

INFLUENCE OF SOWING DATE AND SEEDING DEPTH ON THE YIELD OF NEW CORN HYBRIDS IN THE STEPPE ZONE OF KABARDINO-BALKARIA

Kh.Sh. TARCHOKOV, F.Kh. BZHINAEV, O.Kh. MATAEVA

Institute of Agriculture –
branch of Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences
360004, Russia, Nalchik, 224 Kirov street

Annotation. The paper presents the results of studies to determine the effect of the sowing time and the depth of planting seeds in the soil on the yield of promising maize hybrids of the Agriculture Institute of KBSC RAS selection under the conditions of irrigation of the steppe zone of Kabardino-Balkaria. So, the field germination of seeds of the Terek and Maisky-260MV hybrids is the highest when they are sown in the second decade of April at a depth of 10 cm (90,0 and 85,0%) compared to the timing of their sowing in the first decade of April at a depth of 5 cm (85,0 and 82,0%, respectively). The average grain yield of these hybrids was the highest (3,9 and 3,6 t/ha) at the second sowing date of 18-20.04. With an early sowing period (8-10.04), the grain productivity of Terek and Mayskiy 260MV decreases to 3,1 and 3,3 t/ha, respectively. Field germination and grain yield of the hybrid population Kabardinskaya 3812 against the background of the second sowing period when their seeds were planted to the depth of 10 cm. were the highest and amounted to 4,8 t/ha.

Keywords: corn, hybrid, adaptability, sowing time, crop structure, sowing density, yield

REFERENCES

1. Tarchokov Kh.Sh., Chochaev M.M., Mataeva O.Kh., Bzhinaev F.Kh. Effective methods of cultivation of hybrids and parental individuals of corn in agricultural technologies of a new generation of the Kabardino-Balkarian Republic. *Izvestiya Kabardino-Balkarskogo nauchnogo tsentra RAN* [News of the Kabardino-Balkarian Scientific Center of RAS]. 2021. No. 3. Pp. 82–92. (In Russian)
2. Privalov F.I., Luzhinsky D.V., Nadtochaev N.F. Development of maize hybrids of different ripeness groups depending on temperature conditions. *Kormoproizvodstvo* [Feed production]. 2018. No. 10. Pp. 4–11. (In Russian)
3. Tarchokov Kh.Sh., Chochaev M.M., Mataeva O.Kh., Shogenov A.Kh., Kushkhabiev A.Z. The influence of sowing methods on the intensity of erosion processes and the yield of agricultural crops on the slope lands of Kabardino-Balkaria. *Izvestiya Kabardino-Balkarskogo nauchnogo tsentra RAN* [News of the Kabardino-Balkarian Scientific Center of RAS]. 2020. No. 5. Pp. 5–19. (In Russian)
4. Mazalov V.I., Nebytov V.G. Productivity of corn hybrids in the Oryol region depending on abiotic factors and fertilizers. *Zemledeliye* [Agriculture]. 2021. No. 5. Pp. 45–48. (In Russian)
5. Bagrintseva V.N., Shmalko I.A., Nikitin S.V., Vardanyan V.S. Optimal density of the state of corn hybrids. *Zernovoe khozyaistvo Rossii* [Grain farming in Russia]. 2011. No. 4. Pp. 57–60. (In Russian)
6. Lambert R. Les variebes de mais grain. *Producteur Agricole*. 1986. Vol. 62. No. 385. Pp. 18–22.
7. Dospekhov B.A. *Metodika polevogo opyta* [Field experiment technique]. Moscow: Agropromizdat, 1985. 351 p. (In Russian)
8. Kotyuk A.V., Lukacheva N.G. Dynamics of infestation of corn crops with ragweed and herbicides for its destruction. *Kukuruza i sorgo* [Corn and sorghum]. 2020. No. 4. Pp. 30–35.
9. *Spisok pestitsidov i agrokhimikatov, razreshennykh k primeneniyu na territorii Rossiyskoy Federatsii v 2020 g. Prilozheniye k zhurnalu «Zashchita i karantin rasteniy»* [List of pesticides and agrochemicals permitted for use on the territory of the Russian Federation in 2020. Appendix to the journal «Plant Protection and Quarantine»]. Moscow, 2020. No. 4. 832 p. (In Russian)

10. Kiryushin V.I. Tasks of scientific and innovative support of agriculture in Russia. *Zemledeliye* [Agriculture]. 2018. No. 3. Pp. 3–12. (In Russian)
11. Sharkov I.N., Sorokin O.D., Kolbin S.A. Predicted assessment of the feasibility of using intensification means in agricultural technologies. *Zemledeliye* [Agriculture]. 2019. No. 3. Pp. 14–17. (In Russian)
12. Nakaev S.-M.A., Okazova Z.P. Dominant weeds and their harmfulness in corn crops. *Uspekhi sovremennoy nauki* [Successes of modern science]. 2017. Vol. 2. No. 12. Pp. 199–201. (In Russian)

Information about the authors

Tarchokov Khasan Shamsadinovich, Candidate of Agricultural Sciences, Leading Researcher, Laboratory of technology of cultivation of field crops, Institute of Agriculture – branch of Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences;

360004, Russia, Nalchik, 224 Kirov street;

kbniish2007@yandex.ru, ORCID: <https://orcid.org/0000-0002-6187-7354>

Bzhinaev Felix Khasanovich, Candidate of Agricultural Sciences, Senior Researcher, Laboratory of technology of cultivation of field crops, Institute of Agriculture – branch of Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences;

360004, Russia, Nalchik, 224 Kirov street;

kbniish2007@yandex.ru, ORCID: <https://orcid.org/0000-0002-6255-0396>

Mataeva Oksana Khasanovna, Junior Researcher, Laboratory of technology of cultivation of field crops, Institute of Agriculture – branch of Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences;

360004, Russia, Nalchik, 224 Kirov street;

o-mataeva@mail.ru, ORCID: <https://orcid.org/0000-0003-3590-5734>