Sugar Beet Yield Formation under Subsurface Drip Irrigation Depending on Sowing Methods and Drip Tape

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Abstract:

The article presents the results of studies conducted in the light chestnut soils of the foothill irrigated zone in the southeast of Kazakhstan. The characteristics of biomass accumulation and plant density formation of sugar beet under different sowing methods, depending on the placement of the drip tape, were studied. The most effective method for achieving high sugar beet yields under subsurface drip irrigation is the five-row sowing, where the root yield of sugar beet reaches 200 tons or more per hectare. The most efficient placement of the drip tape is at a depth of 30-40 cm, with a spacing of 100 cm. The study also presents results on the weed infestation of sugar beet fields, noting a significant reduction in weed population when the drip tape is placed at a depth of 40 cm and the seeds are sown in five rows.

Keywords:

Biomass accumulation, Drip tape placement, Plant density, Sowing methods, Soil treatment methods, Sugar beet, Subsurface drip irrigation, Weed infestation.