

Analysis of Effect of Some Farmyard Manure on Yield & Quality of Turmeric

Abstract

Plants with aim cake performed better in terms of yield and yield attributes than that of other manures. For growth and yield parameters and quality of turmeric application of cow dung, have is applied. However, plants with aim cake performed better in terms of yield and yield attributes than that of other manures. In India, turmeric has been used traditionally for thousands of years as a remedy for stomach and liver ailments, as well as topically to heal sores, basically for its supposed antimicrobial property. In the Siddha system (since around 1900 BCE) turmeric was a medicine for a range of diseases and conditions, including those of the skin, pulmonary, and gastrointestinal systems, aches, pains, wounds, sprains, and liver disorders.

Keywords: Neem Cake, Attributes of turmeric, Organic manure.

Introduction

Turmeric (*Curcuma longa*) (Family: *Zingiberaceae*) is used as condiment, is widely used in India. Study on farmers' perception towards organic farming in turmeric cultivation with special reference to erode district is also discussed. (Jayanthi, M. and Vaideke, A. 2015).

Review of Literature

Impact of bio-fertilizers and chemical fertilizers on growth and yield of okra was also observed by (Kirti choudhary, S. J., More and Bhandari, D. R. 2015.)

Folk Medicine and Traditional Uses

The active compound curcumin is believed to have a wide range of biological effects including anti-inflammatory, antioxidant, antitumour, antibacterial, and antiviral activities, which indicate potential in clinical medicine. A fresh juice is commonly used in many skin conditions, including eczema, chicken pox, shingles, allergy, and scabies.

Material and Method

The Experiment was conducted at farmer's field during Kharif season from April 2014 to February, 2015. The study was conducted at a farmer's field at different selected area. In this study the local turmeric variety was collected each plot size was about 1 m * 1 m. The rhizome was planted maintaining spacing between and within the rows. The seed rhizome was planted at a depth of 7.5 - 8.0 cm. Well-rotten cow dung (as treatment), dried poultry manure (as treatment), The data obtained for different characters were analyzed to find out the influences of different fertilizers on yield and yield contributing characters of turmeric.

Table: Effect of different manures on growth attributes of turmeric at 200 days after planting and yield. (Vegetative growth and production of turmeric as influenced by different organic manure)

Treatment	Plant height (cm)	Number of branches	No. of leaves	Leaf length (cm)	Leaf width (cm)	Fresh weight of Rhizome (gm)/plant
T1 Cowdung manure)	72	3	8	96	35	210
T2 (Poultry manure)	71	5	7	99	38	240
T3 (Mustard manure)	73	4	6	103	39	243
T4 (Aim manure)	78	8	8	101	40	256
T5 (Control)	58	3	5	93	34	189

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Aim of the Study

To find out that neem cake is very much useful for better yield and growth of turmeric plant. Finally we can say that farmyard manure is proved beneficial for crop as well as environment.

Result and Discussion

Turmeric as very much economic importance and to enhance its rowt fertilizers are needed very much. Hence, it is necessary to know the best source of organic. different type of manure and fertilizer carefully used in different combination and suitable manure which could help in increasing the yield is to be selected.

Plant Height

Plant height of turmeric was measured at of 90, 160, 200, DAT. At all these times, tallest plant was observed from t4 which was statistically similar to t3 treatment. Shortest plants were found from at all days after transplanting.

Number of leaves per plant

Due to the application of different fertilizers, the number of leaves per plant of turmeric differed at different days after transplantation. At all the six DAT, the maximum numbers of leaves per plant were observed from t4 which was statistically similar with t3, respectively. Minimum number of leaves was found from control which was statistically similar with t1. It was revealed that with the application of fertilizers, number of leaves per plant increased up to a certain days, then decreased due to the senescence of leaves at maturity stage.

Leaf Length

Highest leaf length was observed from t4 which was statistically similar to t3 and the lowest was observed from control. It revealed that fertilizer helped for optimum vegetative growth that ensured maximum leaf length. Medda and Hore (2003) recorded longest leaf length from highest amount of nutrient from their earlier experiment.

