

SUBJECT: Corn Inbred Release Notice

TO: Potential users of University of Delaware's inbred corn lines DE1 and DE2

**FROM: Dr. John C. Nye
Director, Delaware Agricultural Experiment Station**

The yellow dent corn inbreds DE1 and DE2 were developed by the University of Delaware Agricultural Experiment Station and will be released after April 1, 1997. DE1 and DE2 were developed from the F₁ population of Pioneer hybrid 3140 crossed to Pioneer hybrid 3751 using the conventional breeding techniques of pedigree selection and early-generation yield testing initiated with F₂ ears. DE1 and DE2 are sister inbreds derived from the same F₄ ear. DE1 flowers slightly later than DE2 (Table 1). Both inbreds have relatively soft grain texture and are not expected to be suitable as female parents. However, pollen production and duration of anthesis are excellent for both inbreds, and they should have excellent potential as male parents. The ears on both DE1 and DE2 are girthy with 16 kernel rows compared to 11 for Mo17 Ht. DE2 ears are distinguishable from DE1 due to the presence of pigment on the silk scar of DE2. Both inbreds have pale purple silks and open husks at maturity. DE1 and DE2 are characterized by good stay green and plant integrity in the fall. Root lodging may be a problem in certain hybrid combinations.

Disease evaluations indicate that both inbreds are moderately susceptible to Southern corn leaf blight caused by *B. maydis* race O and susceptible to anthracnose stalk rot (Table 2). European corn borer, *Ostrinia nubilalis* (Hübner), evaluations at the University of Delaware and Cornell University indicate that both inbreds may have intermediate levels of resistance to first brood corn borers, but further evaluations will be necessary due to relatively low ratings for the susceptible check, B73. Both DE1 and DE2 have intermediate levels of resistance to second brood corn borers with tunnel length values ranging from 6-9 cm compared to 24-28 cm for B73 (Table 2).

Limited yield trial data indicate that DE1 and DE2 have satisfactory combining ability when crossed to B73-type testers. DE1 may have better general combining ability than DE2.

Seed will be maintained and available in 100 kernel lots from the Department of Plant and Soil Sciences upon completion of the enclosed order form and Research and Development Agreement for each inbred.



Dr. John C. Nye, Director
Delaware Agricultural Experiment Station

4/18/97

Date