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A Study on Combined effect of organic and inorganic sources of nutrients on correlation coefficient between fruit yield and its contributing traits of okra [*Abelmoschus esculentus* (L.) Moench]

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ABSTRACT

The present investigation entitled "A Study on Combined effect of organic and inorganic sources of nutrients on correlation coefficient between fruit yield and its contributing traits of okra [Abelmoschus esculentus (L.) Moench]" was conducted with 13 treatment combinations of NPK, Vermicompost and Foliar spraying of Vermiwash in Randomized Complete Block Design with three replications. Seeds of Okra, cv. VRO.-6 were sown on plot size of 3.6m X 3.0 m. The row to row and plant to plant spacing was maintained at 60 cm and 30 cm, respectively hence each plot accommodated 60 plants. The observations were recorded treatment wise by selecting 5 random plants. The growth, yield and economics of the treatment were worked out. The statistical analysis of data and correlation coefficient was calculated.The correlation studies revealed that fruit yield per plant was expressed a significant and positively associated with plant height at 90 DAS (0.356), nodes per plant at 90 DAS (0.799), internodal length at 90 DAS (0.768), leaves per plant at 90 DAS (0.766), branches per plant at 90 DAS (0.355), days to 1st flower (0.788), node to 1s t flower (0.787), days to 50% flower (0.793), days to 1st picking (0.766), flowers per plant (0.787), fruit length (0.786), fruit girth (0.802), fruiting spans (0.792) and fruit weight (0.589). It showed significant and negative association with plant height at 30 DAS (-0.602), branches per plant at 60 DAS (-0.783). The significantly maximum fruiting span 48.86 days as well as maximum fruit yield (144.66g/plant), and 80.47q/ha) was obtained under T5 (Rec. NPK + Vermiwash 5 sprays at 1 week interval after 30 DAS).
Key words: *Okra, Vermiwash, Vermicompost, NPK, Correlation coefficient.*

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INTRODUCTION

Fertilizers supplement the soil with macronutrients needed in large amounts: nitrogen, phosphorous and potassium. However, organic and inorganic fertilizers do so via different materials. Organic fertilizers contain only plant- or animal-based materials that are either a byproduct or end product of naturally occurring processes, such as manures, leaves, and compost. Inorganic fertilizer, also referred to as synthetic fertilizer, is manufactured artificially and contains minerals or synthetic chemicals[1]. The complementary application of organic and inorganic fertilizers has been found to meet the immediate soil nutrient deficits, improve the soil physical properties and enhance yield stability Growth promoting constituents like enzymes and hormones present in organic manures make them useful for improvement of soil fertility and productivity. Some plant-growth promoters in vermicompost (i.e., auxins, gibberellins, cytokinins) represent excellent soil conditioners due to its higher porosity, aeration, drainage, water-holding capacity and microbial activity[1]. Biofertilizer are useful substitutes to inorganic fertilizers which improves the soil quality Both organic and inorganic fertilizers provide plants with the nutrients needed to grow healthy and strong. However, each contains different ingredients and supplies these nutrients in different ways. Organic fertilizers work over time to create a healthy growing environment, while inorganic fertilizers provide rapid nutrition. Okra (Abelmoschus esculentus L.) is an important vegetable grown for its green tender fruits which are used as a vegetable in a variety of ways. It is rich in vitamins, calcium, potassium and other minerals matter. Okra or Ladies finger, which is also known as 'Bhindi', is one of the important vegetable crops in India. It is grown throughout the tropical and sub-tropical regions and also in the warmer parts of the temperate regions. The nutritional value of 100g of edible okra is characterized 1.9g protein, 0.2g fat, 6.4g carbohydrate, 0.7g minerals and 1.2g fibers. Okra has a good potential as a foreign exchanger crop and accounts for 60% of the export of fresh vegetables. Okra is widely cultivated in plans of the India with acreage of 518.0 thousand ha. and production 6259.0 thousand mt. (NHB 2013-14)[2]. In Madhya Pradesh okra is grown in 26.2 thousand ha area with production of 305.1 thousand mt. and 11.5 tonnes productivity (NHB 2013-2014)[2]. Vermiwash is a mixed culture containing soil bacteria mixed and an effective strain of earthworms. Earthworm has efficiency to consume all type of organic rich waste material including vegetable waste, industrial waste and other organic waste. Vermicomposting refers to the production of plant nutrient excreta of worms. Correlation studies are of considerable importance in plant breeding programme. The need for coefficient of correlation is to describe the degree of association between two variables. The correlation between yield and its components give an idea for selection pressure, which could profitably be exercised to obtain an increase in yielding ability. The present investigation was carried out to determine the combined effect of organic and inorganic sources of nutrients on correlation coefficient between fruit yield and its contributing traits of okra[3].

