

Annotation

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Influence of row spacing and planting density on husk content, weight and nature of sunflower achenes

The results of studies on peculiarities of the husk content and natural weight of achenes of sunflower hybrids mature at different time depending on row spacing and planting density in Right-bank Forest Steppe of Ukraine are given. Thus, when the density of planting is 50 thousand/ha the peeling of the Ukrainian F1 hybrid is 23,5-24,5% and the difference of indicators is within 0,3-1 % speaking about the Zagrava hybrid. When thickening crops to 90 thousand plants/1 ha the peeling of the Ukrainian F1 hybrid is 23,9-24,3% and indicators of the Zagrava hybrid are 23,7-24,1%, changing only by 0,4%. Also, there is no clear dependence of this indicator on the width of row spacing. The Ukrainian F1 hybrid has a larger percentage of husk when sowing with 45 cm row spacing and planting density of 50 thousand/ ha – 24,5%. This indicator of the Zagrava hybrid is higher by 70 thousand plant density/ha – 24,4%.

Study of the influence of planting density and row spacing of sunflower hybrids mature at different time on thousand-seed weight showed that thousand-seed weight decreased when thickening crops. The value of this indicator decreases inversely proportional to the rate of plant sowing – when it increases the thousand-seed weight decreases. Moreover, indicators of the thousand-seed weight are larger in plantings of both hybrids with the row spacing of 70 cm. The early maturing Ukrainian F1 hybrid gives larger thousand-seed weight with a width of 70 cm row spacing and planting density of 50 thousand plants/ha – 74,1 g. The lowest value of this indicator is at a density of 90 thousand plants/ha with a width of 45 cm – 72,8 g.

In our experiments the natural weight of achenes depends on the sunflower planting density. A significant increase in the natural weight is observed with increasing planting density of 90 thousand plants/ha. The early-maturing Zagrava hybrid has the maximum values of the natural weight with the width of 70 cm row spacing and at a higher density of plants (90 thousand plants/ ha). It exceeds the check variant at 8 g/l. This indicates a specific reaction of hybrids to thickening crops: a sharp decrease in seed weight due to under-maturing of seeds leads to a decrease of the natural weight.

The natural weight of seeds of the early-maturing Ukrainian F1 hybrid with the plant density of 90 thousand/ha exceeds the check variant by 4%. Thus, with increase in sunflower plant density to 90 thousand plants/ha the natural weight of seeds increases comparing with the check variant by 5-8 g/l.

Key words: *sunflower, hybrids, row spacing, seeding density, husk content, seed weight and nature.*