WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 5.990
Volume 4, Issue 6, 2027-2034. Research Article ISSN 2277– 7105

EFFECT OF PANCHAGAVYA WITH NEEM TO PROMOTE BHENDI AND ANALYSE THE BIOCHEMICAL CHANGES

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Article Received on
15 April 2015,

Revised on 05 May 2015,
Accepted on 26 May 2015

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ABSTRACT

To investigate the relationship between panchagavya with Neem and normal plant in bhendi. The level of carbohydrate, protein, lipid, calcium and phosphorous of the bhendi seed as influenced by the application of panchagavya with neem. The level of carbohydrate was gradually increased from low concentration to high concentration. Among the concentration tried, the maximum amount was found in 15% (carbohydrate 8.4 g) and 20% (carbohydrate 12.2g) when compared to control. The level of protein were slightly elevated from low concentration to high concentration. Among the concentration tried, the maximum amount were found in 15% (protein 10.1 g) and 20% (protein 12.4 g) when compared to control. The level of fat was gradually increased from low concentration to high concentration. Among the concentration tried, the maximum amount was found in 15% (fat 24.8g) and 20% (f at 27.7g) when compared to control. The result of calcium were slowly elevated from low concentration to high concentration. Among the concentration tried, the maximum amount was found in 15% (calcium 7.2g) and 20% (calcium 9.3g) when compared to normal. The level of phosphorous was gradually increased from low concentration to high concentration. Among the concentration tried, the maximum

amount was found in 15% (phosphorous 20.2g) and 20% (phosphorous 24.6g) when compared to control.

KEYWORDS: Panchagavya, Bhendi and Biochemical changes.

INTRODUCTION

The earth is considered as the biggest Eco system. The plants are the primary producers in this Eco system. In recent years the plant biochemistry in the important sector of science. Plants are renewable source of energy and their products are essential for the survival of humanity on the earth. In the recent years, due to enormous increase in the cost off fertilizers, it has become necessary to search for an approach where in the physiological efficiency of the plants could be increased for better utilization of solar energy and efficient utilization of nutrients.

Good responses to foliar spray of growth hormones and nutrients through higher yield have been released in many crops. Plant growth regulators have contributed a great deal to the progress of crop productivity.[1]

Panchagavya contains beneficial effective microorganism, predominately lactic acid bacillus and pseudomonas, certain fungi such as aspergillums and yeast (saccharomyces cerevisiae) besides beneficial and proven biofertilizer like azotobar and phosphobacterium. Thus the nutrient contant of panchagavya changes after fermentation. Nutrient value of panchagavya includes carbohydrate, protein and fatty acid in panchagavya nature and catalyse certain chemical reaction involving naturally occurring organic material such as carbohydrate, protein and fat. The increase rate of the chemical reaction taking place in Iiving cell. Enzymes are remarkable because of their extraordinary specificity and catalytic power which are greater than those of man made catalyse. Phoshorous essential macronutrient for biological growth and development. Phosphorous solublizing microoraganisms include largely bacteria fungai. The most efficient phosphate solublizing microorganisms phosphosrous is a major essential microoraganism include largely bacteria and fungai, the most efficient phosphate solublizing microorganism be long to the genera of *Bacillus* and *Psedomonas* amongst bacteria and Aspergillus amongst fungi. Microorganisms in panchagavyaalso secrete plant growth hormones that increase growth rates and improved yields of host plant.[2]

Bhendi (Abelmoschus esculents (L.) Moench also known as okra is one of the most popular vegetable crop in the family malvacenae. The lady's finger is cultivated throughout India for its immature fruit's out India for its immature fruits. Which are generally, cooked as vegetables. Lady's finger soups and stews are also popular dishes when ripe the black or brown white-eyed seeds are some time roasted and used as a substitute for coffee. The stem of plant is used for the extraction of fiber. The fruits have more medicinal value [3]. The high yielding vegetables, growers get more profit per unit area [4] the tender green fruits are rich in nutrients okra fruits are a good source of some minerals and vitamins like A, B, C [5] the fruits contains 6.4g carbohydrate, 2.2g protein, o.20g fat, 90mg calcium, 50mg iron and 16mg vitamin per 100kg edible portion.[6]

Thus our present investigation is carried out to study the effect of panchagavya enriched with neem extract to improve the nutritional status of Bhendi.

MATERIALS AND METHODS

The present study was carried out in Manargudi during the study period for 51 days.

