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Effect of integrated nutrient management on growth and yield of sweet basil (*Ocimum basilicum* L.) Var. CIM Saumya

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Abstract
The present investigation **w**as carried out during late *Kharif* season for the year 2021-2022 at PG Research Block, College of Horticulture, Rajendranagar, Hyderabad. Among the different treatments T_2 (75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC) recorded significantly highest plant height, highest number of branches per plant, highest number of leaves per plant), highest plant spread N-S and E-W at 45, 60, 75 and 90 DAT. For yield parameters T_2 (75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC) recorded maximum fresh herb weight (380.73 g/plant), maximum dry herb weight per plant (67.37 g), maximum fresh herb yield (342.18 q ha^{-1}) and dry herb yield (60.61 q ha^{-1}).

Keywords: Sweet basil, INM, Plant height, Plant spread, Herb yield

Introduction
Osmium basilica is known by different names *viz*, sweet basil, French basil or Common basil. *Osmium* sps are native to Indian subcontinent and cultivated throughout Southeast Asian tropics. The essential oils from Osmium genus find diverse uses in perfumery and cosmetic industries as well as indigenous systems of medicines. In India, Basil is cultivated over an area of 25,000 ha and it accounts for annual production of about 250- 300 tonnes of oil. The major constituents in Osmium oils include linalool, geraniol, central, camphor, eugenol, methyl chavicol, safrole, thymol, methyl cinnamate etc. Osmium species are used as herbs and find diverse uses in the indigenous systems of medicine in countries like India, Africa, Arabia, Australia, Malaya, pacific islands and Sri Lanka. The oil of certain species of Osmium has the antifungal, bactericidal and insecticidal properties too as the demand for our aromatic industry is growing high, concerns are raising over the improved production and quality of raw materials used. It could also be considered regal because it is familiar in so many cultures, including the ancient Egyptians, Greeks, and Romans, and it is thought to have been cultivated in India for more than 5,000 years. It was apparently introduced to Europe from India in the late 1500s. There are several varieties of basil, but sweet basil is the most commonly grown, with more than 60 varieties to please the palates of those who love Italian, Indian, Greek, and Southeast Asian cuisines, among others. Basil is an important essential oil crop with around 350 tonnes of essential oil being produced throughout the world annually (Kumar *et al.*, 2019) [5]. About 30 species of genus *Osmium* are distributed in the tropical and subtropical regions of the world and few species are commercially cultivated in temperate regions. The essential oil of sweet basil/Babui Tulsi contains 1, 8-cineole, eugenol, limonene, ocimene, geranial, cis-3-hexenol, citronellol, alpha-terpineol, camphor, methyl eugenol, methyl cinnamate as minor and linalool, methyl chavicol (estragole) as major components. Methyl cinnamate may be a major constituent in some chemovars (Hussain *et al.*, 1992) [3].

Material and Methods
The experiment was conducted at PG Research Block, College of Horticulture, Sri Konda Laxman Telangana State Horticultural University, Rajendranagar, Hyderabad during late *Kharif* 2021-22. The experimental was situated at an altitude of 536 m above mean sea level on 78°.40' East longitude and 17°.32' North latitude. The climate of Rajendranagar is semi-arid.

The field experiment was laid out in Randomized Block Design (RBD) with 3 replications and 8 treatments *i.e.* T_1: 75% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC, T_2: 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC, T_3: 50% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC, T_4: 50% RDF + Vermicompost (5t/ha) + AMC, T_5: FYM (10t/ha) + AMC, T_6: Vermicompost (5t/ha) + AMC, T_7: 100% NPK (Recommended Dose Fertilizer) and T_8: Control (Without manures and fertilizers). The experiment was carried out with the variety CIM Soumya which was procured from the CSIR-Central Institute of Medicinal and Aromatic Plants, Research Centre, Boduppal, Hyderabad, Telangana State.

