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Interacción genotipo x prácticas de manejo en híbridos de maíz. Efectos sobre el diseño de recomendaciones

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Abstract

The techniques to determine fertilization and cultural practices for maize (*Zea mays* L.) cropping, do not take into account the interaction genotype x management factors. Even though farmers have now access to several hybrids suitable for a particular agrosystem, that is they have a greater genetic diversity, a fertilization and plant density technology adapted for a hybrid is still used for all maize hybrids. In order to quantify the significance of the genotype x management interaction on crop management, two irrigated maize field experiments, including six commercial hybrids, were conducted in two different locations during the Fall-Winter season, in Southeastern "México. The experimental design was a split plot, in which main plots were assigned to 27 treatments of a rotary central composite design for nitrogen, phosphorus and potassium rates, population densities, and planting dates. Subplots contained the six maize hybrids and the center of the design was replicated six times. Grain yield response was adjusted to a complete quadratic model, including hybrids as dummy variables and managements factors as multiplicative effects. Since the genotype x management interaction was highly significant, different equations were obtained for each hybrid to predict grain yield in every experiment and the two locations. The resulting management recommendations for each hybrid also were different for the same location. These findings show the importance to include the genotype x management interaction for the hybrid management in particular agrosystem or location.

Keywords

Zea mays L, management recommendations, genetic variability, hybrids.

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