Seed Extraction

50g of capsicum seed was taken and it was homogenised by using mortar and Pestle. The supernatant was collected.

Collection of Soil

In our study, soils were collected in Manargudi town.

Biochemical Study

For our study various nutritional substances such as carbohydrate, protein, lipid, calcium and phosphorous present in panchagavya with Neem applied in capsicum.

Preparation Of Panchagavya with Neem extraction

Cow dung mixed with water	: 500ml
Cow urine	: 300ml
Cow milk	: 200ml
Cow curd	: 200ml
Cow ghee	: 100ml
Distilled water	: 300ml
Coconut water	: 150ml
Neem extraction	: 250ml

All the products mentioned above should be put in mud pot, mixed Properly and kept open for 10 days. It should be mixed every day. It is ready for used in 10 days time. The pH of the medium maintained at 6.7. The bhendi seeds were immersed in panchagavya a with neem extraction.

The first set (A) contains control. The second set (B) contains 5% panchagavya with Neem extraction applied seeds. The third set (c) contains 10% panchagavya with Neem extraction applied seeds. The fourth set (D) contains 15% panchagavya with Neem extraction applied seeds. The fifth set (E) contains 20% panchagavya with Neem extraction applied seeds. These are five types of panchagavya with Neem extraction applied seeds. (ABCDE) growth rate at 51 days of plants, and over all yield quality, biochemical changes panchagavya with Neem applied plant yield were recorded. The present investigated has been made to modify various nutritional substances present in capsicum. To apply the Panchagavya with Neem extraction to the Bhendi to assessment the nutritional changes in bhendi.

Chemicals

All of the chemicals were of analytical grades and were obtained from Central Drug House Pvt. Ltd (New Delhi, India).

Biochemical measurements

Carbohydrate was estimated by Anthrone method (Roe, 1955), Protein was estimated by the Lowry's method,[7] Estimation of fat in bhendi was performed by Herreid and Ernest (Babcock method),[8] The calcium level in the extract was estimated by titrametic method of clark collip,[9] Phosphorous was determined by method of fiske and subbarow [10]

RESULTS AND DISCUSSION

The present study has analysed the relationship between panchagavya with Neem and normal plant in Bhendi. The following results pertaining to the study were discussed here,

Table 1: shows the level of carbohydrate, protein, lipid, calcium and phosphorous of the Bhendi seed as influenced by the application of panchagavya with neem.

Table 1 and Fig1: represents the level of carbohydrate was gradually increased from low concentration to high concentration.

Among the concentration tried, the maximum amount was found in 15% (carbohydrate 8.4 g) and 20% (carbohydrate 12.2g) when compared to control.

Table1 and Fig2: shows the level of protein were slightly elevated from low concentration to high concentration.

Among the concentration tried, the maximum amount were found in 15% (protein 10.1 g) and 20% (protein 12.4 g) when compared to control.

Table1 and Fig3: represents the level of fat was gradually increased from low concentration to high concentration.

Among the concentration tried, the maximum amount was found in 15% (fat 24.8g) and 20% (f at 27.7g) when compared to control.

Table1 and Fig 4: provides the result of calcium were slowly elevated from low concentration to high concentration.

Among the concentration tried, the maximum amount was found in 15% (calcium 7.2g) and 20% (calcium 9.3g) when compared to normal.

Table 1 and Fig 5: represents the level of phosphorous was gradually increased from low concentration to high concentration.

Among the concentration tried, the maximum amount was found in 15% (phosphorous 20.2g) and 20% (phosphorous 24.6g) when compared to control.

The present finding are conformity with Bopiah *et al.*,[11] in mandrin, subiah *et al.*,[12] in bhendi , Brown *et al.*,[13] in snap bean Alice and Ebenezer [14] explained that soil application of degraded organic manure increase the germination, shoot length and vigour intex in tomato C.V.PKm1.Mochiah *et al*, [15] also reported that the effect of mulching materials on agronomic characteristics, pests of pepper and their natural enemies population. This observation in the present study supports the previous findings by Ranjit *et al.*,[16]

Table 1: showing the level of carbohydrate, protein, fat, phosphorous and calcium

S.NO	TREATMENT	CARBOHYDRATE	PROTEIN	FAT	PHOSPHOROUS	CALCIUM
1.	C	8.0	4.4	10.8	8.1	4.0
2.	5%	5.8	6.0	16.2	12.0	4.8
3.	10%	6.2	8.2	20.4	16.8	6.0
4.	15%	8.4	10.1	24.8	20.2	7.2
5.	20%	12.2	12.4	27.7	20.6	9.3
MEAN		8.15	9.175	22.275	18.4	6.825