Results and Discussion

Plant height (cm)

The data pertaining to the plant height of sweet basil as influenced by different treatments at 45, 60, 75 and 90 days after transplanting (DAT) were presented in Table 1. Significant difference with respect to plant height was observed due to the different treatment combinations. The results shown that there is a significant difference among the treatment at 45 DAT, significantly highest plant height (64.23 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and lowest plant height (47.80 cm) was recorded in T_8 -Control (without manures and fertilizers). At 60 DAT the highest plant height (71.20 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and lowest plant height (53.67 cm) was recorded in T_8 -Control (Without manures and fertilizers). At 75 DAT highest plant height (84.80 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC followed by T_1 - 75% RDF (Recommended Dose Fertilizers) + FYM (10t/ha) + AMC (82.44 cm), while lowest plant height (60.80 cm) was recorded in T_8 -Control (Without manures and fertilizers) And at 90 DAT highest plant height (84.97 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and lowest plant height (60.88 cm) was recorded in T_8 -Control (Without manures and fertilizers). The increased plant height may be due to the increased beneficiary effect of Vermicompost, FYM, AMC along with inorganic fertilizers might have increased the absorption of nutrients which in turn resulted in significant increment in plant height. The results are in accordance with Al-Mansour *et al*. (2017) [1], Ranganath Reddy *et al*. (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil.

No. of Branches per plant

The data pertaining to the No. of branches/plant as influenced by different treatments on sweet basil at 45, 60, 75 and 90 days after transplanting (DAT) are presented in Table 2. Significant increment respect to no. of branches/plant was observed due to the different treatment application on the effect of integrated nutrient management in sweet basil at harvest. The results showed among the treatments at 45 DAT, significantly maximum no. of branches/plant (9.73) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of branches/plant (6.13) was recorded in T_8 -Control (Without manures and fertilizers). At 60 DAT significantly maximum no. of branches/plant (13.23) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of branches/plant (7.30) was recorded in T_8 -Control (Without manures and fertilizers). At 75 DAT, significantly maximum no. of branches/plant (17.37) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of branches/plant (8.50) was recorded in T_8 -Control (Without manures and fertilizers). And at 90 DAT revealed that significantly maximum no. of branches/plant (17.40) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of branches/plant (8.53) was recorded in T_8 -Control (Without manures and fertilizers). The superior performance for branches/plant might be due to higher availability of nutrients, from planting to harvest. The results are in line with Al Mansour *et al*., (2017) [1], Ranganath Reddy *et al*., (2018) [7], Kalita *et al*. (2018) [4] Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil. Similar results were reported by (Singh, 2011) [9] in Geranium and (Singh and Wasnik, 2013) [10] in rosemary.

Number of leaves/plants

The data pertaining to the No. of leaves/plant as influenced by different treatments on sweet basil at 45, 60, 75 and 90 days after transplanting (DAT) are presented in Table 3. Significant difference with respect to no. of leaves/plant was observed due to the different treatments of integrated nutrient management in sweet basil at harvest. The results showed among the treatments at 45 DAT, significantly maximum no. of leaves/plant (746.77) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of leaves/plant (381.40) was recorded in T_8 -Control (Without manures and fertilizers). At 60 DAT, significantly maximum no. of leaves/plant (847.11) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of leaves/plant (500.93) was recorded in T_8 -Control (Without manures and fertilizers). At 75 DAT, significantly maximum no. of leaves/plant (885.88) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of leaves/plant (560.30) was recorded in T_8 -Control (Without manures and fertilizers). And at 90 DAT revealed that significantly maximum no. of leaves/plant (888.68) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC while minimum no. of leaves/plant (564.33) was recorded in T_8 -Control (Without manures and fertilizers). Combination of organic, inorganic sources of nutrients along with Arka microbial consortium might have resulted in increased availability of nutrients which in turn might have favoured production of more no. of leaves. Similar results were reported by Al Mansour *et al*., (2017) [1], Ranganath Reddy *et al*. (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil.

Plant spread (cm)

The data pertaining to the plant spread (N-S) (E-W) as influenced by different treatments on sweet basil at 45, 60, 75 and 90 days after transplanting (DAT) are presented in Table 4. Significant difference with respect to plant spread was observed due to the different treatments of integrated nutrient management in sweet basil at harvest.

Plant spread (N-S) (cm)

