

Effect of Municipal Solid Waste Compost and Nitrogen on Forage Quantity and Quality Yield of Sweet Corn

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Abstract

In order to study the influence of municipal solid waste compost and nitrogen fertilizer on forage quantity and quality yield and some morphological traits of sweet corn an experiment was conducted at Marvdasht during 2009. The experiment was arranged in split plots based on randomized complete block design with three replications. The main plot included 5 levels of nitrogen fertilizer (100, 150, 200, 250, 300 Kg N ha⁻¹) and the sub plots included 4 levels of municipal solid waste compost (10, 20, 30, 40 ton ha⁻¹). Results showed that nitrogen and compost had a significant effect on dry forage yield, stem diameter and plant height. The highest dry forage yield equal to 584 gr.m⁻² belonged to application of 300 kg N ha⁻¹ and equal to 618 gr. m⁻² for 40 ton ha⁻¹ compost. Nitrogen had a significant effect only on length of sweet corn ear. The ash and crude fiber percentage was only affected by nitrogen and the crude protein percentage was affected by nitrogen and compost with the highest crude protein equal to 13.71 percent belonging to 300 Kg N ha⁻¹ and 40 ton ha⁻¹ compost showing the highest crude protein equal to 11.63 percent of dry matter. Nitrogen and compost had no significant effect on ash, ADF and NDF.

Keywords: *Municipal solid waste compost; Nitrogen; Forage yield; Sweet corn; Morphological Traits*