	53.2	1.1	0.6
7	SCROGP3:N3215-B-007	177.3	23.1	7.7	54.1	1.8	0.0
13	SCROGP3:N3215-B-013	177.3	25.2	7.0	53.8	0.6	1.2
9	SCROGP3:N3215-B-009	175.8	24.7	7.1	53.7	3.8	0.6
	Test Entry Means	165.2	24.4	6.8	54.2	2.2	1.4
	Check Means	189.8	23.0	8.3	55.3	5.9	1.8
	CV	15.1	7.2				
	F-value	1.8	3.1				
	LSD (p=0.05)	33.2	2.3				

101316 Tester: BEC-SS Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
53	NEI9004:N0803-B-053	202.0	26.8	7.5	53.9	0.6	3.0
27	NEI9004:N0803-B-027	200.7	23.9	8.4	54.5	4.1	0.0
66	NEI9004:N0803-B-066	196.7	25.6	7.7	54.4	5.8	2.2
25	NEI9004:N0803-B-025	196.2	25.5	7.7	53.6	0.5	2.6
37	NEI9004:N0803-B-037	194.8	25.0	7.8	54.1	6.1	1.9
34	NEI9004:N0803-B-034	193.2	23.2	8.3	54.9	3.5	2.4
29	NEI9004:N0803-B-029	192.7	24.5	7.9	54.8	2.7	4.8
50	NEI9004:N0803-B-050	192.5	23.6	8.2	54.7	2.7	0.0
24	NEI9004:N0803-B-024	192.3	27.0	7.1	53.9	3.2	0.6
62	NEI9004:N0803-B-062	192.1	24.1	8.0	55.0	1.8	0.6
39	NEI9004:N0803-B-039	191.7	23.7	8.1	54.2	1.2	0.6
69	NEI9004:N0803-B-069	191.7	22.9	8.4	55.5	4.7	1.5
43	NEI9004:N0803-B-043	191.4	24.8	7.7	54.2	2.2	4.5
57	NEI9004:N0803-B-057	191.3	26.2	7.3	53.8	4.5	3.2
7	NEI9004:N0803-B-007	191.3	24.7	7.7	54.5	4.5	0.0
36	NEI9004:N0803-B-036	190.5	24.8	7.7	54.5	1.8	2.0
72	LH200xLH262	190.3	25.8	7.4	54.5	4.5	0.6
58	NEI9004:N0803-B-058	189.6	25.4	7.5	54.5	1.2	0.5
18	NEI9004:N0803-B-018	189.5	25.7	7.4	54.2	4.4	2.1
73	Pioneer 31D58	189.2	24.6	7.7	54.6	0.6	2.4
	Test Entry Means	179.4	23.9	7.5	54.8	3.7	1.9
	Check Means	176.4	22.6	7.8	55.2	4.6	3.5
	CV	12.4	6.9				
	F-value	1.3	4.4				
	LSD (p=0.05)	30.0	2.2				

101317 Tester: SGI014 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
43	Pioneer 31D58	241.1	19.7	12.2		0.0	1.4
44	Pioneer 33F85	228.1	17.8	12.8		1.4	0.0
42	LH200xLH262	220.8	18.6	11.9		2.3	3.6
37	ANTIG03:N1216-B-B-73	187.9	19.0	9.9		2.1	8.2
18	ANTIG03:N1216-B-B-43	187.2	17.0	11.0		1.8	22.7
40	ANTIG03:N1216-B-B-77	184.9	15.6	11.9		10.8	26.7
33	ANTIG03:N1216-B-B-67	183.8	16.7	11.0		0.9	3.6
4	ANTIG03:N1216-B-B-06	181.6	16.6	11.0		2.1	0.0
8	ANTIG03:N1216-B-B-18	181.3	15.7	11.6		0.5	0.9
19	ANTIG03:N1216-B-B-49	179.1	16.0	11.2		3.6	7.7
41	HC33xLH287	178.9	16.2	11.1		8.2	1.8
45	Pioneer 34R65	177.0	17.3	10.2		0.0	1.4
32	ANTIG03:N1216-B-B-66	173.9	18.1	9.6		11.3	7.2
3	ANTIG03:N1216-B-B-04	172.9	15.5	11.1		9.8	6.3
39	ANTIG03:N1216-B-B-76	171.6	17.8	9.6		8.2	4.1
10	ANTIG03:N1216-B-B-23	171.4	16.0	10.7		4.5	21.4
16	ANTIG03:N1216-B-B-37	171.1	16.3	10.5		5.9	3.6
23	ANTIG03:N1216-B-B-56	170.0	17.6	9.7		1.7	4.2
35	ANTIG03:N1216-B-B-69	169.6	16.6	10.2		4.5	4.0
5	ANTIG03:N1216-B-B-10	168.1	16.8	10.0		3.4	13.5
	Test Entry Means	162.3	16.9	9.6		4.6	7.3
	Check Means	209.2	17.9	11.7		2.4	1.6
	CV	9.3	6.4				
	F-value	10.9	4.7				
	LSD (p=0.05)	19.7	1.4				

101318 Tester: SGI890HXT Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
43	Pioneer 31D58	229.9	19.9	11.6		0.0	2.7
44	Pioneer 33F85	214.9	18.0	11.9		1.9	0.0
42	LH200xLH262	204.9	19.2	10.7		6.2	0.4
27	ANTIG03:N1216-B-B-60	197.3	17.3	11.4		6.6	5.8
32	ANTIG03:N1216-B-B-66	194.0	18.7	10.4		4.4	1.8
4	ANTIG03:N1216-B-B-06	190.4	18.0	10.6		0.9	0.0
40	ANTIG03:N1216-B-B-77	189.6	16.9	11.2		3.1	1.3
33	ANTIG03:N1216-B-B-67	186.4	16.9	11.0		1.3	1.3
41	HC33xLH287	186.0	15.9	11.7		1.4	1.4
19	ANTIG03:N1216-B-B-49	182.8	16.7	10.9		1.8	11.7
5	ANTIG03:N1216-B-B-10	180.8	17.9	10.1		4.4	6.6
24	ANTIG03:N1216-B-B-57	180.7	18.7	9.7		0.0	0.0
6	ANTIG03:N1216-B-B-16	180.6	18.1	10.0		0.5	5.0
39	ANTIG03:N1216-B-B-76	180.2	17.4	10.4		3.1	9.1
36	ANTIG03:N1216-B-B-71	180.2	18.3	9.9		1.8	4.4
8	ANTIG03:N1216-B-B-18	180.0	16.4	11.0		4.4	0.0
3	ANTIG03:N1216-B-B-04	179.7	17.0	10.6		9.1	0.5
16	ANTIG03:N1216-B-B-37	178.8	16.6	10.8		8.1	0.0
29	ANTIG03:N1216-B-B-63	178.6	17.6	10.2		3.1	19.4
12	ANTIG03:N1216-B-B-26	178.6	18.2	9.8		3.6	0.0
	Test Entry Means	172.8	17.5	9.9		4.3	2.9
	Check Means	200.5	17.9	11.2		2.3	1.0
	CV	9.7	5.1				
	F-value	4.7	4.9				
	LSD (p=0.05)	21.3	1.1				

101319 Tester: SGI994HXTrr2 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
43	Pioneer 31D58	250.4	20.0	12.5		0.5	4.1
42	LH200xLH262	239.2	18.8	12.7		0.9	4.0
44	Pioneer 33F85	230.2	16.9	13.6		3.4	6.9
41	HC33xLH287	209.2	16.3	12.9		0.0	0.4
19	ANTIG03:N1216-B-B-49	199.6	16.2	12.4		2.2	1.4
45	Pioneer 34R65	196.7	16.9	11.7		0.5	0.5
18	ANTIG03:N1216-B-B-43	181.9	16.2	11.2		4.1	5.6
3	ANTIG03:N1216-B-B-04	177.8	14.7	12.1		9.6	0.0
2	ANTIG03:N1216-B-B-03	172.5	16.8	10.3		0.9	0.0
1	ANTIG03:N1216-B-B-01	167.0	16.8	9.9		2.8	0.5
22	ANTIG03:N1216-B-B-55	165.6	18.8	8.8		0.5	0.0
40	ANTIG03:N1216-B-B-77	163.0	15.6	10.4		3.2	13.9
39	ANTIG03:N1216-B-B-76	161.4	17.9	9.0		2.3	13.2
12	ANTIG03:N1216-B-B-26	157.4	16.6	9.5		11.9	1.3
5	ANTIG03:N1216-B-B-10	155.7	17.7	8.8		1.9	21.4
37	ANTIG03:N1216-B-B-73	154.9	17.2	9.0		0.9	2.7
9	ANTIG03:N1216-B-B-21	154.8	17.3	8.9		1.4	9.9
15	ANTIG03:N1216-B-B-35	153.2	16.4	9.4		1.4	5.0
32	ANTIG03:N1216-B-B-66	153.2	17.6	8.7		3.2	10.4
36	ANTIG03:N1216-B-B-71	152.9	15.9	9.6		2.3	5.4
	Test Entry Means	140.9	16.6	8.5		3.0	6.7
	Check Means	225.1	17.8	12.7		1.0	3.2
	CV	11.8	6.7				
	F-value	20.1	4.5				
	LSD (p=0.05)	22.4	1.4				

101320 Tester: AGR-nSS BT1 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
53	CUBA173:S0446-B-126	190.8	19.5	9.8	56.0	4.2	2.0
52	CUBA173:S0446-B-123	182.4	23.1	7.9	56.8	0.8	7.4
54	CUBA173:S0446-B-128	177.6	21.1	8.4	56.4	3.6	4.9
26	CUBA173:S0446-B-046	177.2	20.5	8.7	56.7	2.1	6.5
10	CUBA173:S0446-B-016	174.9	20.4	8.6	56.3	2.7	8.4
3	CUBA173:S0446-B-009	174.8	22.4	7.8	55.3	3.2	6.8
76	Pioneer 31D58	174.4	20.9	8.3	58.3	0.4	0.7
55	CUBA173:S0446-B-131	172.1	19.3	8.9	56.6	3.3	12.6
1	CUBA173:S0446-B-004	170.7	20.8	8.2	55.8	1.4	14.9
14	CUBA173:S0446-B-023	170.5	20.7	8.2	55.4	3.5	23.5
50	CUBA173:S0446-B-119	170.4	20.3	8.4	55.9	1.7	19.4
34	CUBA173:S0446-B-068	170.2	19.9	8.5	56.7	1.3	10.1
8	CUBA173:S0446-B-014	170.2	21.6	7.9	54.8	1.3	13.0
21	CUBA173:S0446-B-034	169.9	21.5	7.9	55.8	1.0	5.8
42	CUBA173:S0446-B-097	169.7	21.4	7.9	55.5	2.6	17.1
17	CUBA173:S0446-B-026	169.6	21.8	7.8	55.9	2.4	14.0
66	CUBA173:S0446-B-002	169.6	20.7	8.2	57.0	0.7	4.7
23	CUBA173:S0446-B-038	169.3	20.5	8.2	55.1	1.0	16.0
19	CUBA173:S0446-B-030	168.5	20.0	8.4	56.2	7.3	3.0
36	CUBA173:S0446-B-074	168.3	20.9	8.1	56.6	3.6	4.6
	Test Entry Means	162.0	21.0	7.7	56.2	2.7	8.3
	Check Means	155.0	18.4	8.4	58.8	4.9	4.4
	CV	11.8	6.6				
	F-value	1.4	7.2				
	LSD (p=0.05)	23.8	1.7				

101321 Tester: SYG-SS Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
74	Pioneer 31D58	191.9	15.3	12.5	62.4		
75	Pioneer 33F85	185.0	13.5	13.7	58.9		
49	DKB844:N11b18-172-001	183.0	14.7	12.5	61.4		
68	DKB844:N11b18-241-001	173.3	14.0	12.4	61.2		
22	DKB844:N11b18-066-001	172.3	13.9	12.4	62.0		
33	DKB844:N11b18-105-001	169.5	13.8	12.3	60.2		
71	DKB844:N11b18-248-001	168.1	12.9	13.0	60.0		
67	DKB844:N11b18-238-001	167.3	14.2	11.7			
18	DKB844:N11b18-057-001	167.1	13.4	12.5	58.8		
40	DKB844:N11b18-131-001	166.4	14.9	11.1	61.6		
27	DKB844:N11b18-092-001	165.6	14.2	11.6	59.3		
30	DKB844:N11b18-098-001	165.0	13.7	12.0	60.2		
50	DKB844:N11b18-176-001	163.4	13.1	12.4	57.1		
35	DKB844:N11b18-118-001	163.1	13.4	12.1	61.6		
46	DKB844:N11b18-166-001	162.9	13.6	11.9	57.3		
69	DKB844:N11b18-244-001	162.2	13.4	12.1	60.8		
73	LH200xLH262	162.1	14.8	10.9	61.9		
70	DKB844:N11b18-246-001	161.9	14.0	11.6	60.0		
57	DKB844:N11b18-205-001	161.5	13.8	11.7	59.4		
43	DKB844:N11b18-145-001	160.9	12.6	12.7	57.1		
	Test Entry Means	152.1	13.9	10.9	59.6		
	Check Means	165.2	14.1	11.7	60.3		
	CV	13.7	5.6				
	F-value	1.4	1.8				
	LSD (p=0.05)	31.4	1.2				

101322 Tester: SYG-nSS Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
55	Pioneer 31D58	191.4	14.8	12.9	62.5		
56	Pioneer 33F85	189.8	13.9	13.7	59.7		
14	CUBA164:T26bS41-069-001	188.5	13.3	14.1	58.5		
48	CUBA164:T26bS41-237-001	180.7	13.5	13.4	57.8		
7	CUBA164:T26bS41-013-001	179.1	13.7	13.1	59.6		
4	CUBA164:T26bS41-006-001	177.9	14.6	12.2	60.7		
54	LH200xLH262	177.4	15.4	11.5	63.0		
32	CUBA164:T26bS41-155-001	177.2	15.4	11.5	59.6		
35	CUBA164:T26bS41-167-001	175.1	14.9	11.7	57.8		
43	CUBA164:T26bS41-210-001	174.3	14.0	12.4	60.7		
49	CUBA164:T26bS41-239-001	173.6	13.0	13.3	60.8		
44	CUBA164:T26bS41-215-001	173.1	13.3	13.0	58.8		
39	CUBA164:T26bS41-190-001	172.2	13.4	12.8	58.3		
51	CUBA164:T26bS41-242-001	171.5	13.7	12.6	60.5		
33	CUBA164:T26bS41-158-001	171.3	13.4	12.8	59.7		
29	CUBA164:T26bS41-140-001	170.3	14.1	12.1	60.3		
52	CUBA164:T26bS41-243-001	170.1	14.7	11.6	57.9		
10	CUBA164:T26bS41-040-001	170.0	15.2	11.2	62.1		
20	CUBA164:T26bS41-114-001	169.5	14.8	11.5			
57	Pioneer 34R65	167.3	13.8	12.1	61.2		
	Test Entry Means	159.8	14.0	11.4	59.8		
	Check Means	176.5	14.3	12.3	60.7		
	CV	12.3	6.0				
	F-value	2.1	2.3				
	LSD (p=0.05)	29.1	1.2				