The plant spread (N-S) as influenced by different treatments on sweet basil at 45, 60, 75 and 90 days after transplanting (DAT) are presented below. Among the treatments at 45 DAT, significantly maximum plant spread (N-S) (50.93 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC, while minimum plant spread (N-S) (32.51 cm) was recorded in T_8 -Control (Without manures and fertilizers). At 60 DAT revealed that significantly maximum plant spread (N-S) (55.74 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum plant spread (N-S) (36.39 cm) was recorded in T_8 -Control (Without manures and fertilizers). At 75 DAT revealed that significantly maximum plant spread (N-S) (57.58 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC followed by T_1 - 75% RDF (Recommended Dose Fertilizers) + FYM (10t/ha) + AMC (52.60 cm), while minimum plant spread (N-S) (38.71 cm) was recorded in T_8 -Control (Without manures and fertilizers). At 90 DAT revealed that significantly maximum plant spread (N-S) (57.92 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum no. of leaves/plant (38.93) was recorded in T_8 -Control (Without manures and fertilizers). The meta-analysis revealed that vermicompost brought about average increases of 26% in commercial yield, 13% in total biomass, 78% in shoot biomass, and 57% in root biomass (Blouin *et al.,* 2019). This might be the reason for significant increase in plant spread. Results are in line with Al-Mansour *et al*. (2017) [1], Ranganath Reddy *et al*. (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil.

Plant spread (E-W) (cm)

The data pertaining to the plant spread (E-W) as influenced by different treatments on sweet basil at 45, 60, 75 and 90 days after transplanting (DAT) are presented in Table 4. Significant difference with respect to plant spread (E-W) was observed due to the different treatment application on the effect of integrated nutrient management in sweet basil at harvest. The results showed that among the treatments at 45 DAT revealed that significantly maximum plant spread (E-W) (51.37 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC, while minimum plant spread (E-W) (34.81 cm) was recorded in T_8 -Control (Without manures and fertilizers. At 60 DAT revealed that significantly maximum plant spread (E-W) (56.55 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum plant spread (E-W) (37.83 cm) was recorded in T_8 -Control (Without manures and fertilizers). At 75 DAT revealed that significantly maximum plant spread (E-W) (60.49 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum plant spread (E-W) (39.20 cm) was recorded in T_8 -Control (Without manures and fertilizers. And at 90 DAT revealed that significantly maximum plant spread (E-W) (60.81 cm) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC followed by T_1 - 75% RDF (Recommended Dose Fertilizers) + FYM (10t/ha) + AMC (57.60 cm), while minimum plant spread (E-W) (39.35 cm) was recorded in T_8 -Control (Without manures and fertilizers). The data on plant spread was recorded maximum at 5t vermicompost application along 75% RDF which might be due to more availability of nutrients which in turn enhance growth parameters. The above results are in agreement with the findings of Al-Mansour *et al*., (2017) [1], Ranganath Reddy *et al*. (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil.

Fresh herb weight per plant (g)

Fresh herb weight per plant (g) as affected by integrated nutrient management treatments is presented in Table 6. The results shown that there is a significant difference among the treatments for fresh herb weight per plant (g). The maximum fresh herb weight per plant (380.73 g) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC, while minimum fresh herb weight per plant (211.82 g) was recorded in T_8 -Control (Without manures and fertilizers). This may be due to the increased dosage of beneficiary effect Vermicompost, FYM and Arka microbial consortium along with inorganic fertilizers increased the absorption of nutrients. Similar results were reported by Singh *et al*., (2014) [8], Al-Mansour *et al*., (2017) [1], Ranganath Reddy *et al*. (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil. Similar results were reported by Singh (2011) [9] in Geranium and Singh and Wasnik (2013) [10] in rosemary.

Dry herb weight per plant (g)

Dry herb weight per plant (g) as affected by integrated nutrient management and is presented in Table 6. The results shown that there is a significant difference among the treatments for dry herb weight per plant (g). The maximum dry herb weight per plant (67.37 g) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC and minimum dry herb weight per plant (33.17 g) was recorded in T_8 -Control (Without manures and fertilizers). Increased availability of nutrients through vermicompost might be the reason for significant highest dry herb yield. Similar results were reported by Singh *et al*. (2014) [8], Al-Mansour *et al*. (2017) [1], Ranganath Reddy *et al*. (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil.

Fresh herb yield per plot (q ha^{-1})

Fresh herb yield (q ha ^{1}) as affected by integrated nutrient management treatments is presented in Table 6. The results shown that there is a significant difference among the treatments for fresh herb yield per plot (q ha^{-1}). The maximum fresh herb weight (342.18 q ha^{-1}) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC, while minimum fresh herb weight per plot (190.60 q ha^{-1}) was recorded in T_8 -Control (Without manures and fertilizers). Results were in line with Singh *et al*., (2014) [8], Al-Mansour *et al*. (2017) [1], Ranganath Reddy *et al*., (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil. Similar results were reported by Singh (2011) [9] in Geranium and Singh and Wasnik (2013) [10] in rosemary.

