

Drought Effect on Potato Root/Shoot Ratio

Mohammad Bagher KHORSHIDI BENAM¹, Farokh RAHIMZADE KHOI²,
Gorban NURMOHAMADI³, Abulfazl NASSERI⁴, Davood HASANPANAH⁵

¹ Islamic Azad University, Miyaneh Branch, Iran
(e-mail: mb.khorshidi@yahoo.com)

² Islamic Azad University, Tabriz Branch

³ Islamic Azad University, R & D Branch

⁴ East Azarbaijan agricultural and Natural Resources Research Center

⁵ Ardebil agricultural and Natural Resources Research Center

Abstract

For evaluation of three potato cultivars (Marfona, Agria, and Draga) to drought effects, an experiment was conducted. Irrigation was arranged in 4 intervals (6, 10, 14 and 18 days) in horizontal plots. After emergence, irrigation continued every 6 days until 50% flowering and then drought treatments began. At the end of flowering, irrigation intervals decreased to 6 days. Sampling was made at every other week and vegetative attributes, tuber number, and weight were measured. Results showed that all attributes were decreased in comparison with control. Root dry matter and tuber weight losses had positive correlation with drought intensity. Agria produced highest root dry weight in all season but Marfona produced the least root dry weight in control only. Root/shoot ratio in Marfona was steady in control but decreased in high stress condition. This may be was a drought susceptible factor of Marfona. Root/shoot rate in Agria was ascending in control and low stress but showed a high decrease in end season. There was a steady decrease in root/shoot ratio at mild and severe stress conditions. Maintaining root dry weight or recovery after watering may be was important in Agria's drought tolerance. In spite of yield decreasing, produced tuber number at the end season had not significant differences in irrigation levels.

Key words: *Solanum tuberosum* L., root dry weight, shoot dry weight, tuber number and weight

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