101401 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
56	Pioneer 31D58	186.2	23.8	7.8	56.6	1.1	0.7
55	LH200xLH262	165.6	24.8	6.7	56.5	1.9	0.8
2	PASCO14:N04-012-001	160.6	20.1	8.0	58.0	1.2	0.4
57	Pioneer 33F85	157.8	21.9	7.2	56.5	0.7	13.5
1	PASCO14:N04-004-001	143.6	20.9	6.9	58.1	2.1	0.5
54	HC33xLH287	143.2	19.8	7.2	56.2	2.0	0.4
58	Pioneer 34R65	143.0	20.1	7.1	58.2	1.8	0.4
53	PASCO14:N0405F44-166-001	136.2	19.1	7.1	58.2	5.1	0.3
50	PASCO14:N0405F44-143-001	135.3	23.0	5.9	56.9	1.2	4.0
22	PASCO14:N0405F44-015-001	133.4	21.3	6.3	57.5	4.1	0.0
26	PASCO14:N0405F44-023-001	132.7	20.2	6.6	58.9	2.5	0.9
42	PASCO14:N0405F44-110-001	131.0	21.4	6.1	55.9	4.7	1.3
16	PASCO14:N04-085-001	129.8	20.8	6.3	58.3	2.5	0.9
25	PASCO14:N0405F44-021-001	128.9	22.3	5.8	56.9	7.7	0.0
48	PASCO14:N0405F44-138-001	128.2	21.8	5.9	56.6	2.6	0.4
44	PASCO14:N0405F44-113-001	127.9	20.3	6.3	58.4	4.6	1.2
34	PASCO14:N0405F44-062-001	127.1	19.3	6.6	58.4	2.5	1.0
37	PASCO14:N0405F44-078-001	125.4	21.7	5.8	57.5	2.7	0.0
21	PASCO14:N0405F44-013-001	124.4	21.3	5.8	58.7	1.3	0.0
47	PASCO14:N0405F44-129-001	124.1	21.1	5.9	56.3	4.0	4.1
	Test Entry Means	111.7	20.5	5.4	57.8	4.7	0.8
	Check Means	159.2	22.1	7.2	56.8	1.5	3.2
	CV	16.3	4.6				
	F-value	6.3	7.6				
	LSD (p=0.05)	25.0	1.3				

105201 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
59	Pioneer 33F85	158.3	19.7	8.0	57.7	7.6	2.0
22	AR13035:S23-B-028	151.9	19.8	7.7	57.3	9.8	8.9
20	AR13035:S23-B-026	151.1	18.6	8.1	58.7	5.6	8.7
56	HC33xLH287	149.8	18.8	8.0	57.2	6.1	9.6
13	AR13035:S23-B-019	147.0	18.0	8.2	57.3	3.8	8.9
58	Pioneer 31D58	146.7	21.8	6.7	55.2	2.6	0.9
35	AR13035:S23-B-045	142.3	19.3	7.4	57.3	7.4	6.7
24	AR13035:S23-B-030	142.0	21.0	6.8	57.0	8.4	9.6
49	AR13035:S23-B-063	140.8	21.4	6.6	57.4	12.6	8.8
5	AR13035:S23-B-005	140.5	19.3	7.3	58.7	7.1	15.3
15	AR13035:S23-B-021	140.1	20.9	6.7	58.0	17.7	7.2
57	LH200xLH262	138.7	20.8	6.7	57.4	3.9	4.7
10	AR13035:S23-B-016	137.5	21.3	6.5	57.0	4.0	5.3
46	AR13035:S23-B-060	137.5	18.7	7.4	57.9	8.0	11.8
60	Pioneer 34R65	137.2	18.3	7.5	56.3	2.5	1.3
36	AR13035:S23-B-046	137.0	20.9	6.5	57.5	3.5	3.8
7	AR13035:S23-B-008	136.4	18.4	7.4	57.1	6.1	2.5
37	AR13035:S23-B-047	136.2	20.8	6.6	57.1	3.7	1.9
32	AR13035:S23-B-041	136.0	19.8	6.9	56.3	3.5	2.1
39	AR13035:S23-B-050	134.3	21.1	6.4	57.4	10.4	4.7
	Test Entry Means	129.0	19.8	6.5	57.2	7.3	7.0
	Check Means	146.1	19.9	7.4	56.8	4.5	3.7
	CV	16.1	5.1				
	F-value	1.3	6.6				
	LSD (p=0.05)	27.0	1.3				

105301 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	222.4	21.9	10.2	57.5	2.0	1.3
69	Pioneer 33F85	207.4	19.9	10.4	57.5	1.7	0.9
41	AR16035:S0209-B-045	193.4	19.5	10.4	54.9	5.9	9.6
32	AR16035:S0209-B-036	191.5	20.5	10.4	55.5	3.6	3.3
67	LH200xLH262	185.7	21.5	10.4	57.4	2.3	3.8
6	AR16035:S0209-B-007	184.5	20.3	9.1	55.7	5.3	2.9
9	AR16035:S0209-B-011	184.5	18.0	10.2	57.7	3.8	4.2
60	AR16035:S0209-B-065	183.5	20.4	9.0	57.1	4.5	4.9
33	AR16035:S0209-B-037	183.5	19.8	9.3	57.4	8.2	3.0
50	AR16035:S0209-B-055	182.3	17.1	10.7	56.3	6.5	3.3
47	AR16035:S0209-B-052	180.4	19.1	9.5	56.5	3.5	2.6
61	AR16035:S0209-B-066	180.4	20.0	9.0	54.9	3.4	4.5
59	AR16035:S0209-B-064	179.9	19.6	9.2	56.3	2.2	3.1
23	AR16035:S0209-B-027	179.4	19.5	9.2	54.8	2.7	1.4
58	AR16035:S0209-B-063	179.3	18.6	9.7	55.9	6.0	2.3
70	Pioneer 34R65	178.4	18.7	9.6	58.4	2.1	1.0
25	AR16035:S0209-B-029	176.9	19.2	9.2	56.6	1.8	9.6
62	AR16035:S0209-B-067	176.7	19.2	9.2	56.1	5.0	0.9
5	AR16035:S0209-B-006	176.6	20.5	8.6	55.1	4.5	3.3
39	AR16035:S0209-B-043	176.2	20.2	8.7	57.1	1.9	4.8
	Test Entry Means	167.5	19.3	8.7	56.6	4.1	3.5
	Check Means	193.1	20.0	9.7	57.3	2.2	2.7
	CV	9.3	4.5				
	F-value	3.8	6.2				
	LSD (p=0.05)	19.6	1.1				

105302 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	207.5	21.7	9.6	57.5	2.0	0.9
69	Pioneer 33F85	197.8	20.0	9.9	57.2	5.0	0.9
66	HC33xLH287	189.1	18.3	10.3	55.9	3.3	3.4
67	LH200xLH262	183.9	22.0	8.4	56.9	2.4	4.2
11	UR05017:S0409-B-013	182.7	18.4	9.9	56.2	7.6	8.9
23	UR05017:S0409-B-025	181.6	18.7	9.7	57.1	7.7	11.3
34	UR05017:S0409-B-036	180.8	19.3	9.4	55.8	3.3	3.7
16	UR05017:S0409-B-018	180.0	17.9	10.0	56.7	4.3	2.1
63	UR05017:S0409-B-068	179.3	18.6	9.7	55.7	7.4	5.7
33	UR05017:S0409-B-035	178.4	19.8	9.0	56.3	7.4	7.2
15	UR05017:S0409-B-017	177.4	18.5	9.6	55.9	7.4	6.8
36	UR05017:S0409-B-038	177.1	19.9	8.9	56.4	4.4	3.8
51	UR05017:S0409-B-054	177.0	19.5	9.1	56.5	3.9	6.7
28	UR05017:S0409-B-030	176.3	18.5	9.6	55.3	3.6	6.0
44	UR05017:S0409-B-046	176.0	21.4	8.2	56.3	3.8	0.9
6	UR05017:S0409-B-007	176.0	19.6	9.0	56.3	5.2	7.5
41	UR05017:S0409-B-043	175.7	18.6	9.4	56.4	7.0	2.2
10	UR05017:S0409-B-012	175.0	19.1	9.2	56.2	2.8	6.1
1	UR05017:S0409-B-001	173.5	21.4	8.1	56.6	6.7	4.5
60	UR05017:S0409-B-064	172.5	19.5	8.8	55.5	3.0	0.8
	Test Entry Means	165.4	19.2	8.6	56.4	5.3	4.4
	Check Means	188.5	20.1	9.4	57.2	2.9	2.0
	CV	10.4	4.0				
	F-value	2.4	9.2				
	LSD (p=0.05)	21.7	1.0				

105303 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
74	Pioneer 33F85	187.2	21.8	8.6	57.6	1.8	0.0
71	HC33xLH287	177.4	20.4	8.7	56.4	1.0	3.4
73	Pioneer 31D58	176.1	23.4	7.5	57.3	0.3	0.0
63	UR13085:S99g99s-B-063	174.3	22.2	7.9	56.8	0.7	4.7
2	UR13085:S99g99s-B-002	172.3	22.4	7.7	56.6	9.6	2.7
11	UR13085:S99g99s-B-011	171.8	23.5	7.3	56.3	1.6	2.1
52	UR13085:S99g99s-B-052	169.1	21.7	7.8	55.2	8.2	0.7
33	UR13085:S99g99s-B-033	168.9	21.8	7.7	55.6	4.1	5.3
1	UR13085:S99g99s-B-001	168.4	22.3	7.5	56.5	3.7	6.4
62	UR13085:S99g99s-B-062	168.0	23.2	7.2	57.0	6.3	5.0
35	UR13085:S99g99s-B-035	167.3	21.8	7.7	57.0	6.2	0.8
9	UR13085:S99g99s-B-009	166.2	22.7	7.3	56.7	3.1	2.5
26	UR13085:S99g99s-B-026	166.1	21.7	7.7	56.4	3.1	3.2
15	UR13085:S99g99s-B-015	165.7	23.3	7.1	55.6	17.7	2.6
29	UR13085:S99g99s-B-029	164.8	22.7	7.3	55.1	6.0	7.0
6	UR13085:S99g99s-B-006	164.8	22.0	7.5	57.7	4.4	2.3
60	UR13085:S99g99s-B-060	164.5	22.3	7.4	55.2	5.2	3.3
30	UR13085:S99g99s-B-030	164.4	21.8	7.5	55.7	6.8	3.9
36	UR13085:S99g99s-B-036	164.3	21.7	7.6	56.0	6.3	0.4
31	UR13085:S99g99s-B-031	163.7	24.6	6.6	56.1	0.4	3.8
	Test Entry Means	156.3	22.2	7.0	56.4	5.4	3.2
	Check Means	170.5	21.6	7.9	57.2	1.7	1.4
	CV	13.0	3.9				
	F-value	1.2	6.0				
	LSD (p=0.05)	25.7	1.1				

105304 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
24	UR13085:S99g99u-B-036	169.6	23.4	7.2	55.2	2.2	5.0
47	LH200xLH262	169.4	22.2	7.6	57.2	2.1	3.5
38	UR13085:S99g99u-B-056	169.1	23.2	7.3	55.0	2.7	1.9
27	UR13085:S99g99u-B-039	168.4	22.3	7.5	55.6	3.6	3.3
34	UR13085:S99g99u-B-050	167.3	23.0	7.3	54.1	2.4	2.1
1	UR13085:S99g99u-B-001	166.6	22.3	7.5	55.2	4.1	2.8
32	UR13085:S99g99u-B-048	164.6	23.8	6.9	55.3	1.5	2.1
9	UR13085:S99g99u-B-013	164.5	21.4	7.7	56.7	4.3	3.6
17	UR13085:S99g99u-B-025	163.2	22.0	7.4	55.5	2.0	4.4
40	UR13085:S99g99u-B-058	162.6	22.7	7.2	55.1	4.4	1.2
49	Pioneer 33F85	161.1	20.2	8.0	57.4	8.0	1.7
15	UR13085:S99g99u-B-023	161.0	22.6	7.1	54.4	3.0	2.6
18	UR13085:S99g99u-B-026	159.8	23.6	6.8	54.0	3.2	1.1
7	UR13085:S99g99u-B-008	159.0	22.9	7.0	56.1	2.4	2.5
48	Pioneer 31D58	158.4	22.0	7.2	57.0	3.6	1.0
6	UR13085:S99g99u-B-007	157.3	23.1	6.8	55.6	1.4	2.2
37	UR13085:S99g99u-B-054	157.2	22.4	7.0	55.8	6.3	2.7
5	UR13085:S99g99u-B-005	156.2	24.4	6.4	54.5	1.2	1.2
10	UR13085:S99g99u-B-016	155.8	23.8	6.6	54.8	5.6	2.9
25	UR13085:S99g99u-B-037	153.7	23.1	6.7	55.9	1.0	1.6
	Test Entry Means	150.4	22.9	6.6	55.2	3.2	2.4
	Check Means	153.8	20.2	7.6	57.5	3.2	1.8
	CV	12.0	4.8				
	F-value	2.0	8.5				
	LSD (p=0.05)	22.7	1.4				

105305 Tester: LH287 Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	198.1	22.6	8.8	57.2	0.5	0.5
57	AR17026:S1648-B-060	189.5	20.8	9.1	55.0	9.3	15.8
29	AR17026:S1648-B-030	186.5	19.6	9.5	57.3	4.8	4.9
55	AR17026:S1648-B-058	185.0	20.7	8.9	54.7	5.5	17.3
53	AR17026:S1648-B-055	183.9	20.4	9.0	55.3	6.4	21.3
4	AR17026:S1648-B-004	182.6	20.8	8.8	55.3	8.1	13.0
10	AR17026:S1648-B-010	182.5	20.6	8.9	54.2	3.8	5.4
69	Pioneer 33F85	182.2	20.6	8.8	57.0	10.2	3.2
62	AR17026:S1648-B-065	180.4	19.0	9.5	56.0	2.0	5.8
56	AR17026:S1648-B-059	180.1	20.2	8.9	55.7	5.5	3.4
67	LH200xLH262	179.8	22.8	7.9	56.5	1.3	12.9
40	AR17026:S1648-B-042	178.0	19.5	9.2	55.0	7.8	10.5
49	AR17026:S1648-B-051	177.7	21.4	8.3	54.5	2.7	8.5
31	AR17026:S1648-B-032	177.1	18.5	9.6	56.3	3.1	12.6
28	AR17026:S1648-B-029	176.8	22.1	8.0	54.1	6.3	9.9
25	AR17026:S1648-B-026	176.6	20.4	8.7	57.8	9.9	6.9
58	AR17026:S1648-B-061	175.8	20.1	8.8	57.7	1.2	2.0
21	AR17026:S1648-B-022	175.3	20.7	8.5	55.9	7.1	11.7
34	AR17026:S1648-B-036	175.1	20.9	8.4	55.4	3.4	6.8
20	AR17026:S1648-B-020	173.5	20.6	8.4	55.2	5.6	13.5
	Test Entry Means	166.5	20.5	8.1	55.7	5.7	8.0
	Check Means	178.3	20.9	8.5	56.8	4.0	5.1
	CV	9.8	4.3				
	F-value	1.8	4.9				
	LSD (p=0.05)	22.9	1.2				

