THE INFLUENCE OF AQUASORB ON SOIL MOISTURE ON CORN AND SOYBEAN CROPS, IN IASI COUNTY

Daniel Costel GALEȘ[1], Gerard JITĂREANU[1] Costică AILINCĂI[1]
Email: galesdan@yahoo.com

Abstract
In Romania, some parts of arable land are affected by degradation processes or are exposed to risk factors such as drought, which occurs on a widespread scale.
In this study we aimed to evaluate the influence of the hydrophilic polymer (Aquasorb) on some soil hydro-physic properties in corn and soybean crops in climatic conditions of the Iasi County. Aquasorb is a copolymer of acrylamide and potassium acrylate, with the property of fixing water and nutrients when incorporated into soil or substrate. This polymer has the ability to gradually release water and nutrients absorbed, so it enables the plant to have continuously available water and nutrients needed for growth and development. Aquasorb works in absorbtion-release water cycles. The study was conducted in the SDE Didactical and Experimental Station of the University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad" Iasi, Ezăreni farm in 2011. Our experience is polifactorial, resembling AxBxC type, being located by the randomized multilevel blocks method in three replications. The experimental factors are: the crop, the polymer dose and the administration time of the polymer. There were administered doses of 15 kg/ha Aquasorb on the variant V2 and 30 kg/ha on variant V3, comparing them with the V1 control variant, on which we did not apply any treatment. The polymer was incorporated in spring 2010 on half of the experimental plot (5/10 m - 50 m2) using disc harrow before sowing and in autumn 2010 and the other half of the experimental plot (5/10 m - 50 m2), under the autumn plowing after harvesting the prior plants.
The results showed that Aquasorb positively influenced the soil moisture both in corn and soybean culture, significant differences beeing seen especially before harvesting the plants, due to the drought period previously installed.

Key words: Hydrogel, hydrophilic polymer, Aquasorb, water retention.

[1] USAMV Iaşi