

The influence of irrigation regimes and growth regulators on the productivity of varieties of grass peavine (*Lathyrus sativus*) in the conditions of the Western Caspian Region of Dagestan

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Annotation. In order to identify the adaptive potential of the cultivars of the grass peavine on the light chestnut soils of the Western Caspian Region of Dagestan in the period from 2020 to 2022, field studies were conducted: factor A – varieties of Racheyka, Mramornaya; factor B – growth regulators Albit (50 ml/t), Rhizotorphin (0.5 kg per hectare lowest moisture (LM)), factor B – irrigation regimes – watering at 60% LM, watering at 70% LM, watering at 80 plants in phases 3-5 and 8-10 leaves, norms of 1 l/t and 1-2 l/ha. It was found that the cultivars of the seeded Crustacean and Marble formed the largest leaf surface at soil moisture of 80% LM, the excess compared to the control variant (60% LM) and the variant with a pre-watering threshold of 70% LM amounted to 16.5-16.6 and 8.0-9.1%. The applied growth regulators had a positive effect on this indicator, while the highest value, at the level of 28.6 thousand m² / ha, was observed on the variant with the growth regulator Albit, the difference with the control data (water treatment) was 12.6%. A similar situation was also noted for other elements of photosynthetic activity of crops. Comparative data between varieties of grass peavine that the greatest values of leaf surface area and net photosynthesis productivity were observed in the crops of the Racheyka variety. Sufficiently high yield data of varieties were recorded under the irrigation regime with a threshold of 80% LM – 2.85-2.55 t/ha, respectively, the excess compared to the first (60% LM) variant was 27.2-26.2%, and with the data of the second variant (70% LM) – 9.6-9.9%. On average, according to the variants with irrigation regimes and varieties, the grain yield during processing by the Albit regulator was 2.70 t/ha, which is higher than the control data (60% LM) and the second variant (70% LM) – by 24.4 and 11.1%, respectively. In addition, studies have shown that the yield of the Racheyka variety was high (2.56 t/ha), the difference with the data of the Mramornaya variety was 11.3%.

Key words: Western Caspian region of Dagestan, leguminous crops, grass peavine, varieties, irrigation regime, growth regulators, leaf surface area, net photosynthesis productivity, yield

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