105306 Tester: LH287 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
31	AR16021:S08b09b-B-122	197.6	19.6	10.1	56.9	1.7	5.5
64	Pioneer 31D58	192.9	21.9	8.8	56.6	1.8	0.7
65	Pioneer 33F85	189.6	20.4	9.3	56.8	10.5	0.7
15	AR16021:S08b09b-B-066	184.7	21.2	8.7	55.7	2.7	1.0
46	AR16021:S08b09b-B-172	183.8	20.7	8.9	55.5	1.4	2.2
34	AR16021:S08b09b-B-129	183.4	19.5	9.4	56.5	2.1	2.4
11	AR16021:S08b09b-B-040	182.2	20.4	8.9	56.5	1.1	5.1
6	AR16021:S08b09b-B-028	182.0	19.8	9.2	56.7	2.5	1.9
60	AR16021:S08b09b-B-224	181.8	21.2	8.6	55.8	2.3	2.3
27	AR16021:S08b09b-B-108	181.4	20.9	8.7	56.3	2.4	0.7
9	AR16021:S08b09b-B-036	180.1	20.0	9.0	57.2	3.4	3.1
10	AR16021:S08b09b-B-038	180.0	19.5	9.2	57.9	4.4	8.1
30	AR16021:S08b09b-B-112	179.6	18.4	9.7	56.2	3.9	1.3
63	LH200xLH262	178.8	23.0	7.8	56.4	1.4	4.6
38	AR16021:S08b09b-B-145	178.4	19.6	9.1	56.4	2.0	2.7
23	AR16021:S08b09b-B-102	178.3	20.6	8.7	55.9	8.7	5.5
41	AR16021:S08b09b-B-164	177.7	21.2	8.4	55.6	3.2	1.9
35	AR16021:S08b09b-B-130	177.5	19.4	9.2	56.7	2.0	2.5
20	AR16021:S08b09b-B-078	176.4	20.0	8.8	56.7	3.0	1.7
59	AR16021:S08b09b-B-217	175.6	20.3	8.6	56.7	2.0	1.3
	Test Entry Means	170.0	20.3	8.4	56.3	3.6	3.0
	Check Means	179.2	20.5	8.7	56.9	3.3	2.2
	CV	11.3	3.8				
	F-value	1.3	5.7				
	LSD (p=0.05)	24.3	1.0				

105307 Tester: HC33 Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	185.7	23.4	7.9	57.0	2.6	0.0
67	LH200xLH262	165.7	22.3	7.4	56.7	3.8	1.3
66	HC33xLH287	165.5	19.5	8.5	56.4	3.0	1.7
53	AR01150:N0406-B-058	159.1	17.9	8.9	58.6	2.6	0.9
1	AR01150:N0406-B-001	156.2	18.8	8.3	57.0	6.8	5.8
69	Pioneer 33F85	155.1	21.0	7.4	57.2	15.9	3.5
49	AR01150:N0406-B-054	154.9	18.6	8.3	58.2	3.0	3.4
41	AR01150:N0406-B-045	154.6	21.2	7.3	59.2	5.6	5.2
40	AR01150:N0406-B-043	154.1	20.6	7.5	55.8	3.4	1.1
2	AR01150:N0406-B-003	153.6	18.7	8.2	58.5	14.8	1.3
29	AR01150:N0406-B-030	153.2	18.7	8.2	57.1	4.8	0.9
26	AR01150:N0406-B-027	150.8	19.0	7.9	58.4	7.2	3.7
5	AR01150:N0406-B-006	150.0	19.5	7.7	58.2	6.6	1.0
37	AR01150:N0406-B-038	149.5	18.0	8.3	58.6	9.5	4.3
42	AR01150:N0406-B-046	148.7	18.9	7.9	58.0	1.9	3.4
7	AR01150:N0406-B-008	148.4	18.8	7.9	58.1	8.2	2.9
70	Pioneer 34R65	148.0	19.1	7.8	59.4	2.9	0.0
30	AR01150:N0406-B-031	147.6	19.6	7.5	57.4	4.9	4.0
34	AR01150:N0406-B-035	147.6	19.6	7.5	58.1	7.9	1.7
19	AR01150:N0406-B-020	146.4	20.0	7.3	57.0	8.4	1.9
	Test Entry Means	137.5	19.0	7.2	57.8	5.0	2.8
	Check Means	164.0	21.0	7.8	57.3	5.6	1.3
	CV	12.2	4.3				
	F-value	2.6	7.8				
	LSD (p=0.05)	24.1	1.2				

105308 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	189.7	23.4	8.1	56.9	4.2	1.4
67	LH200xLH262	175.9	23.8	7.4	56.8	2.0	2.0
69	Pioneer 33F85	171.7	20.9	8.2	57.2	14.1	0.8
66	HC33xLH287	167.0	19.2	8.7	56.2	6.8	3.9
38	AR03056:N1625-B-040	160.1	18.7	8.6	58.1	4.8	6.0
18	AR03056:N1625-B-018	156.3	17.4	9.0	59.8	5.3	1.7
40	AR03056:N1625-B-042	155.4	17.8	8.7	58.8	3.6	3.2
16	AR03056:N1625-B-016	153.6	15.7	9.8	59.5	2.1	5.3
14	AR03056:N1625-B-014	153.1	17.1	8.9	59.3	7.0	2.0
70	Pioneer 34R65	153.0	19.0	8.1	58.4	0.7	1.1
15	AR03056:N1625-B-015	152.8	16.5	9.3	59.3	2.4	2.3
8	AR03056:N1625-B-008	152.5	18.9	8.1	57.6	6.5	4.0
57	AR03056:N1625-B-060	152.5	18.1	8.4	59.0	5.6	1.5
24	AR03056:N1625-B-024	151.4	18.3	8.3	59.8	1.7	0.9
37	AR03056:N1625-B-038	148.6	18.0	8.2	57.8	5.4	8.0
54	AR03056:N1625-B-057	148.5	19.5	7.6	57.0	5.6	4.0
2	AR03056:N1625-B-002	146.9	17.3	8.5	59.4	3.6	1.8
51	AR03056:N1625-B-053	146.0	18.3	8.0	59.4	1.0	0.7
7	AR03056:N1625-B-007	145.4	19.7	7.4	56.8	3.8	1.5
44	AR03056:N1625-B-046	145.3	18.7	7.8	58.7	4.1	7.5
	Test Entry Means	138.3	17.7	7.8	58.6	4.6	3.0
	Check Means	171.5	21.3	8.1	57.1	5.6	1.9
	CV	12.4	4.8				
	F-value	2.9	14.7				
	LSD (p=0.05)	22.0	1.1				

105309 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	188.2	21.5	8.8	58.2	1.3	1.7
69	Pioneer 33F85	187.2	20.7	9.1	58.0	3.2	0.4
66	HC33xLH287	178.9	17.7	10.1	57.5	1.1	1.7
55	AR16021:N2199q-B-056	174.9	17.8	9.8	58.0	3.3	1.1
28	AR16021:N2199q-B-028	174.5	16.9	10.4	58.9	4.3	0.0
67	LH200xLH262	172.7	22.5	7.7	57.6	4.4	3.5
70	Pioneer 34R65	166.6	18.2	9.2	59.2	1.8	1.1
35	AR16021:N2199q-B-035	161.5	16.2	9.9	58.9	5.5	1.2
57	AR16021:N2199q-B-058	160.2	16.6	9.7	59.2	3.7	1.9
27	AR16021:N2199q-B-027	158.3	16.5	9.6	59.0	1.9	0.0
4	AR16021:N2199q-B-004	156.4	16.9	9.3	59.3	3.4	0.4
63	AR16021:N2199q-B-068	155.9	17.2	9.1	58.4	3.5	0.4
6	AR16021:N2199q-B-006	155.8	16.4	9.5	58.2	4.1	0.3
44	AR16021:N2199q-B-044	155.6	16.2	9.6	58.8	1.7	0.0
5	AR16021:N2199q-B-005	154.7	17.1	9.1	59.2	1.8	1.1
40	AR16021:N2199q-B-040	153.6	16.2	9.5	59.2	4.4	1.8
1	AR16021:N2199q-B-001	152.5	16.5	9.2	58.0	7.3	0.0
41	AR16021:N2199q-B-041	152.3	17.5	8.7	58.4	3.6	0.9
46	AR16021:N2199q-B-046	152.1	16.6	9.2	57.9	8.0	0.0
23	AR16021:N2199q-B-023	151.4	16.6	9.1	58.9	1.1	0.0
	Test Entry Means	144.4	16.9	8.5	58.4	3.1	0.7
	Check Means	178.7	20.1	8.9	58.1	2.4	1.7
	CV	12.0	4.2				
	F-value	3.1	16.3				
	LSD (p=0.05)	22.0	0.9				

105310 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
69	Pioneer 33F85	177.5	20.3	8.7	57.9	4.4	0.8
68	Pioneer 31D58	164.6	21.6	7.6	57.9	2.7	1.4
67	LH200xLH262	164.4	22.5	7.3	57.5	4.5	1.7
22	AR17026:N1019-B-024	164.4	18.8	8.7	57.6	3.9	3.3
38	AR17026:N1019-B-042	162.2	17.1	9.5	58.9	2.1	3.9
11	AR17026:N1019-B-013	160.0	18.4	8.7	57.1	5.4	1.5
70	Pioneer 34R65	156.7	18.4	8.5	59.3	4.5	0.8
17	AR17026:N1019-B-019	156.4	19.0	8.2	58.5	8.7	3.0
7	AR17026:N1019-B-009	156.2	18.9	8.2	57.8	4.3	1.9
50	AR17026:N1019-B-054	155.2	19.5	8.0	58.3	3.7	2.8
30	AR17026:N1019-B-033	151.7	21.7	7.0	56.9	8.1	4.7
26	AR17026:N1019-B-029	150.2	18.7	8.0	58.0	9.1	1.4
64	AR17026:N1019-B-069	149.8	17.9	8.4	59.2	4.1	1.3
13	AR17026:N1019-B-015	148.7	18.5	8.1	58.9	2.6	1.2
60	AR17026:N1019-B-065	147.6	17.7	8.3	58.7	2.8	1.8
23	AR17026:N1019-B-025	147.3	17.0	8.7	58.7	3.0	1.2
34	AR17026:N1019-B-038	146.2	17.8	8.2	59.6	2.9	5.5
2	AR17026:N1019-B-002	145.5	17.8	8.2	58.0	3.5	4.1
29	AR17026:N1019-B-032	145.2	17.7	8.2	58.3	8.8	5.3
42	AR17026:N1019-B-046	144.7	17.5	8.3	58.9	2.0	0.4
	Test Entry Means	138.2	18.2	7.6	58.3	4.8	2.2
	Check Means	161.1	20.1	8.0	58.0	3.8	1.4
	CV	14.0	3.7				
	F-value	2.4	15.8				
	LSD (p=0.05)	24.3	2.0				

105311 Tester: HC33 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
58	Pioneer 31D58	188.5	21.6	8.7	57.0	1.4	1.0
59	Pioneer 33F85	186.1	20.5	9.1	57.4	1.9	0.0
57	LH200xLH262	173.5	23.0	7.6	57.2	3.1	2.4
29	UR10001:N1708e-B-029	171.6	17.1	10.0	58.3	0.4	0.7
10	UR10001:N1708e-B-010	165.7	19.6	8.4	58.3	2.1	1.1
56	HC33xLH287	164.4	17.9	9.2	57.7	2.3	2.2
60	Pioneer 34R65	157.5	18.5	8.5	59.4	1.2	0.8
1	UR10001:N1708e-B-001	153.0	17.6	8.7	58.6	2.8	2.0
18	UR10001:N1708e-B-018	151.3	16.9	8.9	59.5	6.1	2.8
14	UR10001:N1708e-B-014	150.9	17.7	8.5	60.1	2.6	0.0
20	UR10001:N1708e-B-020	150.7	16.3	9.2	58.8	4.6	2.0
48	UR10001:N1708e-B-048	150.3	18.0	8.3	59.9	0.3	0.3
42	UR10001:N1708e-B-042	149.6	16.8	8.9	60.2	1.0	1.2
50	UR10001:N1708e-B-050	149.3	17.0	8.8	58.4	3.1	1.9
34	UR10001:N1708e-B-034	148.1	16.5	9.0	57.1	2.2	1.8
30	UR10001:N1708e-B-030	147.0	17.2	8.5	59.2	2.3	0.8
39	UR10001:N1708e-B-039	146.9	17.2	8.5	59.1	1.9	1.6
47	UR10001:N1708e-B-047	146.1	17.2	8.5	59.8	2.9	3.3
37	UR10001:N1708e-B-037	144.3	17.1	8.4	58.5	9.8	2.9
54	UR10001:N1708e-B-054	143.7	18.1	7.9	58.8	3.7	0.8
	Test Entry Means	138.9	17.5	7.9	58.9	3.1	1.8
	Check Means	174.0	20.3	8.6	57.7	2.0	1.3
	CV	11.9	4.8				
	F-value	3.5	9.9				
	LSD (p=0.05)	21.1	1.1				

105312 Tester: MBS8814 Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
58	Pioneer 31D58	186.5	22.9	8.1	57.7	0.7	1.0
59	Pioneer 33F85	179.3	20.9	8.6	58.1	1.1	0.7
2	AR17056:S1216-015-001	174.3	21.2	8.2	57.1	5.0	2.9
9	AR17056:S1216-036-001	172.8	22.3	7.8	57.0	0.8	3.0
35	AR17056:S1216-117-001	169.1	21.9	7.7	57.2	2.9	2.3
25	AR17056:S1216-089-001	168.3	20.7	8.1	57.1	2.1	1.1
50	AR17056:S1216-169-001	167.4	21.5	7.8	57.0	1.8	1.5
4	AR17056:S1216-022-001	167.2	23.0	7.3	55.7	2.5	0.7
3	AR17056:S1216-020-001	165.4	20.9	7.9	57.4	3.8	5.6
21	AR17056:S1216-077-001	165.3	21.1	7.8	58.3	1.6	3.1
56	HC33xLH287	164.5	18.5	8.9	57.3	2.7	2.3
24	AR17056:S1216-084-001	164.5	21.3	7.7	57.7	2.2	1.3
60	Pioneer 34R65	162.4	18.5	8.8	59.3	1.5	0.8
27	AR17056:S1216-094-001	161.4	22.3	7.2	56.2	2.1	1.3
38	AR17056:S1216-129-001	160.4	22.0	7.3	57.5	0.0	0.8
19	AR17056:S1216-071-001	159.7	21.5	7.4	56.9	3.9	1.7
41	AR17056:S1216-138-001	159.6	22.8	7.0	56.8	2.4	4.2
57	LH200xLH262	159.1	22.5	7.1	57.2	1.4	2.3
43	AR17056:S1216-150-001	159.1	21.9	7.3	57.2	0.5	2.3
11	AR17056:S1216-040-001	159.0	23.0	6.9	56.3	0.9	0.0
	Test Entry Means	145.3	22.0	6.6	56.8	2.4	1.5
	Check Means	170.4	20.7	8.2	57.9	1.5	1.4
	CV	12.4	4.2				
	F-value	6.2	10.2				
	LSD (p=0.05)	23.0	1.2				

105313 Tester: MYC-SS Rep: 4

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
59	Pioneer 33F85	182.0	16.6	11.0	60.2	9.8	3.6
57	LH200xLH262	172.9	17.9	9.7	59.7	7.5	9.6
28	AR17056:N2016-B-0035	165.9	17.1	9.7	59.5	3.4	5.1
58	Pioneer 31D58	165.3	17.7	9.4	60.0	3.6	0.9
19	AR17056:N2016-B-0024	164.9	17.6	9.4	59.0	4.3	2.6
13	AR17056:N2016-B-0018	162.3	15.4	10.5	59.9	6.5	4.7
6	AR17056:N2016-B-0009	161.4	17.7	9.1	59.1	1.0	3.0
48	AR17056:N2016-B-0061	161.3	16.5	9.8	59.7	2.9	4.7
52	AR17056:N2016-B-0066	160.3	16.9	9.5	59.4	3.4	5.9
55	AR17056:N2016-B-0070	160.0	17.8	9.0	58.5	2.5	13.1
8	AR17056:N2016-B-0011	157.8	17.7	8.9	58.9	3.9	3.9
9	AR17056:N2016-B-0012	157.5	16.8	9.4	59.5	6.8	6.0
49	AR17056:N2016-B-0062	156.9	16.0	9.8	59.7	3.9	11.8
21	AR17056:N2016-B-0026	155.3	15.7	9.9	59.9	6.7	3.4
42	AR17056:N2016-B-0052	155.0	16.2	9.6	59.9	7.6	3.8
2	AR17056:N2016-B-0002	154.5	14.9	10.4	60.5	2.1	5.2
18	AR17056:N2016-B-0023	154.3	16.4	9.4	59.1	4.3	7.8
3	AR17056:N2016-B-0003	153.5	15.3	10.1	59.9	1.9	2.9
5	AR17056:N2016-B-0006	152.6	17.8	8.6	59.2	14.4	8.7
14	AR17056:N2016-B-0019	152.5	16.0	9.6	60.3	8.8	6.9
	Test Entry Means	147.9	16.4	9.0	59.6	5.5	6.1
	Check Means	161.2	16.5	9.8	60.3	6.4	5.1
	CV	9.7	5.7				
	F-value	2.1	3.0				
	LSD (p=0.05)	20.1	1.3				

