Influenta stresului hidric asupra unor hibrizi de porumb

MARDARE Oana Alina, NIŢU D.S., JINGA I., MANOLE Emilia - USAMV Bucureşti

The modern concept of crop irrigation regime is based on the revaluation of the soil-water-plant-atmosphere system as integrated and continuous. The components of the systems are mutually dependent, i.e. water availability is determined by both the soil hydro-physical features and the plant morpho-physiological characteristics, together with the climate evolution whose solar radiation, wind and air moisture influence the parameters involved in the water movement from plants to the atmosphere. The present paper aims to analyse the changes in the elements of the irrigation regime, and to establish the production losses depending upon the time when water stress occurs and its duration.
Also considering the scientists' scenarios regarding the climate changes worldwide, it is necessary to change the crop technology of the plants that are irrigated according to the „low input, high output" principle.
The present paper is based on the climate data recorded on the Romanian Plain (weather stations of Fundulea, Bucureşti-Filaret, Alexandria) and the Tecuci Plain (weather station of Tecuci). Previous research carried out in the same perimeter showed that it was possible to reduce the irrigation standards by 20-25%, depending on the crop. Increasing temperatures over the next period will undoubtedly result in increasing water consumption and higher moisture deficit, respectively. Consequently, this leads to higher irrigation standards and increasing watering costs.To restore the balance, our research is aimed at establishing the highest level of water stress in certain vegetation stages of the plants, which results in positive effects upon the irrigation standards and water consumption.