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Effects of Nitroxin Fertilizer on Physiological Characters Forage Millet under Drought Stress Conditions

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Abstract : An experiment was conducted as split plot factorial design using randomized complete block design in Damghan in 2012-2013 in order to investigate the effects of irrigation cut off (based on the Phenological stages of plants) on physiological properties of forage millet cultivars. The treatments included three irrigation levels (control with full irrigation, irrigation cut off when flowering started, and irrigation cut off when flowering ended) in the main plots, and applying nitroxin biofertilizer (+), not applying nitroxin biofertilizer (control), and Iranian forage millet cultivars (Bastan, Pishahang, and Isfahan) in the subplots. The highest rate of ashes and water-soluble carbohydrates content were observed in the cultivar Bastan (8.22 and 8.91%, respectively), the highest content of fiber and water (74.17 and 48.83%, respectively) in the treatment of irrigation cut off when flowering started, and the largest proline concentration (µmol/gfw-1) was seen in the treatment of irrigation cut off when flowering started. very rapid growth of millet, its short growing season, drought tolerance, its unique feature regarding harvest time, and its response to nitroxin biofertilizer can help expanding its cultivation in arid and semi-arid regions of Iran.

Keywords : irrigation cut off, forage millet, Nitroxin fertilizer, physiological properties
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