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SUBJECT: Maize Inbred Release Notice

TO: Potential Users of University of Delaware's Maize Inbred Line DE6

FROM: Dr. Robin W. Morgan
Director, Delaware Agricultural Experiment Station

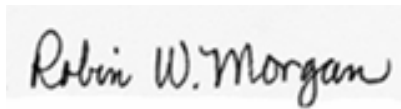
The Delaware Agricultural Experiment Station announces the release of a new yellow dent maize inbred line as a protein source of germplasm. DE6 (DKXL212:N11a-234-1-1-1-1-1) was derived from a Germplasm Enhancement of Maize (GEM) breeding cross (Brazilian tropical maize Dekalb hybrid DKXL212 crossed to elite non-Stiff Stalk temperate inbred N11a) using conventional breeding techniques of pedigree selection and early-generation yield testing initiated with S₂ ears. DE6 has good flower synchrony and is similar in plant height to Mo17Ht (Table 1). DE6 has ears with 14 kernel rows and red cob color. European corn borer (ECB), *Ostrinia nubilalis* (Hübner) evaluations at the University of Delaware in 2001, 2003, and 2004 indicate that DE6 has intermediate leaf feeding resistance with ratings of 4.0 compared to 4.1 for resistant check DE811 and 7.8 for susceptible check B73Ht. DE6 averaged 18.7 cm tunnel length damage below the ear compared to 37.8 cm for B73Ht and 18.0 cm for DE811 following ECB infestation at anthesis.

DE6 was analyzed for protein content using NIRS whole grain analysis at the USDA-ARS GEM Project, Ames, Iowa. Results indicate that DE6 has high protein percent ranging from 16.1 to 19.4 (dry matter basis) compared to 12.0 to 12.9 percent for B73Ht (Table 1). We believe that DE6 will contribute to the USDA-ARS GEM Project's major objective of broadening genetic diversity in seed trait quality by providing a usable protein source of germplasm for future breeding improvements.

DE6 hybrids were evaluated for yield and agronomic performance with GEM cooperators at 18 locations and 25 reps each for LH198 and a proprietary B73 type inbred in 2001 (see tests 1121A and 1121 B at the GEM web site: www.public.iastate.edu/~usda-gem). DE6 yielded 172 bu/A on the LH198 tester compared to a test entry mean of 168.6 bu/A and commercial checks mean of 185.4 bu/A. Harvest grain moisture of the LH198 x DE6 hybrid was similar to Pioneer hybrid 33G26. DE6 yielded 159.4 bu/A with the proprietary B73 type tester compared to a test entry mean of 166.6 bu/A and commercial checks mean of 195.2 bu/A. Harvest grain moisture of the proprietary B73 type x DE6 hybrid was similar to Pioneer hybrid 3223. Stalk lodging averaged 3.7, 4.1, and 6.1 percent, and root lodging averaged 10.5, 4.9, and 4.1 percent for LH198xDE6, test entry mean, and commercial hybrid checks mean, respectively.

We thank Dr. Dirk Benson, Ag Reliant Genetics, for providing S₁ lines of DKXL212:N11a, GEM private cooperators and Dr. Linda Pollak, Penny Meyerholz, Mike Blanco, and Mack Shen at USDA-ARS GEM Project, Ames, Iowa for conducting and analyzing GEM yield tests and Sue Duvick, USDA-ARS GEM Project, Ames, Iowa for grain composition analyses. We also thank Dr. Wilfredo Salhuana, Chair of the GEM Technical Steering Group, for his advice and support of our GEM breeding efforts.

Seed will be maintained and available in 100 kernel lots from the Department of Plant and Soil Sciences upon completion of the order form which can be found at the following web page <http://ag.udel.edu/plsc/research/MaizeResearch.htm> or by calling (302) 831-2535 and requesting a copy.



3/4/05

Dr. Robin Morgan, Director
Delaware Agricultural Experiment Station

Date

UNIVERSITY OF DELAWARE

Newark, DE

MAIZE INBRED LINE ORDER FORM

Release descriptions of DE maize inbred lines can be found at <http://ag.udel.edu/plsc/research/MaizeResearch.htm>. To order seed, first return two signed "Maize Inbred Research and Development" agreements † to Michael Clerkin, OVPR, 210 Hüllihen Hall, University of Delaware, Newark DE 19711 and then mail your check and the signed order form below for the inbred lines requested to Jim Hawk at the address below. Please make check payable to the University of Delaware.

Sincerely,
Jim Hawk, Corn Breeder
Teclerariam Weldekidan, Associate Scientist

Note: Seed will be made available at no cost to public cooperators using these inbreds for research purposes within their own programs, but excluding release to third parties.

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Dr. Jim Hawk
Department of Plant and Soil Sciences
152 Townsend Hall
University of Delaware
Newark, DE 19716
(jhawk@udel.edu)

<u>DE Line Requested</u>	<u>Number of units (100k) wanted</u>	<u>Cost</u>
_____	_____ @ \$80.00/100 kernels	_____
_____	_____ @ \$80.00/100 kernels	_____
_____	_____ @ \$80.00/100 kernels	_____
	Total	_____

Please send seed to:
Name and Organization _____

Shipping Address _____

City _____ State _____ Zip _____

Phone _____ Email _____

Note: A Maize Inbred Research and Development Agreement † (<http://ag.udel.edu/plsc/research/MaizeResearch.htm>) must be signed and returned specifying the inbreds ordered with this request.

ORGANIZATION agrees to duly acknowledge the contributions of the UD breeding programs in the provision of the germplasm in all publications and in all descriptions and release notifications of material derived from the germplasm listed above.

† **Maize Inbred Research and Development Agreement not required for DE6.**

The germplasm is provided ON AN "AS IS" BASIS, AND UNIVERSITY MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT THERETO. BY WAY OF EXAMPLE BUT NOT OF LIMITATION, UNIVERSITY MAKES NO REPRESENTATION OR WARRANTIES (i) OF COMMERCIAL UTILITY; (ii) OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The recipient agrees to bear all risk resulting from the use of the germplasm and anything derived from it.

Received by: _____

Date: _____