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STUDY OF SALINITY STRESS EFFECTS EMANATES FROM IRRIGATION WATER ON SOLANUM TUBEROSUM CV.AGRIA

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INTRODUCTION:

Salinity stress is one of the effective environmental factor on plants growth . nowadays use of resitant varieties is one of the most important effective ways of crop yield enhancement and exploitation in arid and semiarid areas with high or low salt in their soils . certainly , one of the main aims in study of plants resistance to salinity stress is gain to basic information related to morphological and physiological traits affect on salinity tolerance of each species , and transfer of these trains to varieties with high yield and quality .

In these areas , salty water or shortage of water is the most important restrictive factor of plants growth and yield . although , potato is in the group of plants with medium sensivity to salinity stress , different wild – types and varieties of this plant show various levels of tolerance . therefore study of resistance level of these species (varieties) to salinity is critical to breeders and genetic engineers – the aim of this study is to find tolerant varieties ti salinity stress and checking salinity damage levels toward agricultural developing programs .

MATERIALS AND METHODS:

In order to study the salinity impact of irrigation water on solanum tuberosum cv agria , on experiment was conducted in the research farm of golbahar part of Islamic Azad university in razavi khorasan state in the year of 1390 – 1391 . the software 15 spss and 2007 excel were applied for the statistical calculations and graphs drawing , respectively . the experiment was performed in a randomized complete block design with 4 salinity levels (2 , 4 , 8 and 12 dsizimens/metr)

in 3 repeat.

RESULTS AND DISCUSSION:

the results of variance analysis in probibility of 95 ; showed that the effect of salinity is meaningful in all of the number of tubers per bush (herb) , yield of marketable tubers , yield of saleable tubers , total tuber yield , total dry tuber yield and bush height under salinity stress were meaningfully reduced . in contrast , the percent of dry matter was increased in the salinity stress conditions . in all of the cases , 2DS salinity treatment is recommended as the best one . the percentage of dry matter was increased under salinity stress condition which is considered as an advantage in food processing industry because of preserving the product texture through processing . therefore , in this case , treatment 2 DS was preferred .

Key words : stress , salinity , potato , solanum tuberosim agriculture , yield , food , prosucts .

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