105314 Tester: TR4010 Rep: 6

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
49	Pioneer 35F40	195.8	22.1	8.8	56.8	2.0	0.0
44	Pioneer 37Y14	189.4	21.4	8.9	57.5	0.4	0.0
46	2C441	179.5	20.5	8.8	57.6	4.2	0.0
50	HL B49R	176.0	21.3	8.3	56.7	2.7	0.3
26	UR10001:N1708e-B-029	169.6	23.3	7.3	57.3	1.7	0.0
47	2P484	166.8	19.5	8.5	56.7	0.3	0.2
45	HL CVR64	166.3	19.8	8.4	56.9	0.3	0.0
42	UR10001:N1708e-B-053	165.6	21.9	7.6	56.2	2.3	0.3
43	UR10001:N1708e-B-054	164.6	24.9	6.6	57.3	1.7	0.3
22	UR10001:N1708e-B-025	163.3	23.0	7.1	56.8	2.8	0.0
14	UR10001:N1708e-B-015	158.9	23.1	6.9	57.6	1.0	1.1
8	UR10001:N1708e-B-009	156.1	22.0	7.1	57.2	3.3	0.2
48	DKC 46-60	154.6	19.8	7.8	57.4	0.6	0.0
41	UR10001:N1708e-B-051	153.7	21.0	7.3	56.8	5.7	0.0
27	UR10001:N1708e-B-030	153.6	21.3	7.2	57.7	5.3	0.0
33	UR10001:N1708e-B-039	153.1	21.0	7.3	58.0	5.3	0.5
10	UR10001:N1708e-B-011	152.8	23.5	6.5	56.8	8.7	0.0
35	UR10001:N1708e-B-041	152.4	21.3	7.2	57.4	3.3	0.5
31	UR10001:N1708e-B-037	152.0	21.2	7.2	58.1	8.3	0.0
37	UR10001:N1708e-B-043	152.0	23.1	6.6	57.9	1.7	0.0
	Test Entry Means	144.6	22.1	6.5	57.5	6.5	0.2
	Check Means	175.5	20.6	8.5	57.1	1.5	0.1
	CV	14.6	5.2				
	F-value	3.2	6.2				
	LSD (p=0.05)	25.7	1.3				

106301 Tester: HC33 Rep: 6

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
58	Pioneer 31D58	217.3	23.3	9.3	56.7	0.0	0.0
59	Pioneer 33F85	195.4	21.0	9.3	56.8	3.0	0.4
26	BR106:T33aN20-B-045	187.7	18.4	10.2	56.6	0.8	2.7
1	DKXL380:N11a14-030-001	186.5	20.2	9.2	58.0	4.8	0.3
4	DKXL380:N11a14-104-001	185.2	18.9	9.8	59.5	1.8	0.0
56	HC33xLH287	183.1	18.0	10.2	58.7	1.7	2.7
7	DKXL370:N11a14-070-001	183.1	19.5	9.4	58.4	1.7	3.1
53	BR105:N1641-159-001	181.8	17.7	10.3	58.7	1.6	0.3
3	DKXL380:N11a14-083-001	179.6	20.5	8.7	57.6	4.2	0.6
23	BR106:T33aN20-B-004	178.6	19.7	9.1	56.4	0.4	0.0
54	UR02005:N2011c-B-055	176.5	17.9	9.9	60.5	3.9	1.0
31	GUAT209:N11c41-276-001	176.5	20.9	8.4	56.7	2.3	0.0
51	BR105:N1641-083-001	175.5	20.2	8.7	56.0	1.6	1.0
29	GUAT209:N11c41-321-001	174.7	20.0	8.8	58.6	1.3	0.0
55	GUAT209:N11c41-274-001	173.1	19.8	8.7	57.6	1.1	1.0
18	BR105:N1641-095-001	170.2	18.5	9.2	57.9	1.4	2.9
28	GUAT209:N11c41-251-001	170.1	18.5	9.2	59.1	4.6	4.0
57	LH200xLH262	168.5	24.9	6.8	55.6	2.6	2.7
2	DKXL380:N11a14-047-001	168.5	19.5	8.6	58.3	0.8	0.0
17	BR105:N1641-090-001	167.7	17.9	9.4	59.2	0.8	1.6
	Test Entry Means	161.4	18.9	8.5	58.6	2.0	1.3
	Check Means	186.2	21.2	8.8	57.4	1.7	1.1
	CV	10.3	5.8				
	F-value	5.3	12.9				
	LSD (p=0.05)	19.1	1.3				

106401 Tester: HC33 Rep: 8

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
59	Pioneer 33F85	191.8	20.2	9.5	57.5	1.4	0.6
30	AR01150:S0121-B-054	181.0	19.0	9.5	56.1	3.9	3.0
29	BVIR155:S2012-029-001-B-B	172.9	18.6	9.3	56.0	5.8	1.3
55	MBS3644GT/MBS5411	170.7	16.2	10.5	56.5	3.5	0.2
23	FS8A(T):N1804-006-001	168.7	19.4	8.7	57.6	7.2	0.9
20	CUBA117:S1520-041-001-B-B-B	168.3	16.8	10.0	58.7	1.6	1.8
49	UR02005:N2011c-B-022	167.7	17.7	9.5	58.8	4.3	1.3
42	AR17026:N1012-066-001	165.6	17.1	9.7	56.6	2.5	1.4
26	AR13026:N08c06-056-003-001-003	164.7	15.7	10.5	58.3	3.1	1.4
4	UR13010:N0602-125-001	164.4	18.1	9.1	57.6	1.6	1.3
36	FS8B(T):N11a14-078-001	163.7	20.8	7.9	57.4	6.9	0.9
57	HC33/LH287	162.6	18.1	9.0	56.7	2.8	0.6
48	UR02005:N2011c-B-021	162.0	17.7	9.2	58.3	3.1	2.8
27	AR13026:N08c06-056-003-001-004	161.8	16.4	9.9	59.7	4.0	2.8
21	FS8A(T):N1804-B-026	160.5	18.4	8.7	59.3	3.3	2.1
2	UR13010:N0602-054-001	157.8	18.3	8.6	57.8	3.7	2.0
18	CHIS740:S1411a-783-002-B-B-Sib	156.3	16.1	9.7	56.5	4.4	1.3
41	AR17026:N1012-059-001	156.2	17.9	8.7	58.5	3.3	0.6
37	FS8B(T):N11a14-097-001	155.4	17.5	8.9	58.0	2.1	0.4
10	AR17026:N1012-028-001	155.1	16.3	9.5	57.5	2.0	4.3
	Test Entry Means	149.9	17.5	8.6	58.0	4.5	1.7
	Check Means	164.8	17.7	9.3	57.5	2.4	0.3
	CV	15.9	4.7				
	F-value	2.4	14.2				
	LSD (p=0.05)	24.0	0.8				

106402 Tester: MBS9508 Rep: 7

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
57	Pioneer 31D58	190.1	23.4	8.1	57.0	1.0	0.3
1	(GEMS-0113/GEMS-0091)-B-058-001	187.8	18.8	10.0	58.7	1.2	1.2
14	BR51039:S1520-B-047	183.0	20.1	9.1	57.3	1.9	5.6
11	BR51039:S1520-B-017	182.2	18.1	10.1	59.0	1.2	4.4
43	DKXL370:S08c17a-016-001-002	180.1	17.1	10.5	58.6	3.1	7.1
2	(GEMS-0113/GEMS-0091)-B-068-001	177.4	19.1	9.3	58.9	3.2	0.0
9	AR16021:S08a02-B-057	177.4	19.0	9.4	58.0	1.4	1.1
3	(GEMS-0113/GEMS-0091)-B-094-001	177.0	19.1	9.3	59.0	2.4	3.2
49	DKXL370:S08c17a-001-001-003	176.8	17.1	10.3	58.3	5.0	3.1
18	(GEMS-0092/GEMS-0116)-B-B-062	176.8	19.4	9.1	58.4	1.1	3.7
50	DKXL370:S08c17a-001-001-004	175.3	16.9	10.4	58.4	2.2	3.4
15	(GEMS-0092/GEMS-0116)-B-B-005	173.6	22.2	7.8	57.3	2.6	3.8
51	DKXL370:S08c17a-001-001-005	172.7	17.3	10.0	58.4	4.5	3.1
34	MBRC10:S1741-B-064	172.6	18.7	9.2	57.5	1.0	6.0
33	MBRC10:S1741-B-057	172.2	16.5	10.5	59.2	3.0	2.7
58	Pioneer 33F85	171.9	20.5	8.4	57.1	2.4	1.4
47	DKXL370:S08c17a-001-001-001	170.6	17.2	9.9	59.5	0.8	0.0
44	DKXL370:S08c17a-016-001-003	170.6	17.5	9.8	59.1	2.3	1.7
31	MBRC10:S1741-B-010	170.4	19.8	8.6	58.6	1.6	2.8
52	DKXL370:S08c17a-044-002-001	170.2	17.0	10.0	59.3	0.6	0.6
	Test Entry Means	166.0	18.3	9.1	58.9	1.8	2.7
	Check Means	170.9	20.5	8.4	57.5	1.7	1.8
	CV	11.5	5.1				
	F-value	1.6	20.0				
	LSD (p=0.05)	20.5	1.0				

106403 Tester: LH287 Rep: 7

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
68	Pioneer 31D58	195.5	24.1	8.1	56.3	0.3	0.0
1	(GEMS-0113/GEMS-0091)-B-058-001	189.7	20.5	9.3	56.4	2.0	4.9
17	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-031	184.8	19.5	9.5	57.7	0.7	2.2
63	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-052	184.7	21.4	8.6	55.2	0.6	2.5
44	DKXL370:S08c17a-044-002-003	184.5	21.1	8.8	55.1	1.8	10.2
3	(GEMS-0113/GEMS-0091)-B-094-001	183.1	21.5	8.5	55.7	2.0	4.5
62	(GEMS-0092/GEMS-0116)-B-B-003	183.1	22.4	8.2	54.8	0.3	9.0
51	(GEMS-0092/GEMS-0116)-B-B-005	181.8	26.8	6.8	53.5	3.2	12.2
13	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-011	180.9	20.8	8.7	55.9	1.2	1.7
18	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-052	180.8	21.5	8.4	55.4	1.2	1.5
43	DKXL370:S08c17a-044-002-002	180.1	19.1	9.4	56.3	1.1	7.7
15	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-020	179.5	19.6	9.2	56.8	0.3	1.5
40	DKXL370:S08c17a-001-001-002	179.2	20.2	8.9	56.6	1.7	3.3
26	MBRC10:S1741-B-057	178.8	18.7	9.6	56.2	1.4	4.7
12	(CUBA164:S2012-459-001-B/GEMS-0002)-B-B-003	178.7	18.6	9.6	56.7	1.0	0.2
57	DKXL370:S08c17a-001-001-003-B	177.3	20.0	8.9	55.9	1.6	3.7
64	DKXL370:S08c17a-016-001-004-B	177.2	23.0	7.7	54.2	0.6	6.2
10	BR51039:S1520-B-037	176.6	20.7	8.5	56.1	2.0	3.6
42	DKXL370:S08c17a-044-002-001	176.5	20.8	8.5	55.0	3.5	7.4
11	BR51039:S1520-B-047	176.0	23.2	7.6	54.3	2.6	7.9
	Test Entry Means	167.4	21.3	7.9	55.8	1.9	5.6
	Check Means	174.3	21.5	8.1	57.1	2.0	3.7
	CV	10.2	5.4				
	F-value	3.8	13.6				
	LSD (p=0.05)	18.0	1.2				

106404 Tester: NA Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
49	Pioneer 33F85	175.3	21.8	8.0	56.7	7.3	0.0
47	LH200xLH262	170.9	23.5	7.3	56.7	1.2	7.3
48	Pioneer 31D58	170.6	23.8	7.2	56.9	1.1	0.0
18	DKB844:S1601-073-001-B-B-B-B-B-B/SCR Gp3:N14-028-003-003-B-B-B	167.0	23.3	7.2	55.7	3.9	7.1
22	DKB844:S1601-073-001-B-B-B-B-B-B/PASCO14:N0424-078-001-B-B	163.3	24.1	6.8	55.9	2.2	5.9
45	KO679Y/FS8B(T):N11a-087-001-B-B-SIB	158.7	25.7	6.2	54.3	10.0	4.3
21	DKB844:S1601-073-001-B-B-B-B-B-B/ANTIG03:N1218-056-001-B-B	157.2	22.0	7.1	57.4	2.3	3.7
8	DKB844:S1601-073-001-B-B-B-B-B-B/FS8B(T):N11a-087-001-B-B-SIB	154.1	20.5	7.5	56.4	16.4	9.7
6	CUBA117:S1542-057-002-B-B-SIB/DK888:N11a08a-395-001-B-B-SIB	153.0	22.3	6.9	57.9	1.5	4.0
43	DKB844:S1601-073-001-B-B-B-B-B-B/B116	152.2	21.1	7.2	57.0	13.4	3.9
24	DKB844:S1601-073-001-B-B-B-B-B-B/SCROGP3:N2017-172-001-B-B	151.6	22.5	6.7	55.5	6.1	3.3
44	GUAT209:S1308a-047-001-B-B-SIB/DK888:N11a08a-440-001-B-B-SIB	151.0	24.8	6.1	55.0	1.4	7.8
7	CUBA164:S2008c-289-001-B-B-SIB/DK888:N11a08a-395-001-B-B-SIB	150.8	22.5	6.7	57.2	3.6	6.8
38	GUAT209:S1308a-084-001-B-B-SIB/ANTIG03:N1218-056-001-B-B	150.3	22.1	6.8	56.8	3.4	5.8
13	GUAT209:S1308a-084-001-B-B-SIB/BR51721:N2012-098-002-B-B-SIB	150.2	20.9	7.2	56.2	2.5	1.3
10	CUBA164:S15-007-009-002-B-B-B-B-B-B-B/AR17056:N2025 Select # 10-B-B-B-B-B-B	149.7	22.2	6.7	58.1	2.0	7.0
34	CUBA164:S2008c-289-001-B-B-SIB/UR11002:N0308b-086-001-B-B	147.8	22.5	6.6	57.5	5.8	8.3
46	HC33xLH287	147.6	19.8	7.5	57.0	1.4	6.4
33	CUBA164:S2008c-289-001-B-B-SIB/PASCO14:N0424-078-001-B-B	147.1	24.6	6.0	56.1	3.1	7.3
15	CUBA117:S1542-057-002-B-B-SIB/FS8B(T):N11a-087-001-B-B-SIB	146.6	20.5	7.1	56.7	1.4	3.1
	Test Entry Means	142.3	21.5	6.6	56.6	6.2	4.9
	Check Means	161.5	21.8	7.4	57.1	2.4	2.8
	CV	15.0	4.7				
	F-value	1.9	23.0				
	LSD (p=0.05)	27.0	1.3				

