Assessing low Phosphorus Tolerance in Corn

Laura A. Pletsch-Rivera and Shawn M. Kaeppler

Phosphorus (P) is a macronutrient that is often limiting for crop production, especially in non-industrialized nations. The purpose of this study is to map QTL (quantitative trait loci) controlling P efficiency in the field. In this talk the phentoypic analysis of the population will be presented. An F2:3 population of 150 lines from the cross NY821xH99 was grown in split plot design with high P and low P as the main plots. The experiment was grown in 2001, 2002 and 2003 in Marshfield, WI. Seedling weight, aerial biomass at harvest, total P accumulation, flowering time, and root lodging were measured on all plots. Descriptive data and trait correlations will be presented. A molecular marker study is in progress.