MATERIAL AND METHODS

The experimental detail of treatments comprised of 13 treatments are presented in Table 1. The experiment was laid out in Randomized Complete Block Design (RCBD) with three replications. Each replication consisted of 16 treatments. All the treatments were randomized separately in each replication.

Table 1 Detail of treatments and check used in the study

S. No.	Treatment symbol	Detail of treatments
1.	T1	Rec. NPK+ Vermiwash 1 spray at 1 week interval after 30 DAS
2.	T2	Rec. NPK+ Vermiwash 2 spray at 1 week interval after 30 DAS
3.	T3	Rec. NPK+ Vermiwash 3 sprays at 1 week interval after 30 DAS.
4.	T4	Rec. NPK+ Vermiwash 4 sprays at 1 week interval after 30 DAS.
5.	T5	Rec. NPK+ Vermiwash 5 sprays at 1 week interval after 30 DAS.
6.	T6 .	Vermicompost@5t/ha + Vermiwash 1 spray at1 week interval after 30 DAS
7.	T7 .	Vermicompost@5t/ha + Vermiwash 2 spray at1 week interval after 30 DAS
8.	T8	Vermicompost@5t/ha + Vermiwash 3 sprays at 1 week interval after 30 DAS.
9.	T9	Vermicompost@5t/ha + Vermiwash 4 spray at 1 week interval after 30 DAS.
10.	T10	Vermicompost@5t/ha + Vermiwash 5 sprays at 1 week interval after 30 DAS.
11..	T11.	Rec. NPK+ Vermiwash (Soil treatment) + 3 foliar sprays at 1 week interval after 30 DAS
12.	T12.	Vermicompost @5t/ha + Vermiwash (Soil treatment) + Vermiwash 3 foliar sprays
13	T13.	Recommended NPK (150:80:100)

Statistical Methodology

The data obtained in respect of all the characters has been subjected to the following statistical analyses:

Mean

It was calculated by using following formula.

$$\text{Mean} = \frac{\Sigma X}{N}$$

where;
ΣX = Sum of all the observations.
N = Number of observations.

Correlation coefficients

Correlation coefficients were calculated in all possible combinations taking all the characters in to consideration at genotypic, phenotypic and environmental levels by using the formula as proposed by Miller *et al.* (1958).

$$\frac{\sum x \times \sum y}{n}$$

where,

r = ...efficient

n =

X and Y = Cha...

$$r = \sqrt{\left(\sum x^2 - \frac{(\sum x)^2}{n}\right)\left(\sum y^2 - \frac{(\sum y)^2}{n}\right)}$$

Genotypic, phenotypic and environmental correlations were computed by substituting corresponding variance and covariance in the above formula, e. g.

$$rG\ (Xi\ Xj) = \frac{G\ Cov\ (Xi\ Xj)}{\sqrt{VG\ (Xi).\ VG\ (Xj)}}$$

$$rP\ (Xi\ Xj) = \frac{P\ Cov\ (Xi\ Xj)}{\sqrt{VP\ (Xi).\ VP\ (Xj)}}$$

$$rE\ (Xi\ Xj) = \frac{E\ Cov\ (Xi\ Xj)}{\sqrt{VE\ (Xi).\ VE\ (Xj)}}$$

Testing of correlations:

The phenotypic correlations are tested for their significance by following formula based on "t" test:

$$tc = r\sqrt{\frac{n-2}{(1-R2)}} \quad \text{at (n-2) d.f.}$$

Where,

N= Number of treatments.

R= phenotypic correlations coefficient.

The calculated value of "t" is compared with table of "t" at (n-2) d.f. If the calculated value is equal to or greater than table value, it is significant at given probability level. If $t_c < t_T$, it is non significant.

