

P.E. and mean N.H. (04-70, 04-73, 04-101 and MO17), with high P.E. but less N.H. (04-61 and B14), with mean P.E. and N.H. (B73, 04-123 and 04-96), with high N.H. but less P.E. (LP109, 04-8, 04-91 and 04-76) and with low P.E. and low N.H. (LP521 and 04-104). The use of PCA showed which variables had more incidence in ear weight and how is the correlation among them. Moreover, the different groups found with this analysis allow the evaluation of inbred lines by several traits simultaneously.

Correlation Among Agronomic Traits Using Multivariate Analysis

David Almorza¹, M.V. Kandus², Juan Carlos Salerno², Rafael Boggio³

¹Facultad de Ciencias del Trabajo, University of Cádiz, Spain

²Instituto de Genética IGEAF, Buenos Aires, Argentina

³Universidad Nacional de La Plata, Buenos Aires, Argentina

Keywords: Principal component analysis, maize, ear weight, inbred lines

The objective of this work was to evaluate the relationship among different traits of the ear of maize inbred lines and to group genotypes according to its performance. Ten inbred lines developed at IGEAF (INTA Castelar) and five public inbred lines as checks were used. A field trial was carried out in Castelar, Buenos Aires (34° 36' S – 58° 39' W) using a complete randomized design with three replications. At harvest, individual weight (P.E.), diameter (D.E.), row number (N.H.) and length (L.E.) of the ear were assessed. A principal component analysis, PCA, (InfoStat 2005) was used, and the variability of the data was depicted with a biplot. Principal components 1 and 2 (CP1 and CP2) explained 90% of the data variability. CP1 was correlated with P.E., L.E. and D.E., meanwhile CP2 was correlated with N.H. We found that individual weight (P.E.) was more correlated with diameter of the ear (D.E.) than with length (L.E.). Five groups of inbred lines were distinguished: with high