N 41. Effect of Stop Irrigation in Stem Elongation Stage on Branch Formation and Plant Height of Rapeseed (*Brassica napus L.*) Cultivars

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Due to study the effect of stop irrigation in stem elongation stage on branch formation and plant height of rapeseed (Brassica napus L.) cultivars , an experiment was carried out in split plot design on the basis of randomized complete block design with 4 replications in karaj over 2003 -2005 . Irrigation method in two levels, normal irrigation (Irrigation after 80mm evaporated water from class A evaporation pan) and deficit irrigation (stop irrigation after stem elongation stage) as main factor and rapeseed cultivars in 10 levels contains : Hyola 401,Option 500 ,Hyola 308 ,Quantum , Eagle , Comet , Amica , Goliath ,Heros , Sarigol as sub –factor .

The effect of irrigation method, cultivars and interaction effects of them on branch number and plant height of rapeseed cultivars had significant difference at 1% level .The results indicated that in Irrigation after 80 mm evaporated water from class A evaporation pan , average plant height and branch number per plant of cultivars increased to 153.1 cm and 4.00 . Maximum amount of plant height and branch number per plant for irrigation condition levels average belonged to Quantum (165.1 cm) and Amica (4.73) alternatively.

Base on the findings interaction effects of irrigation method and cultivars on mentioned characters showed that , normal irrigation in Quantum (169.8 cm) and Amica (165.0 cm) showed maximum plant height and complete irrigation on the basis 80 mm evaporated water from class A evaporation pan in Quantum (4.5) and Amica (4.45) conducted to highest branch number per plant . In this research Regent ×Cobra had maximum response to higher amounts of irrigation for branch number (32.2) and plant height (0.95 cm) .

N 42. Possible Utilization of Halophytes as Alternative Crops in Saline Agroecosystems

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High salinity causes water deficit, ion toxicity, and nutrient deficiency leading to molecular damage, growth arrest of plants. Production of halophytes using saline waters and soils is one of the most sustainable ways of conservation desert ecosystems. Therefore, in order to study the possibility of growing Kochia *(Kochia scoparia)* as a forage crop in arid environments reach in saline underground water, a series of experiments were performed. Germination tests were evaluated in germinators under different temperatures (10-40 ^{o}C, with 5 ^{o}C intervals), and salinity levels (0-20 dS/m, 5 dS/m intervals). Growth and development of kochia tested in the field in three levels of saline irrigation water (1.5, 8.6 and 28.2 dS/m). The biological yield, leaf and stem dry weight, plant height, number of branches, oil yield, protein percentage, protein yield were measured. The results showed that kochia can adjust its germination in a wide range of temperature, from 3.4 (T_{base}) to 49.7 oC (T_{max}) and optimum germination temperature of 24 oC. Salinity negatively influenced the majority of plant's morphological and physiological indices, yet the dry matter accumulation in the highest salinity level reached 60% of plants in lower saline levels, and even the moderate salinity caused a little stimulus in plant's growth and yield performance. Results showed that the highest biological and seed yield obtained at 30 and 20plant m^{-2} respectively. In Conclusion, the Kochia's high production capacity in the presence of salinity and other desert stresses such as high temperature and drought make this plant capable as a forage crop in harsh environmental conditions.