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Effect of different organic manures and spacing on yield and yield attiributes of Kalmegh-Panchang (*Andrographis paniculata* Wall. Ex. Nees.) under middle Gujarat conditions

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SUMMARY

Ayurveda is an ancient science of life. Which has a strong philosophical basis. Ayurveda is a dynamic phenomenon that offers multifaceted approaches for healing. It comprises of knowledge about the plants that are primarily based on the past experiences and present use in India, more as living tradition. The results indicated that the growth attributes such as plant height at harvest and Leaf : stem were significantly higher under application of organic manure, FYM @ 10 t/ha (M_1). Significantly the highest fresh and dry yield of kalmegh (9952 and 4306 kg/ha, respectively) obtained under application of FYM @ 10 t/ha. The growth attributes such as plant height at harvest (71.36cm) and plant breadth at harvest (23.89cm) were significantly higher under treatment of 30cm x 45cm. Significantly the highest fresh (10335 kg/ha) and dry yield (4375 kg/ha) of kalmegh were recorded under treatment (30cm x 45cm).

Key words : Ayurveda, Kalmegh, Organic manure, Spacing, F.Y.M., Vermicompost, Caster cake

Ayurveda is an ancient science of life. Which has a strong philosophical basis. Ayurveda is a dynamic phenomenon that offers multifaceted approaches of healing. It comprises of knowledge about the plants that are primarily based on the past experiences and present use in India, more as living tradition. Kalmegh is one of the important ingredients in various ayurvedic preparations used for fever and liver disease, which are commonly used by ayurvedic physicians. Kalmegh was recommended in "Charak Samhita" in 175 BC for treatments of jaundice alongwith other plants in multi plant preparation. Kalmegh is widely used in Indian traditional system of medicine against different ailments. It is reported that this plant possesses astringent, anodyne, tonic and alexipharmic properties which are useful in curing dysentery, cholera, diabetes, influenza, bronchitis, piles, hepatomegaly, skin disorder, fever and worm. Kalmegh also showed its efficiency to control HIV- AIDS. "Panchang", the five parts of the plant *i.e.*, stem, leaf, flower, seed and root are being used in the various formulations of Indian system of homeopathic as well as ayurvedic medicines. The plant has properties like bitter acrid, cooling, laxative, antipyretic, anti- inflammatory, expectorant digestive and stomachic. The major bitter constituent in kalmegh is due to the presence of diterpene lactone called andrographolide. Other important constituent is a non–bitter compound neo andrographolide.

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MATERIALS AND METHODS

A field experiment was conducted during, *Kharif* season of the year 2007 at Medicinal and Aromatic Plant Project Research farm, Anand Agricultural University, Anand, The soil of the experimental plot was loamy sand in texture having good drainage with 7.6 pH, soil content low in available nitrogen (185 kg/ha), medium in available phosphorus (43.28 kg/ha) and high in available potash (388.17 kg/ha). There were total sixteen treatment combinations consisting of four levels of organic manures *viz.*, (M_0) control, (M_1) FYM @ 10 t/ha, (M_2) castor cake @ 1 t/ha and (M_3) vermicompost @ 2 t/ha; and four spacing treatments *viz.*, (S_1) 30cm x 15cm, (S_2) 30cm x 30cm, (S_3) 30cm x 45cm and (S_4) 30cm x 60cm were tested under split plot design with four replications.

RESULTS AND DISCUSSION

The results obtained from the present investigation are presented below:

Effect of organic manures:

The results indicated that the growth attributes such as plant height at harvest (72.35 cm) was significantly higher under application of organic manure, FYM @ 10 t/ha (M_1), plant breadth was non – significant but higher