

BREEDING NEW CORN HYBRIDS BASED ON REDIPLOID LINES FROM VIR COLLECTION

**B.R. SHOMAKHOV¹, R.S. KUSHKHOVA¹, R.A. KUDAEV¹,
Z.T. KHASHIROVA¹, A.KH. GYAURGIEV¹, E.B. KHATEFOV²**

¹ Institute of Agriculture –
branch of FSBSE “Federal scientific center
«Kabardin-Balkar scientific center of the Russian Academy of Sciences»
360004, KBR, Nalchik, Kirov street, 224
E-mail: kbniish2007@yandex.ru

² N.I. Vavilov All-Russian Institute of Plant Genetic Resources (VIR)
190000, St. Petersburg, Bolshaya Morskaya Street, 42, 44
E-mail: secretary@vir.nw.ru

Extension of the genetic polymorphism of the starting material for hybrid breeding of maize is urgent. One of the promising directions for the creation of new inbred lines with a high combinational ability is the rediploidization (resynthesis) of tetraploid populations of maize. The VIR (All-Russian Institute of Crop Production) collection contains a large collection of rediploid lines obtained from synthetic populations of tetraploid maize. The material of the study was 26 rediploid maize lines from the collection of genetic resources of VIR. In the test-crosses crossing system, 17 sterile testers with M and C types of CMS were used. Field tests were carried out in the steppe zone of Kabardino-Balkaria in 2019. 34 hybrid combinations were identified that showed grain yield values at the standard level or higher in the tests. In the early-maturing group, 24 hybrids were identified, in the mid-maturing 6 and late-maturing 4 hybrids. The most outstanding hybrid, which exceeded the standard by 3 LSD values, turned out to be a combination (Rf7c × KB 595-10-5) × 6199-2 with a grain yield of 13.58 t / ha, with HCP05 = 0.52 t / ha.

Keywords: corn, hybridization, test crosses, breeding index, rediploid, tetraploid, grain yield, grain moisture.

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Information about the authors:

Shomahov Beslan Rashidovich, senior researcher, Institute of Agriculture – a branch of the Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences.

360004, KBR, Nalchik, Kirov street, 224.

Ph. 8(8662) 77-33-56.

E-mail: kbniish2007@yandex.ru

Kushkhova Rita Sarabievna, researcher, Institute of Agriculture – a branch of the Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences.

360004, KBR, Nalchik, Kirov street, 224.

Ph. 8-960-427-46-43.

E-mail: kbniish2007@yandex.ru

Kudaev Ruslan Abuzedovich, researcher, Institute of Agriculture – a branch of the Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences.

360004, KBR, Nalchik, Kirov street, 224.

Ph. 8-928-718-02-55.

E-mail: kbniish2007@yandex.ru

Khashirova Zinaida Temirbievna, junior researcher, Institute of Agriculture – a branch of the Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences.

360004, KBR, Nalchik, Kirov street, 224.

Ph. 8(8662) 77-33-56.

E-mail: kbniish2007@yandex.ru

Gyaurgiev Azamat Khazbievich, junior researcher, Institute of Agriculture – a branch of the Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences.

360004, KBR, Nalchik, Kirov street, 224.

Ph. 8-988-920-57-93.

E-mail: kbniish2007@yandex.ru

Khatefov Eduard Balilovich, leading researcher, VIR, Federal Research Center All-Russian Plant Genetic Resources Institute named after N.I. Vavilov.

190000, St. Petersburg, Bolshaya Morskaya street, 42, 44.

E-mail: haed1967@rambler.ru