RESULTS AND DISCUSSION

The present experiment was carried out to study Correlation coefficients were worked out for all possible combinations of yield and its 20 contributing characters. Significant and negative correlation of plant height at 30 DAS was observed with nodes per plant at 90 DAS (-0.823), internodal length at 90 DAS (-0.777), leaves per plant at 90 DAS (-0.764),days to 1st flower (-0.831), nodes to 1s t flower (-0.824), days to 50% flowering (-0.836), days to 1s t picking (-0.830), flower per plant (-0.816) but significant and positive correlation of plant height at 30DAS was observed with branches per plant at 60 DAS (0.842),and negative correlation with fruit length (-0.770) and fruit girth (-0.791), fruit weight (-0.791), fruiting span (-0.775), fruit yield q/ha (-0.633), fruit yield per plant (-0.602). Plant height at 60 DAS showed positive and significant correlation with plant height at 90 DAS (0.998), nodes per plant at 90 DAS (0.387), intermodal length (0.494), leaves per plant at 90 DAS (0.534), branches per plant at 90DAS (0.962), days to 1 s t flower (0.385), nodes to first flower(0.395), 50% flowering(0.362), days to 1s t picking(o.410), flowers per plant (0.379), fruits per plant (0.342), fruit length (0.415), fruit girth (0.429), fruiting span(0.481), yield q/ha (0.364), yield per plant(0.355) but negative and significant correlation with branches per plant at 60DAS (0.368). Plant height at 90 DAS had significant and positive association with nodes per plant at 90 DAS (0.327), intermodal length at 90 DAS (0.404) leaves per plant at 90 DAS (0.564), branches per plant at 90 DAS (0.998), days to 1s t flower (0.323), nodes to first flower (0.362), days to 50% flowering (0.332), days to 1s t picking (0.413), flowers per plant (0.375), fruit per plant (0.343), fruit length (0.411), fruit girth (0.428), fruiting span (0.488), fruit yield q/ha (0.361) and fruit yield per plant (0.356) but negative and significant correlation with branches per plant at 60DAS (0.388). Nodes per plant expressed significant and positive correlation with internodal length at 90 DAS (0.916), leaves per plant at 90 DAS (0.933), branches per plant at 90 DAS (0.387), days to 1s t flower (0.944), nodes to 1s t flower (0.960), days to 50% flowering (0.955), days to 1s t picking (0.946), flower per plant (0.991), fruit per plant (0.496), fruit length (0.938) and fruit girth (0.949), fruit weight (0.856), fruiting span (0.938), fruit yield q/ha. (0.826) and fruit yield per plant (0.799). Whereas negative and significant association was noted for branches per plant at 60 DAS (-0.947)[4][5][6]. Internodal length at 90 DAS showed positive and significant correlation with leaves per plant at 90 DAS (0.946), branches per plant at 90 DAS (0.494), days to 1s t flower (0.953), nodes to 1s t flower (0.959), days to 50% flowering (0.963), days to 1 s t picking (0.967), flower per plant (0.905), fruit per plant (0.497), fruit length (0.950), fruit girth (0.970), fruit weight (0.890), fruiting span (0.956), fruit yield q/ha (0.797) and fruit yield per plant (0.768). Leaves per plant at 90 DAS recorded significant positive correlation with branches per plant at 90 DAS (0.534), days to 1 s t flower (0.957),50% flowering (0.951), days to 1s t picking (0.966), flowers per plant (0.922), fruits per plant (0.320), fruit length (0.964), fruit girth (0.953), fruit weight (0.891), fruiting span (0.959), fruit yield q/ha (0.796) and fruit yield per plant (0.766). Significant and negative association was recorded with branches per plant at 60 DAS (-0.958) and node to first flowering (-0.971)[7][8]. Branches per plant at 60 DAS significant positive association with nodes to 1s t flower (0.989), fruit per plant (0.480). Significant and negative association was recorded with branches per plant at 90 DAS (-0.368), days to 1s t flower (-0.984), days to 50% flowering (-0.992), days to 1s t picking (-0.992), flower per plant (-0.936), fruit length (-0.972), fruit girth (-0.984), fruit weight (-0.935), fruiting span (-0.970), fruit yield q/ha (-0.815) and fruit yield per plant (-0.783). Branches per plant at 90 DAS showed significant positive association with days to 1s t flower (0.385), node to 1s t flower (0.395), days to 50% flowering (0.362), days to 1s t picking (0.410), flower per plant (0.379), fruit length (0.415), fruit girth (0.429), fruit weight (0.304), fruiting span (0.481), fruit yield q/ha (0.364) and fruit yield per plant (0.355). Days to first flowering had positive and significant association with node to 1s t flower (0.980), days to 50% flowering (0.982), days to 1s t picking (0.973), flower per plant (0.944), fruit length (0.967), fruit girth (0.973), fruit weight (0.923), fruiting span (0.957), fruit yield q/ha (0.817) and fruit yield per plant (0.788)[9]. Nodes to first flowering was found to have significant and positive association with 50% flowering (0.985), days to 1 s t picking (0.988), flower per plant (0.950), fruit length (0.971), fruit girth (0.975), fruit weight (0.921), fruiting span (0.970), fruit yield q/ha (0.818) and fruit yield per plant (0.787). Days to 50 percent flowering had positive and significant association with days to 1s t picking (0.983), flower per plant (0.946), fruit length (0.975), fruit girth (0.987), fruit weight (0.922), fruiting span (0.965), fruit yield q/ha (0.824) and fruit yield per plant (0.793). Flowers per plant expressed highly significant and positive correlation with fruit per plant (0.485), fruit length (0.922), fruit girth (0.939), fruit weight (0.848), fruiting span (0.927), fruit yield q/ha (0.813) and fruit yield per plant (0.793). Days to first picking showed significant and positive association with fruit length (0.972), fruit girth (0.973), fruit weight (0.923), fruiting span (0.970), fruit yield q/ha (0.799) and fruit yield per plant (0.766). Fruit length showed significant and positive correlation with fruit girth (0.973), fruit weight (0.889), fruiting span (0.955), fruit yield q/ha (0.816) and fruit yield per plant (0.786). Fruit girth expressed a significant and positive correlation with fruit weight (0.906), fruiting span (0.963), fruit yield q/ha (0.832) and fruit yield per plant (0.802).Fruiting span expressed significant and positive association with fruit weight (0.659) and fruit yield per plant (0.506). A significant and positive correlation of fruit weight was observed with fruit yield per plant (0.589)[10][11].