106405 Tester: NA Rep: 5

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
26	BR105:S1612-008-001/LH287	204.1	20.1	10.2	56.1	2.2	5.0
45	DKB844:S1601-073-001-B-B-B-B/LH287	200.8	21.1	9.5	55.2	1.9	9.9
48	Pioneer 31D58	196.8	22.1	8.9	57.2	0.7	0.0
16	CUBA164:S2012-966-001-B wx/DKXL370:N11a20-036-002-B wx	195.2	20.8	9.4	56.0	1.7	2.0
25	BR105:S1640-128-001/LH287	182.2	20.7	8.8	54.8	8.3	23.5
8	BR105:S1640-033-001-B/FS8B(T):N11a08c-030-002-B-B-SIB	178.5	21.5	8.3	54.8	7.3	3.7
6	BR105:S1640-033-001-B/AR13026:N08b15-086-B-B-SIB	178.1	23.6	7.5	55.5	7.4	8.4
47	LH200xLH262	177.7	21.8	8.1	56.8	2.5	3.9
11	CHIS740:S1411a-783-002-B-B-Sib/MDI022:N2120-333-001-B-B-B	177.6	21.1	8.4	54.8	4.2	1.6
41	UR11002:N0308b-086-001/HC33	177.0	19.2	9.2	56.9	4.2	5.0
32	FS8B(T):N11a-322-001-B-B-Sib/HC33	176.5	17.1	10.3	57.9	4.3	10.8
49	Pioneer 33F85	175.1	19.0	9.2	57.1	8.3	2.5
18	Blue Ridge White Cap/((Mo15W/Mo16W)/Mo24W)/LH287	174.3	18.4	9.5	56.2	0.9	3.6
3	FS8B(T):N11a-087-001-B-B-SIB/DKB844:S1601-073-001-B-B-B-B-B-B	173.7	19.0	9.1	55.5	2.8	1.5
42	PASCO14:N0424-078-001/HC33	172.6	20.3	8.5	57.4	4.9	2.1
37	DKXL212:S0912-117-001/LH287	171.1	17.1	10.0	55.7	4.4	2.7
9	HC33/FS8B(T):N11a08c-030-002-B-B-SIB	170.4	17.2	9.9	55.2	9.8	1.2
17	CUBA164:S2012-444-001-B wx/UR13085:N0215-014-001-B wx	170.1	21.0	8.1	57.8	3.9	21.5
44	GUAT209:S1308a-084-001/LH287	169.0	20.7	8.2	52.8	3.6	2.2
28	FS8A(T):N1804-006-001/HC33	167.8	19.2	8.7	56.7	1.2	3.9
	Test Entry Means	162.0	19.2	8.5	56.1	6.2	6.6
	Check Means	171.3	19.9	8.6	57.2	2.9	2.9
	CV	12.7	5.1				
	F-value	4.1	16.9				
	LSD (p=0.05)	25.9	1.2				

106406 Tester: MYC-SS Rep: 7

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
38	BR105:N1641-090-001	180.0	21.4	8.4	56.3	3.0	5.5
76	HC33xLH287	178.4	18.2	9.8	59.0	0.4	8.4
14	FS8B(T):N11a14-097-001	176.4	21.9	8.0	54.2	1.6	0.5
60	BR106:T33aN20-B-021	175.9	23.5	7.5	53.6	1.9	1.7
19	AR17026:N1012-066-001	175.4	20.6	8.5	54.7	0.0	4.5
46	UR02005:N2011c-B-017	175.3	20.6	8.5	56.4	0.3	1.9
63	GUAT209:N11c41-321-001	174.4	23.7	7.4	56.4	1.7	0.0
67	GUAT209:N11c41-209-001	174.3	21.7	8.0	56.9	0.6	1.0
73	GUAT209:N11c41-090-001	174.1	20.5	8.5	56.5	0.3	0.0
61	BR106:T33aN20-B-045	173.9	20.9	8.3	54.2	1.1	9.0
70	GUAT209:N11c41-283-001	172.7	22.3	7.7	55.3	0.8	3.9
75	GUAT209:N11c41-158-001	171.9	20.8	8.3	56.7	1.6	0.6
58	BR106:T33aN20-B-004	171.7	22.7	7.6	53.7	0.0	0.0
78	Pioneer 31D58	171.5	22.9	7.5	57.2	0.4	1.1
44	BR105:N1641-159-001	171.2	21.8	7.9	55.5	1.1	2.6
40	BR105:N1641-106-002	170.8	22.2	7.7	55.6	0.7	2.3
74	GUAT209:N11c41-151-001	170.3	21.3	8.0	55.9	0.3	1.5
62	GUAT209:N11c41-070-001	169.6	22.8	7.4	55.7	1.6	3.9
22	DKXL370:N11a14-070-001	169.1	22.4	7.5	56.0	1.0	1.0
8	DKXL380:N11a14-047-001	169.0	22.0	7.7	56.5	0.3	1.8
	Test Entry Means	158.5	21.2	7.5	56.0	1.5	2.8
	Check Means	168.4	20.8	8.1	57.9	0.6	2.9
	CV	11.3	8.0				
	F-value	2.8	8.7				
	LSD (p=0.05)	19.3	1.8				

106407 Tester: NA Rep: 8

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
32	Pioneer 31D58	193.9	19.8	9.8	58.8	1.9	1.2
20	CML329:N1899d	182.8	19.8	9.2	58.1	2.5	3.9
13	DKXL212:S11b46	180.9	18.6	9.7	58.3	3.6	4.8
11	DK212T:S11b40	180.4	19.1	9.5	56.6	3.8	4.4
7	(GEMS-0175/GEMS-0184)-B	176.9	19.4	9.1	56.7	3.6	2.8
31	Pioneer 33F85	176.5	19.5	9.1	57.7	3.9	2.2
34	LH200xLH262	176.4	20.7	8.5	57.9	3.6	13.7
6	(GEMS-0147/GEMS-0180)-B	176.1	20.8	8.5	56.1	4.8	5.8
12	DKXL370:S08b46	176.1	18.8	9.4	58.1	4.3	3.3
33	HC33xLH287	175.8	16.4	10.7	58.9	2.7	5.8
27	PASCO14:N0424-078-001-B-B	173.3	19.7	8.8	58.3	1.4	2.8
3	CUBA164:S2008c-289-001-B-B-SIB/S49w	172.6	18.8	9.2	57.0	4.3	2.4
29	DKB844:S1601-073-001-B-B-B-B-B-B/S49v	169.1	17.0	9.9	58.5	6.1	4.6
4	DKB844:S1601-073-001-B-B-B-B-B-B/S49x	169.0	19.1	8.8	56.7	2.0	4.0
24	CML349:N99ai	168.6	20.7	8.1	57.5	5.0	2.5
19	CML311:S99x	168.3	22.7	7.4	56.8	3.9	10.8
1	CUBA164:S2008c-289-001-B-B-SIB/S49v	167.9	17.7	9.5	58.0	5.2	5.6
5	CUBA164:S2008c-289-001-B-B-SIB/S49x	166.7	19.4	8.6	56.6	2.8	3.5
14	CUBA164:S99aa99ah	165.9	20.8	8.0	55.5	5.1	6.4
30	Pioneer 34R65	164.0	16.8	9.8	61.1	2.5	0.7
	Test Entry Means	160.8	19.4	8.3	57.1	4.4	5.3
	Check Means	172.0	18.2	9.5	58.8	5.6	4.6
	CV	13.5	7.4				
	F-value	3.2	14.3				
	LSD (p=0.05)	24.6	1.9				

106408 Tester: NA Rep: 6

Ent.	Pedigree	Yield B/A	% Moist	Y/ M	TWT	% S.L.	% R.L.
34	Pioneer 33F85	166.8	12.9	13.0	59.6	3.5	0.0
33	Pioneer 31D58	162.2	13.5	12.0	60.7	3.8	0.0
40	NS-Check Dent Sterile	161.9	12.5	12.9	60.3	3.7	0.0
35	Pioneer 34R65	156.4	12.9	12.1	60.4	3.1	0.0
1	wxAR16035:S02-615-1-B x wxNS-M1	153.6	12.9	12.0	60.7	4.2	0.5
32	HC33xLH287	152.6	11.9	12.9	58.4	3.1	0.0
4	wxCuba164:S2012-966-1-B x wxNS-M1	150.8	12.6	12.0	59.4	3.8	0.5
13	wxCHIS775:S1911b-120-001/3/(0301)-82 x wxNS-M2	147.8	12.6	11.8	59.7	6.0	0.0
29	wxNS-F1 x wxBR51721:N2012-164-002/3/(0310)-82 (R)	147.7	12.5	11.8	61.2	4.0	0.0
20	wxNS-F1 x wxFS8B(T):N1802-525-2-B/4/-63 (R)	147.5	15.4	9.6	62.0	6.9	0.0
6	wxCuba164:S2012-966-1-B x wxDKXL370:N11a20-36-2-B	147.4	15.5	9.5	60.4	3.9	0.3
26	wxNS-F1 x wxUR13085:N0215-14-1-B (R)	146.6	12.6	11.7	60.5	4.4	0.0
17	wxDKB844:S1601-073-001/3/(0304)-82 wxNS-M2	146.3	15.0	9.7	58.9	5.2	0.0
2	wxCuba164:S2012-444-1-B x wxNS-M1	145.9	12.8	11.4	60.0	3.1	0.0
37	wxCuba164:S2012-966-1-B x wxDKXL370:N11a20-36-2-B	145.7	14.9	9.8	59.8	6.1	0.0
39	NS-Check Waxy	145.2	11.7	12.4	57.7	5.9	0.0
15	wxCuba117:S1542-057-001/3/(0303)-82 x wxNS-M2	144.8	14.8	9.8	58.6	7.1	0.3
14	wxCHIS775:S1911b-120-001/3/(0301)-81 x wxUR13085:N0215-14-1-B	143.9	12.7	11.3	61.0	5.8	0.0
7	wxCuba164:S2012-966-1-B x wxUR13085:N0215-14-1-B	143.4	12.5	11.5	59.5	7.5	0.0
10	wxDK844:S1601-3-2-B x wxUR13085:N0215-14-1-B	142.9	13.6	10.5	61.6	6.3	0.8
	Test Entry Means	138.5	13.2	10.5	60.5	5.3	0.5
	Check Means	154.4	12.8	12.1	59.7	4.4	0.0
	CV	12.8	5.3				
	F-value	2.2	12.1				
	LSD (p=0.05)	20.6	0.8				

SF3701		Tester A (8 Locations)								
GEM Code	Pedigree	Entry #	DMYIELD Rank	DM YIELD	DMYIELD %Ck	MILK AC	MILKAC %Ck	MILK TN	MILKTN %Ck	% CP
GEMN-0144	MDI022:N2120-284-001-B-B-B	37	2	9.7	112	31998	106	3359	95	7.5
	Tester - Silage Hybrid C	43	3	9.6	111	33834	112	3602	102	8.4
GEMN-0187	ANTIG03:N1218-056-001-B-B	31	4	9.5	110	33053	110	3445	98	7.9
GEMN-0154	AR13026:N08b15-016-B-B-SIB	5	5	9.5	110	31690	105	3397	96	7.8
GEMN-0138	AR17056:N2035-421-001-B-B-B	33	7	9.4	109	31243	104	3397	96	8.0
GEMN-0127	DK888:N11(95)-B-017-001-B-B	18	10	9.2	107	31732	105	3477	98	7.8
GEMN-0179	FS8B(T):N11a08c-030-002-B-B-SIB	26	11	9.2	106	32781	109	3528	100	7.9
GEMN-0110	BARBGP2:N08a18-332-001-B-B-B	7	12	9.2	106	32273	107	3501	99	7.9
GEMN-0089	AR03056:N09-191-001-B-B-B-Sib	3	13	9.2	106	29376	98	3268	93	7.6
GEMN-0193	UR11002:N0308b-086-001-B-B	41	14	9.1	106	31777	106	3603	102	8.0
GEMN-0088	AR03056:N09-182-001-B-B-B-Sib	2	15	9.1	106	31912	106	3493	99	8.0
GEMN-0094	DKXL370:N11a20-199-002-B-B-B-Sib	20	16	9.1	105	31438	104	3536	100	8.0
GEMN-0097	FS8B(T):N11a-087-001-B-B-SIB	27	17	9.1	105	32410	108	3559	101	8.0
GEMN-0095	DKXL370:N11a20-234-002-B-B-B-Sib	21	18	9.1	105	31006	103	3416	97	8.4
GEMN-0157	BR51721:N2012-164-002-B-B-SIB	9	19	9.1	105	33123	110	3567	101	7.7
GEMN-0141	BR51675:N0620-053-001-B-B-B	36	20	9.1	105	32109	107	3585	102	7.9
	Tester - Dual Purpose D	45	21	9.0	104	30756	102	3514	100	8.0
GEMN-0112	CH05015:N1502-086-001-B-B-B	12	22	9.0	104	31260	104	3452	98	7.8
GEMN-0098	FS8B(T):N11a-110-001-B-B-Sib	28	23	9.0	104	30080	100	3526	100	7.9
GEMN-0133	DKXL370A:N11-B-029-002-B-B-B	23	24	9.0	104	31357	104	3480	99	7.5
GEMN-0090	AR03056:N09-250-001-B-B-B-Sib	4	25	9.0	104	31422	104	3438	97	7.7
GEMN-0119	CHS775:N19-042-001-B-B-B-B	14	26	8.9	103	31954	106	3478	99	8.0
GEMN-0159	CASH:N1410-018-001-B-B-SIB	11	27	8.9	103	32220	107	3587	102	8.1
	Tester - Dual Purpose B+A65	44	27	8.9	103	32162	107	3568	101	8.0
GEMN-0156	BR51721:N2012-098-002-B-B-SIB	8	29	8.9	103	31170	104	3465	98	7.4
GEMN-0155	AR13026:N08b15-086-B-B-SIB	6	30	8.9	103	31330	104	3537	100	7.8
GEMN-0096	DKXL370:N11a20-322-001-B-B-Sib	22	31	8.9	102	31583	105	3509	99	7.7
GEMN-0158	BR51721:N2012-397-001-B-B-SIB	10	32	8.8	102	30719	102	3546	100	7.7
GEMN-0191	SCROGP3:N2017-003-001-B-B	39	33	8.8	102	32358	107	3599	102	7.9
GEMN-0145	MDI022:N2120-333-001-B-B-B	38	34	8.8	102	28971	96	3362	95	7.5
GEMN-0122	CHS775:N19-093-002-B-B-B	15	35	8.8	102	28919	96	3196	91	7.8
GEMN-0139	AR17056:N2035-473-001-B-B-B	34	36	8.8	102	28294	94	3380	96	7.6
GEMN-0117	DREP150:N2011d-624-001-B-B-B	25	37	8.8	102	30551	101	3398	96	8.3
GEMN-0106	DK888:N11(95)-B-022-007-B-B-B	17	38	8.7	101	31534	105	3533	100	7.9
GEMN-0140	BR51675:N0620-033-001-B-B-B	35	39	8.7	101	30300	101	3576	101	7.7
GEMN-0111	CH05015:N1204-057-001-B-B-B	13	40	8.5	99	33579	112	3679	104	8.3
GEMN-0174	AR17056:N2025-574-001-B-B-B-B-B	32	41	8.5	98	30057	100	3552	101	8.5
	Tester - Silage Hybrid E	46	41	8.5	98	29535	98	3552	101	8.6
GEMN-0099	FS8B(T):N11a-322-001-B-B-Sib	29	43	8.4	97	29861	99	3494	99	8.0
GEMN-0109	DKXL380:N11-B-015-003-B-B-B-B	24	44	8.4	97	29619	98	3469	98	8.0
GEMN-0192	SCROGP3:N2017-172-001-B-B	40	45	8.3	96	29774	99	3595	102	7.9
GEMN-0137	SCR Gp3:N14-028-003-003-B-B-B	30	46	8.1	94	28147	93	3476	98	7.9
GEMN-0124	DK212T:N11-B-003-001-B-B-B	16	47	7.7	89	25638	85	3360	95	7.4
GEMN-0087	AR03056:N09-024-001-B-B-B-Sib	1	48	7.4	85	23775	79	3279	93	8.1
GEMN-0178	DK888:N11a08a-440-001-B-B-SIB	19	49	7.3	85	24470	81	3360	95	7.9
	Tester - Silage Hybrid A	42	50	7.3	84	24274	81	3416	97	8.8
	#Locs			8		8		8		8
	Test Entry Means			8.9		30865		3493		8.0
	Check Means			8.7		30112		3530		8.4
	CVErr			5.685						
	LSD(.05)			0.4		3116		138		0.5

