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Response of sweet corn (*Zea mays var. Saccharata*) cv. SUGAR 75 to different organic sources

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ABSTRACT : An experiment was conducted during *Kharif* season of 2008 at PGI research farm of Department of Agronomy, MPKV, Rahuri, Dist. Ahmednagar (MS) to find the effect of different organic sources on growth attributes, yield attributes, yield, quality and nutrient uptake of sweet corn cv. SUGAR-75. The soil of the experimental field was medium black and fairly drained clayey soil. The soil was alkaline in reaction (8.15 pH). The experiment was laid out in randomized block design with four replications consisting of organic levels alone and in combination with the different organic inputs used *viz.*, T₁ : Control, T₂ : farmyard manure 10 t ha⁻¹ T₃ : vermicompost 5 t ha⁻¹ T₄ : farmyard manure 5 t ha⁻¹ + vermicompost 2.5 t ha⁻¹ T₅ : farmyard manure 5 t ha⁻¹ + jeevamrut 2 times (30 and 45 DAS), T₆ : vermicompost 2.5 t ha⁻¹ + jeevamrut 2 times (30 and 45 DAS), T₇ : farmyard manure 5 t ha⁻¹ + vermicompost 2.5 t ha⁻¹ + jeevamrut 2 times (30 and 45 DAS), T₈ : jeevamrut 2 times (30 and 45 DAS). The results indicated that, application of farmyard manure 5 t ha⁻¹ + vermicompost 2.5 t ha⁻¹ + jeevamrut 2 times (30 and 45 DAS) to *Kharif* sweet corn recorded significantly higher values for growth attributes, yield attributes, sweet corn yield and quality parameters *viz.*, protein, starch and sucrose content in grain and brix reading in sweet corn grain than rest of the organic inputs used alone or in combination with each other. The total uptake of NPK by sweet corn was significantly higher due to application of farmyard manure 5 t ha⁻¹ + vermicompost 2.5 t ha⁻¹ + jeevamrut 2 times (30 and 45 DAS) to sweet corn crop during *Kharif* season.

Key Words : Sweet corn, Growth attributes, Yield attributes, Yield, Nutrient uptake

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Maize (*Zea mays* L.) is important food and fodder crop in India. At present, about 35 per cent of the maize produced in the country is used for human consumption, 25 per cent each in poultry feed and cattle feed, 15 per cent for food processing (corn flakes, pop corn etc.) and other industries like starch, dextrose, corn syrup, corn oil etc. (Singhal, 1999). Sweet corn (*Zea mays var. Saccharata*) is a good source of energy. About 20 per cent of dry matter is sugar, compared with only 3 per cent in dent maize at green cob stage. It is also a good source of vitamins C and A. Now a days, sweet corn is capturing market in big cities, star hotels of India as roasted or cooked cobs, making soups, vegetables and salads, etc. Besides this, harvested green stalks are highly succulent, palatable and digestible for feeding cattle. Hence, it is called as King of fodder.

It is well known that addition of organic manures has shown considerable increase in crop yield, quality and exert significant influence on physical, chemical and biological

properties of soil. Use of organic manures and biofertilizers not only improve soil health but also help to sustain crop productivity for Indian conditions. The organic farming is an ecofriendly and best way to attain sustainability in agriculture. The present investigation was therefore, undertaken to find the effect of different organic inputs on growth, yield attributes, yield, quality and nutrient uptake in sweet corn.

RESEARCH PROCEDURE

The experiment was conducted during *Kharif* season of 2008 at the Post Graduate Institute Research Farm, Department of Agronomy, Mahatma Phule Krishi Vidyapeeth, Rahuri, Dist. Ahmednagar (Maharashtra). The soil of the experimental field was medium black and fairly drained. The textural class was clayey. A dominant type of clay mineral was montmorillonite and grouped under order vertisol. The chemical composition indicated that the soil was low in available nitrogen (215.0 kg/ha