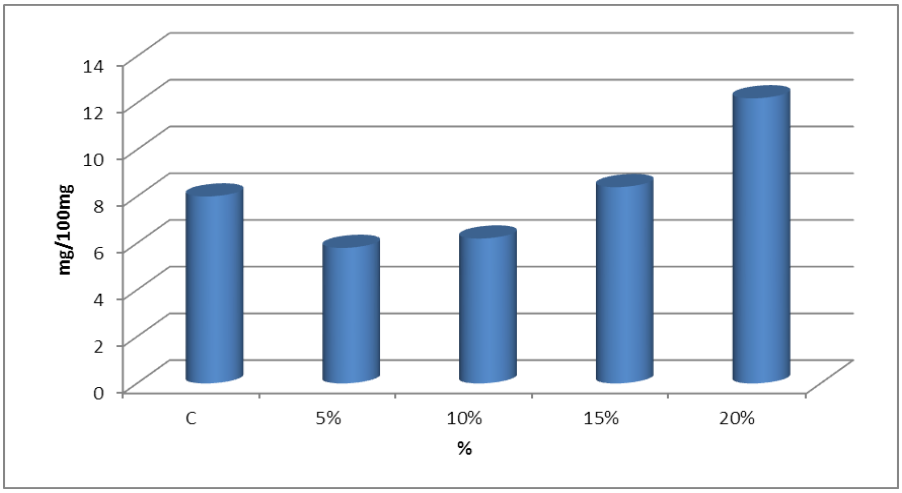

Fig: 1 Mean value for carbohydrate (mg/100mg)

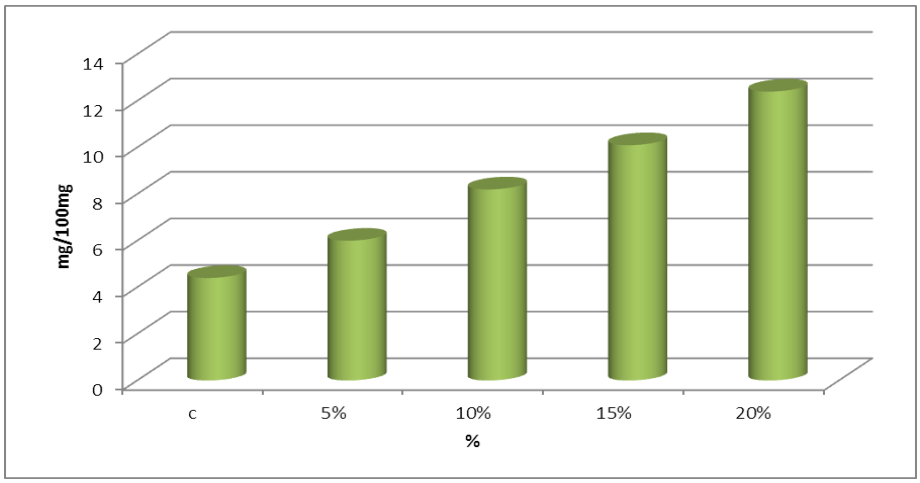

Fig: 2 Mean value for protein (mg/100mg)

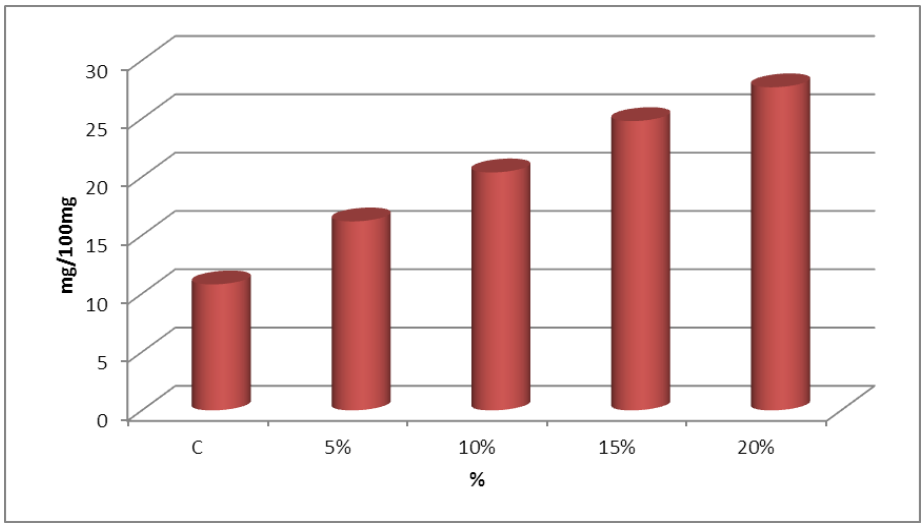

Fig: 3 Mean value for fat (mg/100mg)

