

Annotation

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Creation and assessment of the genetic potential of multi-sprout pollinators of hybrid origin in the selection of the CMS hybrids of sugar beet

One of the most urgent tasks of sugar beet selection is the introduction into the production the highly-productive CMS hybrids, adapted to the environmental conditions, improved according to the biochemical indices of raw sugar, suitable for energy and ecologically efficient cultivation technologies.

According to the results of the research, a new generation of multi-sprout pollinators of hybrid origin for the formation of the parent components of CMS hybrids of sugar beet was created by the inclusion in the selection process the biotypes of fodder beet.

It was established that the breeding materials of hybrid origin are characterized by the improved indices of root shape (oval-conical, smooth surface, shallow crease, partial protrusion above ground) already after the first saturating crossing with high sugar content donors. The average yield capacity of root crops of all pollinators of this type under the first backcrossing exceeded the standard yield capacity by 20,7-26,6%, under the second by 13,0-19,5% and under the third backcrossing by 11,2-15,7%. The sugar content of root crops crossed with sugar beet and fodder beet was inherited under the intermediate type. The descendants of the third generation of backcrossing from saturating crosses with high sugar content donors, according to this indicator, have reached the level of the standard. With the increase of sugar content of root crops, the technological quality of root crops of newly created pollinators improved significantly. According to the complex character of "sugar collection" the multi-sprout pollinators of the third backcrossing generation exceeded the standard index significantly.

The usage in the selection process the multi-sprout pollinators of hybrid origin as the parental components contributes to the creation of a new generation of CMS sugar beet hybrids with the improved parameters of root crop forms suitable for energy and ecologically efficient cultivation technologies. These hybrids exceed the standard according to the indices of yield capacity of root crops and the collection of sugar per hectare by 8,9-19,2% and 11,2-19,8% respectively.

Key words: *multi-sprout pollinators, CMS hybrid, backcross, yield capacity, sugar content, technological quality.*