

## HETEROSIS AND IT'S UTILIZATION IN SUNFLOWER

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The heterosis performances of 7 main characters from 54 hybrid combinations ( $F_1$ ) of sunflower (*Helianthus annuus* L.) and differences among them were estimated in experimental at Dong Ling (Eastern Tomb), Shenyang, Liaoning province. The experiment was arranged in plots that was designed with 4 rows and 5 meters-a row, one row of male was planted nearby the three rows of  $F_1$ . The space was 0.6m between rows and a commercial cultivar as check, which was planted one plot (4 rows) every ten plots. Data were recorded in the trial. The ratio of parent-progeny has been taken as a relative value to measure the heterosis. The results showed that the average heterosis of yield per plant were most remarkable (169%) compared with others, all of the hybrid combination were positive value. Average heterosis of kernel percentage and seed oil percentage were lower, 2.32% and 14.6% respectively. There were higher hybrid vigour of plantheight (23.1%) and mid values of stem diameter (14.68%) and head diameter (17.14%), but the differences among these hybrid combinations were less. The heterosis of 1000 seed weight was 22.9% and the range of hybrid combinations greatly varied. Therefore there are the potential of utilization in sunflower hybrids. Forty-six of all hybrid combinations obtained higher yield than the commercial cultivar (Peredovik). It was possible to obtain the sunflower hybrid with high-yield and high-oil content through the combination of parents.