



## Effect of Some Manure on Quality of Curcuma

### KEYWORDS

Turmeric, Yield, Manures.

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### ABSTRACT

However the use of inorganic manures alone may not be enough to meet the enormous nutrient requirements of present day high yield. Importance of turmeric and environmental problems caused by chemicals application, it is important to cultivate turmeric using fertilizer. Different manures influence differently in terms of yield and quality of turmeric. . It is concluded that application of cow dung, mustard powder and neem powder have significant influence on growth of turmeric. However, plants with neem powder performed better in terms of growth other manures. Hence, it is necessary to know the best source of organic manure which could help in increasing the yield. Application of cow dung, mustard powder and neem powder have significant influence on growth and yield parameters and quality of turmeric. However, plants with neem powder performed better in terms of yield and yield attributes than that of other manures

### INTRODUCTION

Turmeric (*Curcuma longa*) (Family: *Zingiberaceae*) is used as condiment, dye, drug and cosmetic in addition to its use in religious ceremonies. Turmeric (*Curcuma longa* L.) is one of the vital spice crops and is eminent indigenous herbal medicine. It is utilized for flavouring and colouring of a variety of dishes on domestic scale as well as in food industries. 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.

Turmeric can be grown in diverse tropical conditions from sea level to 1500 meters above sea level, at a temperature range of 20-35°C with an annual rainfall of 1500 mm or more, under rainfed or irrigated conditions. Though it can be grown on different types of soils, it thrives best in well

drained sandy or clay loam soils with a pH range of 4.5-7.5 with good organic status.

### 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 Dehradun . 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. Experiment has been done in five treatment where E1,E2,E3,E4,E5IS for applying different manure at different concentration .

**Table 1. Observation of plants after basal application and 90 days.**

(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)	Rhizome yield/plant(gm)
E1	14	01	04	76	22	-
E2	16	02	02	66	24	-
E3	15	03	03	63	27	-
E4	16	04	06	71	28	-
E5 (Control)	13	-	02	43	24	-

**Table 2. Observation of planta after 160 days treated with different manures.**

(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)	Dry weight Rhizome yield/ plot (kg)
E1	49	2	5	86	32	-
E2	60	2	8	89	34	-
E3	87	3	7	93	37	-
E4	88	5	9	91	38	-
E5	40	2	3	83	34	-

Table 3.

Effect of different manures on growth attributes of turmeric at 245 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
E1	72	3	8	96	35	210
E2	71	5	7	99	38	240
E3	73	4	6	103	39	243
E4	78	8	8	101	40	256
E5	58	3	5	93	34	189

## RESULT AND DISCUSSION

Considering the economic importance of turmeric and environmental problems caused by chemicals application, it is important to cultivate turmeric using fertilizer. Different manures influence differently in terms of yield and quality of turmeric. Hence, it is necessary to know the best source of organic manure which could help in increasing the yield.

## CONCLUSIONS

The results indicated the advantages of manure in such field crop production, but here such effects could be attributed to the nutritional status of compost and to a variety of other factors. The data clearly indicates that manures may be an efficient plant growth media for sustainable plant production, if applied with some combinations. It is concluded that application of cow dung, poultry manure, mustard and neem have significant influence on growth and yield parameters and quality of turmeric. However, plants with neem performed better in terms of yield and yield attributes than that of other manures.

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