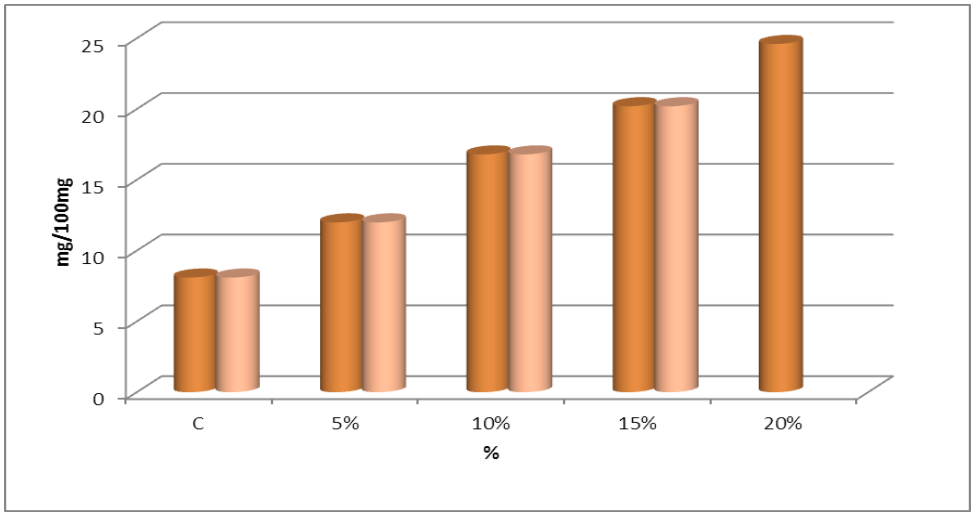

Fig: 4 Mean value for phosphorous (mg/100mg)

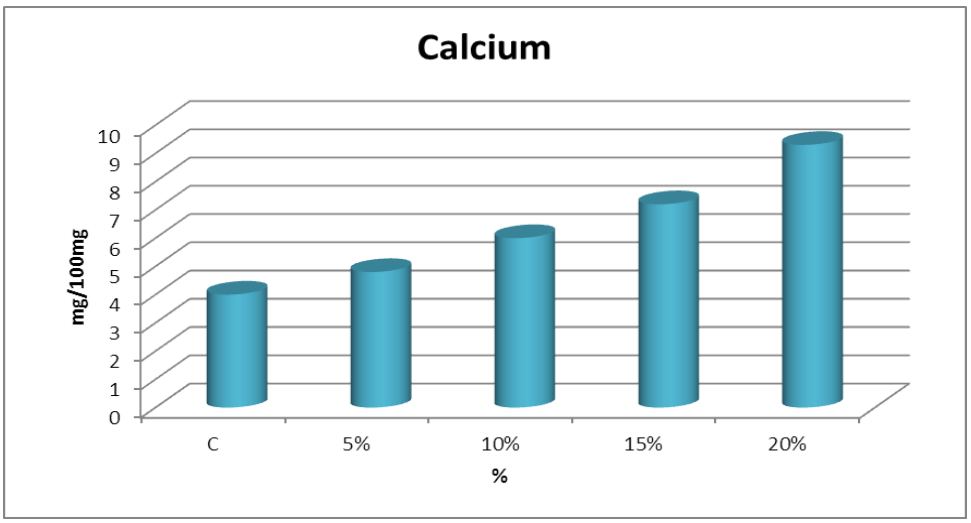

Fig: 5 Mean value for calcium (mg/100mg)

CONCLUSION

The present study was constructed to assess the biochemical changes in panchagavya with Neem to Bhendi. The consequence of the reflects are bridged as follows, On the basis of our study, it may be concluded that bhendi is good for health. The Vegetable stage of bhendi is also in high nutrients especially rich in protein and phosphorous content. Bhendi is also preferable for arthritis patients.

ACKNOWLEDGEMENT

Authors are thankful to the managing trustee of S.T.E.T women's college, Mannargudi for the facilities provided to complete the project work in a successful way.

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