SF3702		Tester B (8 Locations)								
GEM Code	Pedigree	Entry #	DMYIELD Rank	DM YIELD	DMYIELD %Ck	MILK AC	MILKAC %Ck	MILK TN	MILKTN %Ck	% CP
GEMN-0187	ANTIG03:N1218-056-001-B-B	1	1	10.1	117	33315	109	3391	95	8.0
GEMN-0133	DKXL370A:N11-B-029-002-B-B-B	25	2	10.0	117	36134	118	3556	100	8.0
GEMN-0144	MDI022:N2120-284-001-B-B-B	31	3	10.0	117	34103	111	3435	96	8.4
GEMN-0145	MDI022:N2120-333-001-B-B-B	32	4	9.9	116	33421	109	3388	95	8.2
GEMN-0155	AR13026:N08b15-086-B-B-SIB	7	5	9.8	114	33800	110	3503	98	7.9
GEMN-0178	DK888:N11a08a-440-001-B-B-SIB	22	6	9.7	113	34364	112	3547	100	8.0
GEMN-0099	FS8B(T):N11a-322-001-B-B-Sib	29	7	9.7	113	35161	115	3541	99	8.5
GEMN-0158	BR51721:N2012-397-001-B-B-SIB	16	8	9.6	112	34042	111	3527	99	8.0
GEMN-0110	BARBGP2:N08a18-332-001-B-B-B	11	9	9.6	112	34686	113	3530	99	8.2
GEMN-0090	AR03056:N09-250-001-B-B-B-Sib	5	10	9.5	111	32408	106	3418	96	8.1
GEMN-0097	FS8B(T):N11a-087-001-B-B-SIB	26	11	9.5	111	34531	113	3463	97	8.2
GEMN-0095	DKXL370:N11a20-234-002-B-B-B-Sib	24	12	9.5	111	32633	106	3376	95	8.6
GEMN-0088	AR03056:N09-182-001-B-B-B-Sib	3	13	9.5	110	33052	108	3392	95	8.3
GEMN-0094	DKXL370:N11a20-199-002-B-B-B-Sib	23	14	9.5	110	32653	106	3433	96	8.1
GEMN-0193	UR11002:N0308b-086-001-B-B	35	15	9.4	110	34689	113	3610	101	8.2
GEMN-0156	BR51721:N2012-098-002-B-B-SIB	14	16	9.3	108	32694	107	3480	98	7.5
GEMN-0087	AR03056:N09-024-001-B-B-B-Sib	2	17	9.3	108	30882	101	3415	96	8.1
	Tester - Silage Hybrid C	37	18	9.3	108	34777	113	3639	102	8.6
GEMN-0138	AR17056:N2035-421-001-B-B-B	9	19	9.3	108	34996	114	3651	103	8.2
GEMN-0191	SCROGP3:N2017-003-001-B-B	33	20	9.2	108	32615	106	3491	98	8.3
GEMN-0089	AR03056:N09-191-001-B-B-B-Sib	4	21	9.2	108	29713	97	3287	92	8.1
GEMN-0106	DK888:N11(95)-B-022-007-B-B-B	21	22	9.2	107	32197	105	3463	97	7.9
GEMN-0154	AR13026:N08b15-016-B-B-SIB	6	23	9.1	106	32806	107	3402	96	8.0
GEMN-0098	FS8B(T):N11a-110-001-B-B-Sib	28	23	9.1	106	31364	102	3468	97	7.9
GEMN-0127	DK888:N11(95)-B-017-001-B-B	20	25	9.1	106	31637	103	3448	97	7.9
GEMN-0141	BR51675:N0620-053-001-B-B-B	13	26	9.1	106	32737	107	3489	98	8.0
GEMN-0157	BR51721:N2012-164-002-B-B-SIB	15	27	9.1	106	32556	106	3498	98	7.8
GEMN-0159	CASH:N1410-018-001-B-B-SIB	17	28	9.0	105	31871	104	3602	101	8.3
GEMN-0139	AR17056:N2035-473-001-B-B-B	10	29	9.0	105	32076	105	3476	98	8.3
GEMN-0112	CH05015:N1502-086-001-B-B-B	19	30	8.9	104	31800	104	3501	98	8.3
GEMN-0140	BR51675:N0620-033-001-B-B-B	12	31	8.9	103	31211	102	3568	100	8.1
	Tester - Silage Hybrid E	40	32	8.9	103	30939	101	3574	100	8.6
	Tester - Dual Purpose D	39	33	8.9	103	31430	102	3548	100	8.1
	Tester - Dual Purpose B	38	34	8.8	102	33390	109	3644	102	8.3
GEMN-0192	SCROGP3:N2017-172-001-B-B	34	35	8.8	102	31104	101	3513	99	7.9
GEMN-0111	CH05015:N1204-057-001-B-B-B	18	36	8.8	102	32007	104	3598	101	8.0
GEMN-0179	FS8B(T):N11a08c-030-002-B-B-SIB	27	37	8.7	102	30025	98	3498	98	7.8
GEMN-0174	AR17056:N2025-574-001-B-B-B-B-B	8	38	8.6	101	30590	100	3551	100	8.8
GEMN-0083	GUAT209:N1925-081-001-B-B	30	39	8.2	95	28777	94	3547	100	7.7
	Tester - Silage Hybrid A	36	40	7.1	83	22922	75	3398	95	8.6
	#Locs			8		8		8		8
	Test Entry Means			9.2		32394		3497		8.1
	Check Means			8.6		30692		3560		8.4
	CVErr			6.001						
	LSD(.05)			0.5		3019		129		0.4
	LSD(.10)			0.4		2531		108		0.3

SF3703		Tester C (8 Locations)									
GEM Code	Pedigree	Entry #	DMYIELD Rank	DM YIELD	DMYIELD %Ck	MILK AC	MILKAC %Ck	MILK TN	MILKTN %Ck	%CP	%CP %Mn
	Tester - Dual Purpose D	36	1	9.8	109	36171	112	3689	102	8.3	104
	Tester - Silage Hybrid C	34	2	9.7	108	35408	109	3651	101	8.5	107
GEMS-0061	AR16026:S17-010-001-B-B	1	3	9.7	108	35197	109	3632	100	8.1	102
GEMS-0093	CUBA164:S2012-966-001-B-B-Sib	14	4	9.6	107	33781	104	3539	98	8.1	101
GEMS-0163	CUBA164:S2012-456-001-B-B-SIB	12	5	9.6	106	33668	104	3443	95	7.8	97
GEMS-0160	CUBA117:S1542-037-002-B-B-SIB	6	6	9.5	105	34182	106	3576	99	8.0	100
GEMS-0091	CHIS740:S1411a-783-002-B-B-Sib-B	4	7	9.4	105	32412	100	3498	97	7.5	93
GEMS-0118	UR11003:S0302-1011-001-B-B-B	31	8	9.2	103	30745	95	3394	94	7.7	96
GEMS-0074	CUBA164:S1517-163-001-B-B-B	10	9	9.2	102	31653	98	3533	98	8.5	107
	Tester - Dual Purpose B	35	10	9.2	102	33567	104	3650	101	8.2	102
	Tester - Silage Hybrid E	37	11	9.1	101	31505	97	3633	101	8.8	111
GEMS-0181	GUAT209:S1308a-068-001-B-B-SIB	23	12	9.0	100	31976	99	3568	99	8.2	103
GEMS-0116	DKB844:S1601-003-002-B-B-B-B-B	15	13	9.0	100	30761	95	3420	95	7.9	98
GEMS-0146	NEI9004:S2818-003-001-B-B-B	26	14	8.9	99	31677	98	3587	99	8.1	101
GEMS-0176	CUBA164:S2008c-289-001-B-B-SIB	11	15	8.9	99	30677	95	3526	98	8.0	100
GEMS-0180	GUAT209:S1308a-047-001-B-B-SIB	22	16	8.8	98	30794	95	3558	98	8.3	104
GEMS-0093	CUBA164:S2012-966-001-B-B-Sib	13	17	8.8	98	30589	94	3484	96	7.7	97
GEMS-0073	CUBA117:S15-372-001-B-B-B-B-B-B	5	18	8.8	97	30003	93	3401	94	7.7	96
GEMS-0147	NEI9004:S2818-025-001-B-B-B	27	19	8.7	97	31369	97	3620	100	8.1	102
GEMS-0086	UR10001:S1813-257-001-B-B-B	30	20	8.7	97	31443	97	3502	97	7.8	98
GEMS-0115	DKB844:S1601-073-001-B-B-B-B-B	16	21	8.6	96	28473	88	3276	91	7.5	94
GEMS-0162	CUBA117:S1542-057-002-B-B-SIB	8	22	8.6	96	30247	93	3517	97	8.1	102
GEMS-0189	DKXL212:S0912-117-001-B-B	18	23	8.6	95	30426	94	3508	97	7.6	95
GEMS-0183	GUAT209:S1308a-104-001-B-B-SIB	25	24	8.6	95	31176	96	3629	100	8.2	103
GEMS-0003	BR52051(SE32):S17-B-023-001-B-B-Sib-B	2	25	8.5	94	29798	92	3568	99	8.2	102
GEMS-0079	FS8B(S):S0316-802-001-B-B-B-B	20	25	8.5	94	29678	92	3471	96	8.0	100
GEMS-0148	NEI9004:S2818-376-001-B-B-B	28	25	8.5	94	30380	94	3536	98	8.2	102
GEMS-0142	BR52060:S0210-143-001-B-B-B	3	28	8.5	94	30430	94	3554	98	7.7	97
GEMS-0182	GUAT209:S1308a-084-001-B-B-SIB	24	29	8.4	94	28351	88	3456	96	7.8	98
GEMS-0161	CUBA117:S1542-057-001-B-B-SIB	7	30	8.4	93	29476	91	3526	98	8.0	100
GEMS-0063	CUBA164:S1511b-325-001-B-B-B-B-B-Sib	9	31	8.3	92	28137	87	3435	95	7.7	96
GEMS-0084	PASCO14:S0105-198-001-B-B	29	32	8.2	91	26793	83	3240	90	7.8	98
GEMS-0188	DKXL212:S0912-012-001-B-B	17	33	8.1	90	28954	89	3421	95	7.8	97
GEMS-0078	FS8A(S):S09-362-001-B-B-B	19	34	8.1	90	28606	88	3484	96	7.6	95
GEMS-0080	FS8B(S):S0316-814-001-B-B-B-B-B-B	21	35	8.1	89	27433	85	3232	89	7.9	99
GEMS-0100	UR11003:S0302-937-001-B-B-Sib	32	36	7.6	84	25335	78	3389	94	8.0	100
	Tester - Silage Hybrid A	33	37	7.3	81	25270	78	3446	95	8.9	111
	#Locs	*		8		8		8		8	
	Test Entry Means	*		8.8		30717		3502		8.0	
	Check Means	*		9.0		32384		3614		8.5	
	CVErr	*		5.524							
	LSD(.05)	*		0.4		3120		170		0.5	
	LSD(.10)	*		0.3		2615		143		0.4	

