Aspects Regarding to Genetic Diversity of Parental Forms in Some Released Maize Hybrids

Ana COPÂNDEAN

Agricultural Research & Development Station - Turda, Agriculturii Street, No. 27, Turda, Romania; e-mail: anacopandean@yahoo.com

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SUMMARY

Use of differentiation between parental forms in released maize hybrids, hybrid combinations can be achieved providing a more intense expression of heterosis, which in addition has a high production capacity and increased adaptability, as a result of the genetic basis of the parents is wider and often complementary. The method of creating hybrids between inbred lines after (GALLAIS (1990) is a faster and convenient mean of accumulation of favorable dominant genes, for obtaining a high degree of homogenety and a certain homeostasis.

Phenotypic and genetic diversity of maize inbred lines was particularly necessary in the creation of hybrids, is the foundation of the phenomenon of heterosis, the main way to prevent genetic vulnerability, thereby obtaining hybrid combinations preferred by farmers or by seed producers.

This paper presents estimates diversity parental forms, heterosis, the relationship between diversity and heterosis in three way crosses (TWC): Turda Mold 188; Turda 165; Turda 145; Turda Star and a single cross (SC) Turda Favorit.

To this end, parental lines were analyzed in male and female parental forms for TWC, establishing phenotypic differentiation index (IDF) based on characters of parental lines, heterosis realized at single crosses (reproductive, somatic, adaptive and metabolic) after Hallauer and Miranda (1981). It has been calculated the correlation coefficient between phenotypic diversity index (IDF %) and heterosis (H%).

The obtained results lead us to believe that the most effective discrimination diversity of inbred lines can be achieved simultaneously taking into account both quantitative indicators of diversity.

REFERENCES