CONCLUSIONS

On the basis of present investigation Correlation studies revealed that fruit yield per plant was exhibited a significant and positively associated with plant height at 90 DAS, nodes per plant at 90 DAS, internodal length at 90 DAS, leaves per plant at 90 DAS, branches per plant at 90 DAS, days to 1st flower, node to 1st flower, days to 50% flower, days to 1st picking, flowers per plant, fruit length, fruit girth, fruiting spans and fruit weight. It showed significant and negative association with plant height at 30 DAS, branches per plant at 60 DAS.

REFERENCES

1. Basavaraja, N.; Ravi Hunje and B. Chandravathi (2009). Influence of organic and inorganic source of nutrients on growth and seed yield of okra [*Abelmoschus esculentus* (L.) Moench]. *Proceedings of International conference on Horticulture held at Bangalore,* November, **9-12**, *2009.* pp 1386-1390.
2. Database 2013-14 - National Horticulture Board [NHB].
3. Choudhary, A. K. (2006). Genetic behaviour of yield and its components in hybrid okra [*Abelmoschus esculentus* (L.) Moench]. *M.Sc. (Ag.) Thesis*, J.N.K.V.V., Jabalpur.
4. Pandey, S.K.; Anant Bahadur; Raghavendra Singh and M. C. Singh (2009). Effect of organic manures and biofertilizers on biomass distribution, growth and yield of okra. *Veg. Sci.* **36 (3):** 415-417.
5. Sharma, T.R.; A.K. Pandey; S.D. Updhyaya and S.B. Agrawal (2010). Effect of vermicompost on yield and quality of Kharif season okra [*Abelmoschus esculentus* (L.) Moench]. *Veg. Sci.* **37 (1-2):** 181-183.
6. Magar, R. G.; Madrap, I. A.; (2009). Genetic variability, correlations and path co-efficient analysis in okra [*Abelmoschus esculentus* (L.) Moench]. *CAB Abstracts International Journal of Plant Sciences (Muzaffarnagar);* 2009. 4(2) : 498-501.
7. Narayan, R.P. and R. Muldge (2004).Correlation and path analysis in okra [*Abelmoschus esculentus* (L.) Monch] *Indian. J. Hort.* 61(3): 232-235.
8. Pawar ,S.K. (2005). Genetic analysis of yield and its components in okra [*Abelmoschus esculentus* (L.) Monch]. *M.Sc. (Ag.) Thesis*, J.N.K.V.V., Jabalpur.