SF3704		Tester D (8 Locations)								
GEM Code	Pedigree	Entry #	DMYIELD Rk	DM YIELD	DMYIEL D %Ck	MILK AC	MILKAC %Ck	MILK TN	MILKTN %Ck	% CP
GEMS-0091	CHIS740:S1411a-783-002-B-B-Sib-B	7	1	9.6	114	32936	109	3425	96	8.1
GEMS-0146	NEI9004:S2818-003-001-B-B-B	34	2	9.3	111	32096	106	3442	96	8.7
	Tester - Dual Purpose D	46	3	9.1	109	32464	107	3556	99	8.1
GEMS-0073	CUBA117:S15-372-001-B-B-B-B-B-B	11	4	9.1	108	31027	103	3417	96	8.1
GEMS-0163	CUBA164:S2012-456-001-B-B-SIB	19	5	9.0	107	29495	98	3280	92	8.3
GEMS-0113	CHIS775:S1911b-120-001-B-B-B-B	8	6	9.0	107	31073	103	3462	97	8.4
GEMS-0143	BR52060:S0210-147-001-B-B-B	5	7	8.9	106	30780	102	3445	96	8.2
GEMS-0075	CUBA164:S1517-241-002-B-B	16	8	8.9	106	30331	100	3405	95	8.8
GEMS-0093	CUBA164:S2012-966-001-B-B-Sib	21	9	8.9	106	31374	104	3518	98	8.6
	Tester - Silage Hybrid C	44	10	8.9	106	32699	108	3688	103	8.4
GEMS-0149	UR05017:S0415-180-002-B-B-B	38	11	8.8	105	30313	100	3437	96	8.2
GEMS-0161	CUBA117:S1542-057-001-B-B-SIB	13	12	8.8	105	28546	95	3244	91	8.0
GEMS-0176	CUBA164:S2008c-289-001-B-B-SIB	17	13	8.8	105	28342	94	3237	90	8.1
GEMS-0160	CUBA117:S1542-037-002-B-B-SIB	12	14	8.7	104	28132	93	3235	90	8.0
GEMS-0182	GUAT209:S1308a-084-001-B-B-SIB	32	15	8.7	103	30226	100	3481	97	8.3
GEMS-0093	CUBA164:S2012-966-001-B-B-Sib	20	16	8.7	103	29215	97	3342	93	8.4
GEMS-0118	UR11003:S0302-1011-001-B-B-B	41	17	8.7	103	29796	99	3431	96	8.1
GEMS-0183	GUAT209:S1308a-104-001-B-B-SIB	33	18	8.7	103	29441	97	3406	95	8.8
	Tester - Silage Hybrid E	47	18	8.7	103	31411	104	3626	101	8.6
	Tester - Dual Purpose B	45	20	8.6	103	31104	103	3601	101	8.1
GEMS-0086	UR10001:S1813-257-001-B-B-B	40	21	8.6	102	29745	98	3465	97	8.1
GEMS-0175	BVIR155:S2012-029-001-B-B-SIB	6	22	8.6	102	29294	97	3418	96	8.7
GEMS-0180	GUAT209:S1308a-047-001-B-B-SIB	30	23	8.6	102	28706	95	3342	93	8.4
GEMS-0147	NEI9004:S2818-025-001-B-B-B	35	24	8.5	101	29306	97	3444	96	8.7
	CUBA117:S15-101-001-B-B-B	10	25	8.4	101	25919	86	3062	86	8.4
GEMS-0150	UR05017:S0415-187-001-B-B-B	39	26	8.4	100	28173	93	3330	93	8.4
GEMS-0061	AR16026:S17-010-001-B-B	2	27	8.4	100	27942	93	3310	92	8.6
GEMS-0080	FS8B(S):S0316-814-001-B-B-B-B-B-B	29	28	8.4	100	28341	94	3375	94	8.2
GEMS-0162	CUBA117:S1542-057-002-B-B-SIB	14	29	8.4	100	28591	95	3408	95	8.5
GEMS-0100	UR11003:S0302-937-001-B-B-Sib	42	29	8.4	100	28977	96	3448	96	8.1
GEMS-0189	DKXL212:S0912-117-001-B-B	25	31	8.4	100	27978	93	3338	93	7.7
GEMS-0003	BR52051(SE32):S17-B-023-001-B-B-Sib-B	3	32	8.3	99	28072	93	3390	95	8.9
GEMS-0079	FS8B(S):S0316-802-001-B-B-B-B	28	33	8.3	99	27767	92	3343	93	8.6
GEMS-0188	DKXL212:S0912-012-001-B-B	24	34	8.3	98	28869	96	3471	97	8.1
GEMS-0115	DKB844:S1601-073-001-B-B-B-B-B	23	35	8.2	98	28309	94	3438	96	8.5
GEMS-0072	CHIS775:S1911b-439-001-B-B	9	36	8.2	97	28622	95	3499	98	7.9
GEMS-0116	DKB844:S1601-003-002-B-B-B-B-B	22	37	8.1	97	25236	84	3080	86	8.2
GEMS-0068	AR16026:S1704-153-001-B-B	1	38	8.1	96	27664	92	3419	96	8.0
GEMS-0078	FS8A(S):S09-362-001-B-B-B	27	39	8.1	96	27631	91	3417	95	8.0
GEMS-0063	CUBA164:S1511b-325-001-B-B-B-B-B-Sib	15	40	8.0	96	26696	88	3305	92	8.5
GEMS-0101	DK212T:S11b-007-B-B-B-B	26	41	8.0	96	24396	81	3010	84	8.4
GEMS-0092	CUBA164:S2012-444-001-B-B-Sib	18	42	8.0	96	25926	86	3210	90	8.4
GEMS-0181	GUAT209:S1308a-068-001-B-B-SIB	31	43	8.0	95	25981	86	3265	91	8.6
GEMS-0142	BR52060:S0210-143-001-B-B-B	4	44	7.9	94	26292	87	3312	93	8.3
GEMS-0084	PASCO14:S0105-198-001-B-B	37	45	7.9	94	27538	91	3498	98	8.8
GEMS-0148	NEI9004:S2818-376-001-B-B-B	36	46	7.7	92	25406	84	3304	92	8.8
	Tester - Silage Hybrid A	43	47	6.8	81	23350	77	3420	96	8.6
	#Locs			8		8		8		8
	Test Entry Means			8.5		28756		3383		8.3
	Check Means			8.4		30206		3578		8.3
	CVErr			6.777		7.898		2.953		5.09
	LSD(.05)			0.4		1750		86		0.3
	LSD(.10)			0.4		1468		72		0.3

GEM-Raleigh EX26: Evaluation of GEM-Raleigh Non-Stiff Stalk releases, 7 locations in 2010

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMN-0034_BR51403(PE001):N16-B-062-B x LH132.FR1064	134	15.9	96
GEMN-0035_BR51403(PE001):N16-B-172-B x LH132.FR1064	131	15.2	97
GEMN-0036_BR51403(PE001):N16-B-176-B x LH132.FR1064	132	16.1	95
GEMN-0037_BR51403(PE001):N16-B-181-B x LH132.FR1064	143	16.4	99
GEMN-0038_BR51403(PE001):N16-B-193-B x LH132.FR1064	126	15.9	98
GEMN-0039_BR51403(PE001):N16-B-239-B x LH132.FR1064	125	15.7	99
GEMN-0040_BR51403(PE001):N16-B-431-B x LH132.FR1064	133	16.1	98
GEMN-0042_BR51403(PE001):N16-B-705-B x LH132.FR1064	129	15.7	98
GEMN-0043_BR51403(PE001):N16-B-857-B x LH132.FR1064	**152**	15.5	87
GEMN-0103_DK888:N11(95)-B-027-010-B x LH132.FR1064	**154**	18.0	97
GEMN-0104_DK888:N11(95)-B-027-012-B x LH132.FR1064	148	16.9	98
GEMN-0105_DK888:N11(95)-B-027-015-B x LH132.FR1064	129	16.9	95
GEMN-0106_DK888:N11(95)-B-022-007-B x LH132.FR1064	131	16.5	97
GEMN-0107_DK888:N11(95)-B-022-012-B x LH132.FR1064	139	16.6	96
GEMN-0108_DK888:N11(95)-B-027-001-B x LH132.FR1064	**153**	16.8	98
GEMN-0109_DKXL380:N11-B-015-003-B x LH132.FR1064	141	17.2	93
GEMN-0119_CHS775:N19-042-001-B x LH132.FR1064	140	16.1	97
GEMN-0120_CHS775:N19-042-003-B x LH132.FR1064	144	17.6	98
GEMN-0121_CHS775:N19-027-010-B x LH132.FR1064	136	16.1	98
GEMN-0122_CHS775:N19-093-002-B x LH132.FR1064	129	16.8	98
GEMN-0123_CHS775:N19-030-011-B x LH132.FR1064	135	16.4	95
GEMN-0124_DK212T:N11-B-003-001-B x LH132.FR1064	144	16.9	98
GEMN-0127_DK888:N11(95)-B-017-001-B x LH132.FR1064	133	17.5	95
GEMN-0128_DKXL370A:N11-B-005-002-B x LH132.FR1064	125	16.0	99
GEMN-0129_DKXL370A:N11-B-005-006-B x LH132.FR1064	118	16.0	97
GEMN-0130_DKXL370A:N11-B-005-010-B x LH132.FR1064	131	15.9	85
GEMN-0131_DKXL370A:N11-B-005-011-B x LH132.FR1064	124	15.9	95
GEMN-0132_DKXL370A:N11-B-005-021-B x LH132.FR1064	139	16.1	84
GEMN-0133_DKXL370A:N11-B-029-002-B x LH132.FR1064	141	16.2	98
GEMN-0134_DKXL380:N11-B-010-017-B x LH132.FR1064	130	16.5	95
GEMN-0135_DKXL380:N11-B-007-025-B x LH132.FR1064	144	16.0	97
GEMN-0136_DKXL380:N11-B-007-028-B x LH132.FR1064	139	16.7	93
GEMN-0151_CHS775:N19-042-001-003-B x LH132.FR1064	136	17.2	98
GEMN-0152_DK212T:N11-B-016-005-B x LH132.FR1064	133	16.4	97
GEMN-0153_DKXL380:N11-B-007-027-B x LH132.FR1064	148	16.5	90
GEMN-0164_DK212T:N11-B-003-022-B x LH132.FR1064	131	16.8	90
GEMN-0165_DK888:N11(95)-B-022-001-026-B x LH132.FR1064	144	16.7	99
GEMN-0166_DK888:N11(95)-B-027-001-008-B x LH132.FR1064	136	17.2	98
GEMN-0167_DK888:N11(95)-B-027-001-018-B x LH132.FR1064	131	18.0	99
GEMN-0168_DK888:N11(95)-B-027-001-019-B x LH132.FR1064	137	17.6	96
GEMN-0169_DK888:N11(95)-B-027-001-027-B x LH132.FR1064	146	17.4	95
GEMN-0170_DK888:N11(95)-B-027-001-030-B x LH132.FR1064	**152**	17.8	96

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMN-0171_DK888:N11(95)-B-027-001-037-B x LH132.FR1064	144	16.7	98
GEMN-0172_DK888:N11(95)-B-027-001-040-B x LH132.FR1064	133	17.1	92
GEMN-0173_DK888:N11(95)-B-027-012-009-B x LH132.FR1064	135	16.3	98
GEMN-0194_DK888:N11(95)-B-027-001-011-B x LH132.FR1064	141	17.7	99
GEMN-0195_DK888:N11(95)-B-027-001-015-B x LH132.FR1064	144	17.0	99
GEMN-0196_DK888:N11(95)-B-003-001-001-B x LH132.FR1064	146	16.7	97
GEMN-0197_DK888:N11-002-021-008-B x LH132.FR1064	140	16.7	98
GEMN-0198_DK212T:N11-040-001-007-B x LH132.FR1064	135	16.8	96
LH283 x LH132.FR1064	115	15.5	87
LH287 x LH132.FR1064	138	15.6	97
Pioneer 31D58	158	16.9	99
Pioneer 31P41	160	16.8	98
DeKalb 697	150	17.2	97
HC33 x TR7322	138	14.9	90
Experiment Mean	138	16.6	96
Check Mean (Pioneer 31D58 and 31P41, DK697)	156	17.0	98
LSD 0.05	14	0.7	8
CV	11.1	4.3	8

GEM-Raleigh EX27: Evaluation of GEM-Raleigh Stiff Stalk releases, 8 locations in 2010

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMS-0003_(SE32):S17-B-023-001-B x LH283.LH287	127	15.1	95
GEMS-0004_DK212T:S11-B-013-002-B x LH283.LH287	146	15.1	89
GEMS-0005_DK212T:S11-B-015-001-B x LH283.LH287	136	16.1	94
GEMS-0006_DK212T:S11-B-017-001-B x LH283.LH287	145	15.6	88
GEMS-0007_DK212T:S11-B-018-001-B x LH283.LH287	145	15.6	98
GEMS-0008_DK212T:S11-B-038-001-B x LH283.LH287	**149**	15.4	91
GEMS-0009_DK212T:S11-B-040-001-B x LH283.LH287	137	15.6	97
GEMS-0010_DK212T:S11-B-041-002-B x LH283.LH287	141	15.1	94
GEMS-0011_DK212T:S11-B-045-002-B x LH283.LH287	141	15.6	98
GEMS-0012_DK888:S11-B-003-001-B x LH283.LH287	141	16.7	97
GEMS-0013_DK888:S11-B-004-004-B x LH283.LH287	127	16.5	90
GEMS-0014_DK888:S11-B-010-001-B x LH283.LH287	108	15.5	90
GEMS-0015_DK888:S11-B-014-001-B x LH283.LH287	146	16.4	97
GEMS-0016_DK888:S11-B-015-003-B x LH283.LH287	146	16.2	98
GEMS-0017_DK888:S11-B-025-001-B x LH283.LH287	144	16.7	97
GEMS-0018_DK888:S11-B-026-002-B x LH283.LH287	**149**	15.7	98
GEMS-0019_DK888:S11-B-029-001-B x LH283.LH287	132	17.2	94
GEMS-0020_DK888:S11-B-033-001-B x LH283.LH287	148	16.8	95
GEMS-0021_DK888:S11-B-035-002-B x LH283.LH287	141	15.7	96
GEMS-0022_DK888:S11-B-035-003-B x LH283.LH287	132	15.1	91
GEMS-0023_DK888:S11-B-039-002-B x LH283.LH287	143	15.3	93
GEMS-0024_DKB830:S11-B-045-001-B x LH283.LH287	148	15.2	94
GEMS-0025_DKXL370A:S11-B-001-002-B x LH283.LH287	123	15.0	90
GEMS-0026_DKXL370A:S11-B-003-003-B x LH283.LH287	135	15.5	96
GEMS-0027_DKXL370A:S11-B-025-001-B x LH283.LH287	**150**	14.4	98
GEMS-0028_DKXL370A:S11-B-025-002-B x LH283.LH287	141	15.3	95
GEMS-0029_DKXL370A:S11-B-028-001-B x LH283.LH287	137	14.5	88
GEMS-0030_DKXL380:S11-B-004-003-B x LH283.LH287	133	14.9	97
GEMS-0031_DKXL380:S11-B-028-001-B x LH283.LH287	142	15.3	99
GEMS-0032_DKXL380:S11-B-029-001-B x LH283.LH287	**155**	15.5	95
GEMS-0101_DK212T:S11b-007-B x LH283.LH287	136	15.9	94
GEMS-0102_DK888:S11b-001-B x LH283.LH287	139	16.1	87
GEMS-0125_DK888:S11-B-029-011-B x LH283.LH287	138	18.3	96
GEMS-0126_DK888:S11-B-029-016-B x LH283.LH287	136	16.5	96
LH310 x LH283.LH287	151	15.4	96
LH354 x LH132.FR1064	151	14.6	93
Pioneer 31D58	173	16.0	93
Pioneer 31P41	178	15.8	98
DeKalb 697	161	16.1	99
HC33 x TR7322	130	14.2	98
Pioneer 33M54	162	15.5	98
Garst 8288	143	16.1	97
Experiment Mean	142	15.7	95
Check Mean (P31D58, P31P41, P33M54, DK697, G8288)	157	15.7	97
LSD 0.05	15.1	0.6	8.3
CV	11.5	3.9	9.5

GEM-Raleigh EX28: Evaluation of GEM-Ames Non-Stiff Stalk releases, 12 locations in 2010

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMN-0044_CH05015:N12-020-001-B x LH132.FR1064	139	16.9	98
GEMN-0045_CH05015:N12-140-001-B x LH132.FR1064	129	16.6	96
GEMN-0046_CH05015:N15-008-001-B x LH132.FR1064	124	14.9	96
GEMN-0047_UR13085:N0215-014-001-B x LH132.FR1064	137	15.1	96
GEMN-0048_DKXL370:N11a20-031-001-B x LH132.FR1064	152	16.8	99
GEMN-0056_FS8B(T):N1809-946-001-B x LH132.FR1064	125	15.0	95
GEMN-0057_AR01150:N04-545-001-B x LH132.FR1064	126	16.1	94
GEMN-0059_SCRO1:N1310-398-001-B x LH132.FR1064	121	15.8	96
GEMN-0060_CHIS775:N1912-519-001-B x LH132.FR1064	133	15.7	97
GEMN-0070_CH05015:N12-183-001-B x LH132.FR1064	119	15.2	97
GEMN-0071_CH05015:N15-003-001-B x LH132.FR1064	135	15.7	97
GEMN-0077_DKXL370:N11a20-604-001-B x LH132.FR1064	123	15.8	98
GEMN-0081_FS8B(T):N1802-382-001-B x LH132.FR1064	130	15.6	99
GEMN-0082_FS8B(T):N1802-525-001-B x LH132.FR1064	148	18.1	98
GEMN-0083_GUAT209:N1925-081-001-B x LH132.FR1064	97	15.8	97
GEMN-0087_AR03056:N09-024-001-B x LH132.FR1064	148	16.5	98
GEMN-0088_AR03056:N09-182-001-B x LH132.FR1064	139	15.8	97
GEMN-0089_AR03056:N09-191-001-B x LH132.FR1064	143	15.9	95
GEMN-0090_AR03056:N09-250-001-B x LH132.FR1064	142	15.8	95
GEMN-0094_DKXL370A:N11a20-199-002-B x LH132.FR1064	144	16.7	96
GEMN-0095_DKXL370A:N11a20-234-002-B x LH132.FR1064	**159**	17.7	95
GEMN-0096_DKXL370A:N11a20-322-001-B x LH132.FR1064	139	15.0	98
GEMN-0097_FS8B(T):N11a-087-001-B x LH132.FR1064	**160**	14.8	97
GEMN-0098_FS8B(T):N11a-110-001-B x LH132.FR1064	131	15.8	97
GEMN-0099_FS8B(T):N11a-322-001-B x LH132.FR1064	145	15.3	97
GEMN-0110_BARBGP2:N08a18-332-001-B x LH132.FR1064	150	16.3	97
GEMN-0111_CH05015:N1204-057-001-B x LH132.FR1064	126	15.4	96
GEMN-0112 _CH05015:N1502-086-001-B x LH132.FR1064	141	13.9	99
GEMN-0114 _DK212T:N11a12-191-001-B x LH132.FR1064	137	15.5	99
GEMN-0117_DREP150:N2011d-624-001-B x LH132.FR1064	140	16.1	96
GEMN-0138_AR17056:N2035-421-001-B x LH132.FR1064	143	16.1	96
GEMN-0139_AR17056:N2035-473-001-B x LH132.FR1064	135	17.0	100
GEMN-0140_BR51675:N0620-033-001-B x LH132.FR1064	138	14.6	98
GEMN-0141_BR51675:N0620-053-001-B x LH132.FR1064	141	16.4	98
GEMN-0145_MDI022:N2120-333-001-B x LH132.FR1064	136	18.8	97
GEMN-0154_AR13026:N08b15-016-B x LH132.FR1064	136	16.2	97
GEMN-0155_AR13026:N08b15-086-B x LH132.FR1064	145	16.2	97
GEMN-0156_BR51721:N2012-098-002-B x LH132.FR1064	136	16.9	99
GEMN-0157_BR51721:N2012-164-002-B x LH132.FR1064	140	15.1	98
GEMN-0158_BR51721:N2012-397-001-B x LH132.FR1064	152	16.0	97
GEMN-0159_CASH:N1410-018-001-B x LH132.FR1064	139	15.0	98
GEMN-0174_AR17056:N2025-574-001-B x LH132.FR1064	119	16.4	97
GEMN-0177_DK888:N11a08a-395-001-B x LH132.FR1064	147	16.8	99

