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The Evaluation Use of Urban Sewage and Nitrogen on Yield and Forage Production in Sweet Corn

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Abstract

Interaction of urban sewage effluent and nitrogen on yield and forage production of sweet corn was evaluated in Yasouj at 2009. Experimental factors consisted of 5 irrigation levels including: common irrigation water until the end of plant growth (I1), the first half of plant growth period sewage effluent and the second period with common irrigation water (I2), the first half of plant growth with common irrigation water and the second part with sewage effluent (I3), alternate irrigation with common irrigation water and sewage effluent till the end of the plant growth (I4), sewage effluent till the end of the plant growth (I5), and 3 nitrogen rates (N0=0, N80= 80 and N160=160 kg N ha^{-1}) in a completely randomised design with three replications. Results indicated that interaction of irrigation and nitrogen was significant on fresh ear yield and canned grain yield. The highest fresh ear and canned grain yield in treatment I5N80, as 2548 and 1246 gr m^{-2} and minimum fresh ear yield and canned grain yield in treatment I1N0, as 1090 and 360 gr m^{-2} respectively. The interaction of irrigation and nitrogen was significant on biological yield, fresh and dry forage yield. The highest biological yield, wet and dry forage yield were obtained in treatment I4N80, 5442, 2897 and 447 grm^{-2} respectively. Minimum biological yield, wet and dry forage was in treatment I1N0, as 2953, 1863 and 447 gr m^{-2} respectively. At I5 Irrigation level nitrogen consumption 50 % was decreased. In summery, application of sewage effluent reduced nitrogen fertiliser rate.

Keywords: Forage yield, Fresh ear yield, Grain yield, Nitrogen, sewage effluent

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