Leaf Breadth

Leaf breadth of turmeric varied due to the application of different fertilizers. The maximum leaf breadth was recorded from 4 which were closely followed by t3. The lowest breadth was observed from control. It revealed that the leaf breadth increased with the increased level of nutrient supplement due to optimum cell size.

Weight of Mother Rhizome per Plant

Weight of mother rhizome per plant of turmeric differed due to the application of different fertilizers. Highest weight of mother rhizome per plant was recorded from t4. The lowest was found from control. It was revealed that weight of mother rhizome increased with the increased amount of fertilizers. Poultry litter ensured maximum plant nutrients in available form which helped proper growth of plant resulting highest weight of mother rhizome.

Number of Primary Finger per Plant

Number of primary finger per plant of turmeric differed due to the application of different fertilizers. Highest number of primary finger per plant was recorded from t4 and the lowest from control.

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Weight of Primary Fingers per Plant

Weight of primary finger per plant of turmeric differed due to the application of different fertilizers. Highest weight of primary finger per plant was recorded from t4. Again, the lowest was observed from control. It revealed that the weight of primary finger increased with the increase in nutrient content.

Number of secondary finger per plant: Number of secondary fingers per plant of turmeric differed significantly due to the application of different fertilizers. The highest number of secondary finger per plant was found from t4, which was statistically similar to control and the lowest was observed from control. Similar trends of results were also reported by Patra (1998).

Weight of Secondary Fingers Per Plant

Due to the application of different fertilizers, weight of secondary fingers per plant in turmeric varied. The highest weight of secondary finger per plant was found in t4, which was statistically similar to F3. The lowest was observed in control.

Yield Per Area (Plot)

Yield per hectare of turmeric differed significantly due to the application of different fertilizers used. Highest yield per hectare was obtained from t4. The lowest yield per hectare was observed in control. Organic manures improved the root system of turmeric, so the roots could absorb the minerals and irons from soil solution efficiently, resulting in higher yield. Both organic and inorganic fertilizers showed significant variations with yield and yield contributing characters.

Conclusion

Finally the experimental research and observation as sown that poultry manure, cow dung and mustard cake are more beneficial for turmeric plant. Aim cake improves better crop yield. All the growth parameter all positively enhanced by, cow dung and mustard cake. It is concluded that aim cake is very much useful for better yield and growth of turmeric plant. Finally we can say that farmyard manure is proved beneficial for crop as well as environment.

References

- Dinesh, R. Srinivasan, V. Hamja, S. and Mahjusha A. (2010) Short term incorporation of organic manures and fertilizers influences biochemicals and microbial characteristics of soil under an annual crop turmeric. *Bio-resource technology* 101(12): 4697 – 702.
- Jayanthi, M. and Vaideke, A. 2015. A study on farmers' perception towards organic farming in turmeric cultivation with special reference to erode district. *Agricultural Science*. 4(3): 2277-8160.
- Kirti Choudhary, S. J., More and Bhandari, D. R. 2015. Impact of bio-fertilizers and chemical fertilizers on growth and yield of okra (*Abelmoschus esculentus* L. moench) *The Ecoscan*. 9(1&2): 67-70, 2015
- Manhas, S. S. and Gill. B. S. 2010. Effect of planting materials, mulch levels and farmyard manure on growth, yield and quality of turmeric

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- (*Curcuma longa*). *The Indian Journal of Agricultural Scienc*, 80(6): 227-233.
- Manjunath, M. N., Sattigeri, V. D. and Nagaraj, K. V., 1991. Curcumin in turmeric. *Spice India*, 12: 7-9.3.
- Mohapatra, S. C. and Das, T. K. 2009. Integrated effect of biofertilizers and organic manure on turmeric (*Curcuma longa*). *Environment and Ecology*, 27(3A):1444-1445.
- Mannikeri, I. M. 2006. *Studies on Production Technology of Termeric (Curcuma longa L.)*

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Doctor of Philosophy Thesis, Dept. of Horticulture, University of Agricultural Sciences, Dharwad, Karnataka, India. 1-125 pp.

- Mandal, A., Patra, A. K., Singh D., Swarup, Fand Masto R. E. 2007. Effect of long term application of manure and fertilizer on biological and biochemical properties in a silty loam soil under conventional and organic management. *Soil Tillage Research*, 90:162-170.