9. Saifullah, M. and Rabbani, M.G. (2010). Studies on the character association and path analysis in okra [*Abelmoschus esculentus* (L.) Moench]. *CAB Abstracts International Journal of Sustainable Agricultural Technology*; 2010. 6(4) : 10-15.
10. Chaukhande, Pooja, P.B. Chaukhande and V.N. Dod. (2011). Correlation and path analysis studies in okra [*Abelmoschus esculentus* (L.) Moench*]. Abstract of National Symposium on Vegetable Biodiversity,* April 4-5, 2011, Organised by ISVS Vranasi, JNKVV Jabalpur, IIVR Varanasi. pp.30.
11. Ansari, A. A. Sukhraj Kumar (2010). Effect of vermiwash and vermicompost on soil parameters and productivity of okra. Current Advances in Agricultural Sciences 2010 2:1, 1-4

Table 2: Correlation coefficient between yield and its contributing characters in okra

Plant height	60 DAS	90 DAS	nodes/ plant	Inter-nodal length (cm)	Leaves / plant	Branches /plant		days to 1st flower	Node to 1st flower	Days to 50% flow-ering	Days to 1st pick-ing	Flower / plant Fruit length (cm)	Fruits /plant	Fruit length (cm)	Fruit girth (mm)	Fruit weight (g)	Fruit-ing span	Fruit yield (q /h a)	Fruit yield (per pant(g)
						60DAS	90 DAS												
30DAS	-0.0715	-0.0715	-0.823**	-0.777**	-0.764**	0.842**	-0.071	-0.831**	-0.824**	-0.836**	-0.830**	-0.816**	-0.051	-0.770**	-0.791**	-0.791**	-0.775**	-0.633**	-0.602**
60 DAS		0.998***	0.387*	0.494**	0.534**	0.368*	0.962**	0.385*	0.395*	0.362*	0.410**	0.379*	0. 342	0. 415**	0. 429**	0. 304	0. 481**	0. 364*	0. 355*
90 DAS			0.327*	0.404**	0.584**	0.388*	0.998**	0.323*	0.362*	0.332*	0.413**	0.375*	0.343	0.411**	0.428**	0.303	0.488**	0.361*	0.356*
nodes/ plant				0.916***	0.933***	0.947***	0.387*	0.944**	0.960**	0.955**	0.946**	0.991**	0.496	0.938**	0.949**	0.856**	0.938**	0.826**	0.799**
Inter-nodal length (cm)					0.946***	0.968**	0.494**	0.953**	0.959**	0.963**	0.967**	0.905**	0.497	0.950**	0.970**	0.890**	0.956**	0.797**	0.768**
Leaves / plant						0.958**	0.534**	0.957**	-0.971**	0.951**	0.966**	0.922**	0.320	0.964**	0.953**	0.891**	0.959**	0.796**	0.766**
Branches /plant at 60DAS							-0.368*	-0.984**	0.989**	-0.992**	-0.992**	-0.936**	0.480	-0.972**	-0.984**	-0.935**	-0.970**	-0.815**	-0.783**
90 DAS								0.385*	0.395*	0.362*	0.410**	0.379*	0.242	0.415**	0.429**	0.304	0.481**	0.364*	0.355*
days to 1st flower									0.980**	0.982**	0.973**	0.944**	0.152	0.967**	0.973**	0.923**	0.957**	0.817**	0.788**
Node to 1st flower										0.985**	0.988**	0.950**	0.176	0.971**	0.975**	0.921**	0.970**	0.818**	0.787**
Days to 50% flowering											0.983**	0.946**	0.162	0.975**	0.987**	0.922**	0.965**	0.824**	0.793**
Days to 1st pick-ing												0.932**	0.168	0.972**	0.973**	0.923**	0.970**	0.799**	0.766**
Flower / plant													0.485**	0.922**	0.939**	0.848**	0.927**	0.813**	0.786**
Fruits / plant														0.159	0.198	0.278	0.152	0.068	0.056
Fruit length (cm)															0.973**	0.889**	0.955**	0.816**	0.786**
Fruit girth (mm)																0.906**	0.963**	0.832**	0.802**
Fruit weight (g)																	0.885**	0.627**	0.589**
Fruiting span																		0.821**	0.792**
Fruit yield(q / h a)																			0.998**

*** Significant at 5% level**
**** Significant at 1 % level**

Table 3: Different growth and yield attributes as influenced by different treatments of Vermiwash, Vermicompost and NPK on okra.

