RESEARCH ON THE EXPLOITATION WATER AND CLIMATIC FACTORS BY MAIZE HYBRIDS OF DIFFERENT FAO GROUPS AND THEIR ADAPTATION TO CLIMATE CHANGE

Marius CIOBOATĂ[1], Oana Alina NIȚU[2], Dragomir BRUMAR [1], Cristian POPESCU[1],

e-mail: cnmarius2@yahoo.com

Abstract

The researches and observations proposed by the presented paper aim to identify those corn hybrids that make superior use of rainwater and that lend themselves to the local climate conditions specific to the south-western area of Romania. The research was carried out by testing 18 maize hybrids from different FAO maturity groups, from FAO-350 to FAO-500 (6 hybrids from FAO group 350-400, 6 hybrids from FAO group 400-500, 6 hybrids from FAO group 450-500), in 2021 and 2022. Determining the Water use efficiency (WUE) resulted in values between 0.09 – 0.29 m^3/kg, thus hybrids that can make superior use of water. Comparing the total volume of precipitation recorded in the period April-September of 2021-2022 with the water consumption (ET) for that period, the appearance of the moisture deficit (550.38 mm in 2021 and 594.51 mm in 2022, respectively), a deficit that has values higher than the multiannual average (506.17 mm) is observed. Precipitation between April and September of 2021-2022 is lower than the sum of the multiannual average, 301.40 mm (2021) and 272.20 mm (2022) respectively compared to 318.70 mm (multiannual average).

Key words: climate, water, maize, production