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMN-0178_DK888:N11a08a-440-001-B x LH132.FR1064	**161**	18.0	97
GEMN-0179_FS8B(T):N11a08c-030-002-B x LH132.FR1064	132	15.4	97
GEMN-0187_ANTIG03:N1218-056-001-B-B x LH132.FR1064	145	16.5	98
GEMN-0190_PASCO14:N0424-078-001-B x LH132.FR1064	141	16.9	99
GEMN-0191_SCROGP3:N2017-003-001-B x LH132.FR1064	134	15.1	98
GEMN-0192_SCROGP3:N2017-172-001-B x LH132.FR1064	146	15.5	98
GEMN-0193_UR11002:N0308b-086-001-B x LH132.FR1064	151	16.0	96
LH269 x LH132.FR1064	161	16.0	98
LH287 x LH132.FR1064	156	16.0	95
Pioneer 31D58	169	18.4	99
Pioneer 31P41	183	18.1	99
DeKalb 697	152	18.2	92
HC33 x TR7322	143	14.7	98
Experiment Mean	140	16.1	97
Check Mean (P31D58, P31P41, DK697)	168	18.2	97
LSD 0.05	13.0	0.8	3.9
CV	11.5	6.0	5.1

GEM-Raleigh EX29: Evaluation of GEM-Ames Stiff Stalk releases, 12 locations in 2010

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMS-0001_PIU144/B94///B94 x LH283.LH287	129	18.0	93
GEMS-0002_FS8A(S):S09-043-002 x LH283.LH287	134	16.4	95
GEMS-0049_DKB844:S1601-512-001-B x LH283.LH287	153	17.4	93
GEMS-0050_DKB844:S1601-517-001-B x LH283.LH287	152	18.3	95
GEMS-0051_CUBA164:S2008a-083-001-B x LH283.LH287	142	16.5	91
GEMS-0052_CUBA164:S2008a-326-001-B x LH283.LH287	152	16.8	96
GEMS-0053_CUBA164:S15-192-002-B x LH283.LH287	134	19.3	94
GEMS-0054_AR16035:S02-450-001-B x LH283.LH287	135	18.7	98
GEMS-0055_AR16035:S02-443-001-B x LH283.LH287	135	17.8	89
GEMS-0061_AR16026:S17-010-001-B x LH283.LH287	145	18.7	88
GEMS-0062_AR16026:S17-016-001-B x LH283.LH287	146	17.3	96
GEMS-0063_CUBA164:S1511b-325-001 x LH283.LH287	139	16.8	91
GEMS-0064_CUBA164:S1511b-249-001-B x LH283.LH287	149	17.6	95
GEMS-0065_CUBA117:S1520-041-001-B x LH283.LH287	136	17.3	88
GEMS-0066_CUBA117:S1520-052-001-B x LH283.LH287	142	17.6	96
GEMS-0068_AR16026:S1704-153-001-B x LH283.LH287	138	16.8	87
GEMS-0069_AR16035:S19-161-001-B x LH283.LH287	129	16.5	82
GEMS-0072_CHS775:S1911b-439-001-B x LH283.LH287	149	16.6	96
GEMS-0073_CUBA117:S15-372-001-B x LH283.LH287	132	15.8	95
GEMS-0074_CUBA164:S1517-163-001-B x LH283.LH287	137	16.5	97
GEMS-0075_CUB164:S1517-241-002-B x LH283.LH287	128	17.0	93
GEMS-0078_FS8A(S):S09-362-001-B x LH283.LH287	121	15.4	95
GEMS-0079_FS8B(S):S0316-802-001-B x LH283.LH287	146	16.6	95
GEMS-0080_FS8B(S):S0316-814-001-B x LH283.LH287	146	16.2	93
GEMS-0085_UR01089:S0525-519-001-B x LH283.LH287	135	17.9	90
GEMS-0086_UR10001:S1813-257-001-B x LH283.LH287	133	16.2	92
GEMS-0091_CHS740:S1411a-783-002-B x LH283.LH287	147	15.9	90
GEMS-0092_CUBA164:S2012-444-001-B x LH283.LH287	143	17.6	99
GEMS-0093_CUBA164:S2012-966-001-B x LH283.LH287	142	17.1	97
GEMS-0100_UR11003:S0302-937-001-B x LH283.LH287	130	16.6	93
GEMS-0113_CHS775:S1911b-120-001-B x LH283.LH287	160	16.8	95
GEMS-0115_DKB844:S1601-073-001-B x LH283.LH287	147	17.7	96
GEMS-0116_DKB844:S1601-003-002--B x LH283.LH287	148	17.8	94
GEMS-0118_UR11003:S0302-1011-001-B x LH283.LH287	137	14.9	91
GEMS-0142_BR52060:S0210-143-001-B x LH283.LH287	143	16.8	96
GEMS-0143_BR52060:S0210-147-001-B x LH283.LH287	136	15.8	90
GEMS-0146_NEI9004:S2818-003-001-B x LH283.LH287	146	17.3	93
GEMS-0147_NEI9004:S2818-025-001-B x LH283.LH287	144	17.9	97
GEMS-0148_NEI9004:S2818-376-001-B x LH283.LH287	142	17.2	96
GEMS-0149_UR05017:S0415-180-002-B x LH283.LH287	137	17.6	97
GEMS-0150_UR05017:S0415-187-001-B x LH283.LH287	141	17.4	95
GEMS-0160_CUBA117:S1542-037-002-B x LH283.LH287	147	18.0	95
GEMN-0161_CUBA117:S1542-057-001-B x LH283.LH287	148	17.9	97
GEMS-0162_CUBA117:S1542-057-002-B x LH283.LH287	135	17.4	95
GEMS-0163_CUB164:S2012-456-001-B x LH283.LH287	141	15.9	98

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
GEMS-0176_CUB164:S2008c-289-001-B x LH283.LH287	138	17.7	94
GEMS-0180_GUAT209:S1308a-047-001-B x LH283.LH287	136	18.0	98
GEMS-0181_GUAT209:S1308a-068-001-B x LH283.LH287	143	17.5	96
GEMS-0182_GUAT209:S1308a-084-001-B x LH283.LH287	147	16.1	98
GEMS-0183_GUAT209:S1308a-104-001-B x LH283.LH287	141	17.5	97
GEMS-0184_GUAT209:S1308a-120-001-B x LH283.LH287	151	18.1	95
GEMS-0188_DKXL212:S0912-012-001-B x LH283.LH287	138	14.6	91
GEMS-0189_DKXL212:S0912-117-001-B x LH283.LH287	144	15.1	96
Cuba117:S15-101-001-B-B-B x LH283.LH287	144	18.4	90
LH310 x LH283.LH287	145	17.3	95
LH383 x LH283.LH287	135	16.6	96
Pioneer 31D58	177	17.9	99
Pioneer 31P41	182	17.8	97
DeKalb 697	161	18.5	97
HC33 x TR7322	140	14.9	98
Experiment Mean	142	17.1	94
Check Mean P31D58, P31P41, DK697	174	18.0	98
LSD 0.05	12.7	0.8	6.8
CV	11.1	5.6	9.0

GEM-Raleigh EXL7: Second year evaluation of GEM families, 9 locations in 2010

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
BR105:S16-(373-7)-008-006 XT6	**165**	18.2	96
BR105:S16-(373-7)-008-009 XT6	**165**	17.7	97
BR105:S16-(373-7)-008-011 XT6	**179**	18.8	97
BR105:S16-(373-7)-008-014 XT6	**161**	19.4	99
BR105:S16-(373-7)-008-001-002 x LH283.LH287	**166**	19.3	97
BR105:S16-(373-7)-008-001-003 x LH283.LH287	157	19.2	96
BR105:S16-(373-7)-008-001-006 x LH283.LH287	**170**	18.7	96
BR105:S16-(373-7)-008-001-007 x LH283.LH287	**178**	18.3	97
CML329:N18-001-002-001 x LH244.LH245	140	15.8	97
CML329:N18-001-002-004 x LH244.LH245	135	15.0	99
CML329:N18-001-002-005 x LH244.LH245	135	16.0	98
CML329:N18-001-004-001 x LH244.LH245	143	15.9	98
CML329:N18-001-012-001 x LH244.LH245	146	17.1	98
CML329:N18-001-013-001 x LH244.LH245	140	15.7	98
CML329:N18-001-014-001 x LH244.LH245	135	15.9	97
CML329:N18-001-019-001 x LH244.LH245	150	15.5	98
CML329:N18-001-019-002 x LH244.LH245	144	16.6	98
CML329:N18-001-020-001 x LH244.LH245	155	15.7	100
CML329:N18-001-020-002 x LH244.LH245	134	16.4	98
CML329:N18-001-028-001 x LH244.LH245	127	16.0	98
CML413(CL-00331):N18-001-011-002 x LH244.LH245	149	16.6	99
CML413(CL-00331):N18-001-011-004 x LH244.LH245	156	18.0	98
CML413(CL-00331):N18-001-012-001 x LH244.LH245	156	16.8	97
CML413(CL-00331):N18-001-015-002 x LH244.LH245	152	16.4	95
CML413(CL-00331):N18-001-016-001 x LH244.LH245	145	17.0	98
CML413(CL-00331):N18-001-016-003 x LH244.LH245	153	17.1	97
CML413(CL-00331):N18-001-018-003 x LH244.LH245	140	17.9	99
CML413(CL-00331):N18-001-027-001 x LH244.LH245	149	17.2	99
CML413(CL-00331):N18-001-030-001 x LH244.LH245	145	17.3	97
CML413(CL-00331):N18-001-030-002 x LH244.LH245	145	16.8	99
CML413(CL-00331):N18-001-030-003 x LH244.LH245	151	17.1	96
CML413(CL-00331):N18-001-036-001 x LH244.LH245	143	16.5	95
CML413(CL-00331):N18-001-036-002 x LH244.LH245	159	16.8	98
CML413(CL-00331):N18-002-044-003 x LH244.LH245	149	17.0	99
CML413(CL-00331):N18-002-054-001 x LH244.LH245	150	16.2	94
CML413(CL-00331):N18-002-054-002 x LH244.LH245	155	16.8	92
CML413(CL-00331):N18-002-055-001 x LH244.LH245	151	16.7	99
CML413(CL-00331):N18-002-055-003 x LH244.LH245	153	17.1	100
CUBA84:D27-B-001-001 x LH245.LH244	153	18.0	97
CUBA84:D27-B-001-001 x LH283.LH287	140	17.9	97
CUBA84:D27-B-001-002 x LH245.LH244	142	17.3	98
CUBA84:D27-B-001-002 x LH283.LH287	128	18.3	95

Pedigree	Yield (bu/ac)	Moisture (%)	Erect Plants (%)
CUBA164:D27-B-004-001 x LH283.LH287	**160**	17.3	99
CUBA164:D27-B-004-001 x LH245.LH244	150	17.2	100
CUBA164:D27-B-007-001 x LH283.LH287	149	18.6	94
CUBA164:D27-B-007-001 x LH245.LH244	156	18.1	99
SCR_Gp3:N14-028-003-B-002 x LH132.FR1064	**160**	16.7	99
LH269 x LH244.LH245	165	16.1	94
LH283 x LH244.LH245	133	15.6	96
LH287 x LH244.LH245	161	15.6	94
LH353 x LH244.LH245	156	15.8	98
LH354 x LH244.LH245	168	15.8	97
LH244 x LH283.LH287	155	15.7	96
LH245 x LH283.LH287	149	15.6	96
LH310 x LH283.LH287	153	16.7	93
LH382 x LH283.LH287	165	16.1	97
LH383 x LH283.LH287	170	17.5	99
Pioneer 31G98	185	15.2	97
Pioneer 31D58	174	17.5	99
Pioneer 31P41	198	17.0	98
DeKalb 697	167	17.3	99
HC33 x TR7322	144	14.1	98
Pioneer 33M54	178	16.7	98
Garst 8288	172	17.0	99
Experiment Mean	154	16.9	97
Check Mean (DK697, G8288, P31D58, P31G98, P31P41, P33M54)	179	16.8	98
LSD 0.05	14.3	0.9	3.9
CV	11.1	6.1	4.8

99 Decode

Type	KEY:	
SS	LH132	a
NS	LH123	b
NS	DE4	c
NS	PHG35	d
SS	PHG39	e
SS	B73	f
SS	N28	g
NS	LH39	h
NS	LH38	i
SS	6103	j
SS	LH74	k
SS	G80	l
NS	LH51	m
SS	PHB47	n
NS	MDF-13D	o
NS	MBNA	p
NS	LH57	q
NS	207	r
SS	GEMS-0002	s
SS	GEMS-0006	t
SS	CUBA117:S1520-156-1-B-B	u
NS	PHZ51	v
SS	NEI9004	w
SS	PHW17	x
SS	GEMS-0115	y
NS	GEMN-0097	z

Type	KEY:	
SS	GEMS-0149	aa
NS	GEMN-0133	ab
NS	GEMN-0137	ac
SS	GEMS-0016	ad
NS	GEMN-0179	ae
NS	GEMN-0174	af
SS	790	ag
SS	GEMS-0162	ah
NS	GEMN-0155	ai
SS	GEMS-0175	aj
NS	GEMN-0156	ak
SS	DJ7	al
NS	SG17	am
NS	PHR36	an
NS	PHV63	ao
NS	LH52	ap
SS	GEMS-0163	aq
NS	PHG47	ar
NS	HBA1	as
SS	87916W	at
SS	4676A	au
SS	GEMS-0188	av
NS	GEMN-0177	aw
NS	PHT60	ax
SS	Mp717	ay
SS	794	az
NS	LH82	ba
NS	LH61	bb
NS	PHK76	bc
SS	PHJ40	bd