Treat-ment symbol	Treatments	Plant height (cm)			Nodes per plant 90 DAS	Inter-nodal length (cm) 90 DAS	Leaves per plant 90 DAS	Branches per plant		Days to first flow-ering	Nodes to first flow-ering	Day-sto 50% flow-ering	Days to first pick-ing	Flow-ers per plant	Fruits per plant	Fruit length (cm)	Fruit girth (mm)	Fruit weight(g)	Fruit-ing spans	Fruit yield per plant (g)	Fruit yield per ha. (q)
		30 DAS	60 DAS	90 DAS				60 DAS	90 DAS												
T1	Rec. NPK+ V W 1 spray	14.56	93.50	141.86	17.20	5.65	21.73	1.63	2.96	38.32	4.8	43.33	48.33	17.2	16.16	17.16	16.2	15.53	46.40	125.03	46.47
T2	Rec. NPK+ V W 2 sprays	14.73	100.73	143.10	17.80	5.68	21.9	1.7	3.2	38.06	4.8	43.33	48.33	17.8	16.2	17.24	16.27	15.63	47.3	130.66	48.53
T3	Rec. NPK+ V W 3 sprays	15.26	101.96	143.16	17.86	5.77	22.1	1.73	3.6	37.66	4.56	43.02	47.66	17.86	16.4	17.27	16.6	16.66	47.53	133.33	49.46
T4	Rec. NPK+ V W 4 sprays	15.86	106.58	145.21	18.60	5.86	23.33	2.23	4	37.63	4.53	43.1	47.66	18.6	17.56	17.58	16.96	17.43	48.8	141.66	52.54
T5	Rec. NPK+ V W 5 sprays	16.10	115.40	163.19	19.66	6.04	23.66	2.46	4.13	37.14	4.53	43.1	47.66	19.66	18.66	17.96	17.03	18.16	48.86	144.66	53.67
T6	VC@5t/ha + V W 1 spray	12.20	69.14	110.23	15.33	4.71	18.93	0.94	2.06	37.1	4.4	42.43	47.63	15.53	10.6	15.27	15.27	13.86	42.63	95.66	35.69
T7	VC@5t/ha + V W 2 spray	13.10	78.30	112.15	15.66	4.9	19.96	1.11	2.2	36.7	4.33	42.23	47.33	15.66	14.6	15.66	15.44	13.9	44.13	100.42	37.14
T8	VC@5t/ha + V W 3 spray	13.60	79.46	135.23	15.73	4.98	21.03	1.2	2.22	36.4	4.26	41.66	47.33	15.73	14.7	15.92	15.7	14.28	44.46	101.33	37.55
T9	VC@5t/ha + V W 4 spray	14.06	83.50	136.73	17.00	5.12	21.23	1.4	2.26	36.3	4.2	41.33	46.66	17.01	14.8	16.39	15.87	14.73	45.03	112.66	41.85
T10	VC@5t/ha + V W 5 sprays	14.36	92.06	138.96	17.06	5.34	21.6	1.43	2.64	35.58	4.2	41.01	45.23	17.06	16.03	16.43	15.87	14.9	45.63	119.33	44.31
T11	Rec. NPK+ V W (Soil treatment) + 3 foliar sprays	15.33	103.23	143.90	18.53	5.78	22.8	1.86	3.86	37.8	4.6	43.02	48.33	18.53	17.13	17.36	16.61	17.4	48.4	137.22	50.91
T12	VC@5t/ha + V W (Soil treatment) + V W 3 foliar sprays	13.65	83.50	137.06	15.80	5.06	21.07	1.26	2.25	36.57	4.33	42	46.66	15.8	14.71	16.38	15.83	14.4	44.66	112.33	41.54
T13.	Rec NPK (150:80:100)	14.40	92.66	139.37	17.13	5.53	21.63	1.46	2.93	38.84	4.93	43.5	49.54	17.13	16.15	16.79	16.14	15.03	46.33	124.02	46.06
SEm±		0.843	2.163	1.431	0.76	0.259	0.48	0.253	0.386	0.56	0.09	0.36	0.3	0.76	0.7	0.42	0.25	0.49	0.65	6.167	2.261
C.D. at 5%		NS.	6.571	4.348	2.21	0.787	1.3	0.769	1.174	1.703	0.27	1.06	0.89	2.21	2.04	1.24	0.72	1.44	1.99	18.73	6.86

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