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## PRODUCTIVITY OF SOWN PEAS VARIETIES IN THE CONDITIONS OF SOUTH DAGESTAN

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On the light chestnut soils of Southern Dagestan, to study the adaptive potential of cultivars of sowing peas, against the background of presowing treatment with growth regulators (Albit and Siliplant) in the period from 2017 to 2019, a 2-factor field experiment was conducted. Pea varieties Ramonskiy 77, Fokor, Rocket were selected as the object of research. As a result, it was found that the highest rates of photosynthetic activity were formed by the Fokor variety. So, in the variant without treatment with growth regulators, the leaf area of the Fokor variety was 44.9 thousand m2 / ha, which is higher than the data of the standard (Ramonsky 77) and the Rocket variety, by 20.4-7.2%, respectively. Approximately the same dynamics was also observed in terms of dry biomass collection and NPP (net productivity of photosynthesis). The minimum data on the photosynthetic activity of crops was noted for the standard variety, and the data for the Rocket variety occupy an intermediate position. The studied varieties provided the greatest data on photosynthetic activity on variants with growth regulators. It should be noted that the best conditions for the formation of leaf surface area, accumulation of dry biomass and NPP were created in the variant with pre-sowing treatment with the Albit regulator. In all variants of the experiment, the Fokor variety provided the highest yield. The excess in comparison with the varieties Ramonsky 77 and Roket, in the control variant, as well as in the variants with the Albit and Siliplant regulators, amounted to 26.8-10.8, respectively; 28.7-11.4 and 34.1-11.2%. The minimum data is marked with the standard one. The studied varieties formed the maximum yield in the case of treatment with the Albit regulator.

**Keywords.** Southern Dagestan, legumes, sowing peas, varieties, growth regulators, leaf area, NPP, dry biomass collection, net photosynthesis productivity.

## **REFERENCES**

- 1. Borzenkova G.A., Golopyatov M.T. *Fiziologicheski aktivnyye veshchestva kak sredstvo povysheniya ustoychivosti gorokha k kornevoy gnili* [Physiologically active substances as a means of increasing the resistance of peas to root rot] / Coll.: The use of physiological and biological methods and techniques in breeding and plant growing. Oryol. 1994. 87 p.
- 2. Vasin V.G., Vershinina O.V., Lysak O.N. *Vliyaniye biostimulyatorov na pokazateli fotosinteticheskoy deyatel'nosti i produktivnosti gorokha* [Influence of biostimulants on the indicators of photosynthetic activity and productivity of peas] // Grain legumes and cereals. 2015. No. 2 (14). Pp. 26-34.
- 3. Volobueva O.G. *Vliyaniye biopreparatov Rizotorfin i Al'bit na soderzhaniye fitogormonov v rasteniyakh gorokha raznykh sortov i effektivnost' simbioza* [Influence of biological products Rizotorfin and Albit on the content of phytohormones in pea plants of different varieties and the effectiveness of symbiosis] // Grain legumes and cereals. 2019. No. 2 (30). Pp. 14-20.
- 4. Golopyatov M.T. *Vliyaniye biologicheski aktivnykh veshchestv i mikroudobreniy na povysheniye i stabilizatsiyu urozhaya zerna gorokha* [Influence of biologically active substances and microfertilizers on the increase and stabilization of the grain yield of peas] // Grain legumes and cereals. 2015. No. 1. Pp. 25-29.
- 5. Gromov A.A., Ledovskiy N.V., Malysheva A.V. *Effektivnost' primeneniya regulyatorov rosta i mikroelementov na posevakh gorokha* [The effectiveness of the use of growth regulators and microelements on pea crops] / Materials of the International scientific-practical conference "Innovations today: education, science, production". Ulyanovsk: Ulyanovsk State Agricultural Academy. 2009. Pp. 36-39.

- 6. Dospekhov B.A. *Metodika polevogo opyta* [Field experiment technique]. M.: Agropromizdat, 1985. 351 p.
- 7. Metodika gosudarstvennogo sortoispytaniya sel'skokhozyaystvennykh kul'tur [Methodology for state variety testing of agricultural crops]. Issue 1. M.: Kolos, 1971. 239 p.
- 8. Ilyin E.A. *Kompleksnoye organo-mineral'noye udobreniye «Gumat kaliya zhidkiy torfyanoy»* [Complex organo-mineral fertilizer "Peat potassium humate liquid"]. M.: Publishing house. LLC "Flexom", 2004. Pp. 9-16.
- 9. Nichiporovich A.A. *Fotosinteticheskaya deyatel'nost' rasteniy v posevakh* [Photosynthetic activity of plants in crops]. M.: Edition of the USSR Academy of Sciences, 1961. 135 p.
- 10. Omarov F.B., Gamidova N.Kh. *Biometricheskiye pokazateli formirovaniya urozhaya zernobobovykh kul'tur v Gornoy zone Dagestana* [Biometric indicators of the formation of the yield of leguminous crops in the Mountainous zone of Dagestan] // Izvestiya DGPU. 2016. No. 1. Pp. 41-46.
- 11. Rekomendatsii po intensivnoy tekhnologii vozdelyvaniya R 36 gorokha na zerno [Recommendations for intensive technology of cultivation of P 36 peas for grain] / Comp. D.M. Boyar. Grodno: GGAU, 2010. 16 p.
- 12. Khaniev E.Kh., Boziev A.L., Khanieva I.M., Aliev Z.Yu. *Regulyatory rosta i mikroudobreniya na posevakh gorokha* [Growth regulators and microfertilizers on pea crops] / Coll: Perspective innovative projects of young scientists. Materials of the VII All-Russian conference of students, graduate students and young scientists. 2017. Pp. 136-139.
- 13. Khanieva I.M., Boziev A.L., Tlostanov I.Kh., Kushkhabiev A.Z. *Vliyaniye mikroelementov i mikrobiologicheskikh preparatov na urozhaynost' i kachestvo semyan soi* [Influence of microelements and microbiological preparations on the yield and quality of soybean seeds] // International scientific research. 2017. No. 3 (32). Pp. 206-208.
- 14. Khanieva I.M., Kasyanov I.M., Gesheva M.V., Sabolirov A.R. *Effektivnost' primeneniya biopreparatov i makroudobreniy na posevakh gorokha* [The effectiveness of the use of biological products and macrofertilizers on pea crops] // Bulletin of the Kabardino-Balkarian State Agrarian University n.a. V.M. Kokov. 2020. No. 2 (28). Pp. 12-16.

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