Dry herb yield (q ha ^{1})

Dry herb yield (q ha ^{1}) as affected by integrated nutrient management treatments is presented in Table 6. The results shown that there is a significant difference among the treatment dry herb yield (q ha ^{1}). The maximum dry herb

yield (60.61 q ha^{-1}) was recorded in treatment T_2 -75% RDF (Recommended Dose Fertilizers) + Vermicompost (5t/ha) + AMC, while minimum fresh herb yield per plot (29.83 q ha^{-1}) was recorded in T_8 -Control (Without manures and fertilizers). Similar results were reported by Singh *et al*., (2014) [8], Al-Mansour *et al*., (2017) [1], Ranganath Reddy *et al*., (2018) [7], Kalita *et al*. (2018) [4], Netam *et al*. (2020) [6] and Aminifard *et al*. (2022) [2] in basil. Similar results were reported by Singh (2011) [9] in Geranium and Singh and Wasnik (2013) [10] in rosemary.

Table 1: Effect of integrated nutrient management on plant height (cm) of sweet basil (*Ocimum basilicum* L.) at 45, 60, 75 and 90 days after transplanting

Treatments	Plant height (cm)			
	45 DAT	60 DAT	75 DAT	90 DAT
T_1: 75% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	60.30	65.63	82.44	83.53
T_2: 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC	64.23	71.20	84.80	84.97
T_3: 50% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	50.80	57.73	72.53	72.83
T_4: 50% RDF + Vermicompost (5t/ha) + AMC	56.10	59.13	72.97	73.07
T_5: FYM (10t/ha) + AMC	48.47	55.00	67.81	67.88
T_6: Vermicompost (5t/ha) + AMC	49.60	56.60	70.47	70.71
T_7: 100% NPK (Recommended Dose Fertilizer)	57.50	60.27	77.93	78.01
T_8: Control (Without manures and fertilizers)	47.80	53.67	60.80	60.88
S.Em±	0.92	0.54	0.48	0.42
CD@ 5%	2.80	1.62	1.46	1.27

Table 2: Effect of integrated nutrient management on No. of branches per plant of sweet basil (*Ocimum basilicum* L.) at 45, 60, 75 and 90 days after transplanting

Treatments	Branches/plant			
	45 DAT	60 DAT	75 DAT	90 DAT
T_1: 75% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	9.13	12.67	16.00	16.07
T_2: 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC	9.73	13.23	17.37	17.40
T_3: 50% RDF (Recommended Dose Fertilizer) + FYM (10t/ha)+ AMC	7.13	10.13	11.13	11.20
T_4: 50% RDF + Vermicompost (5t/ha) + AMC	8.00	11.33	12.27	12.33
T_5: FYM (10t/ha) + AMC	6.33	9.00	9.40	9.47
T_6: Vermicompost (5t/ha) + AMC	6.67	9.77	10.33	10.39
T_7: 100% NPK (Recommended Dose Fertilizer)	8.93	11.15	13.93	14.00
T_8: Control (Without manures and fertilizers)	6.13	7.30	8.50	8.53
S.Em±	0.16	0.35	0.28	0.25
CD@ 5%	0.47	1.06	0.86	0.75

Table 3: Effect of integrated nutrient management on No. of leaves/plant of sweet basil (*Ocimum basilicum* L.) at 45, 60, 75 and 90 days after transplanting

Treatments	No. of leaves/plant			
	45 DAT	60 DAT	75 DAT	90 DAT
T_1: 75% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	717.77	814.30	863.70	868.43
T_2: 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC	746.77	847.11	885.88	888.68
T_3: 50% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	577.87	659.80	727.70	731.73
T_4: 50% RDF + Vermicompost (5t/ha) + AMC	651.60	730.67	769.13	772.90
T_5: FYM (10t/ha) + AMC	403.40	537.00	580.90	583.60
T_6: Vermicompost (5t/ha) + AMC	527.33	599.97	657.77	666.07
T_7:100% NPK (Recommended Dose Fertilizer)	722.53	815.80	850.37	856.53
T_8: Control (Without manures and fertilizers)	381.40	500.93	560.30	564.33
S.Em±	8.36	10.37	4.80	4.90
CD@ 5%	25.36	31.47	14.57	14.86

Table 4: Effect of integrated nutrient management on plant spread (cm) of sweet basil (*Ocimum basilicum* L.) at 45, 60, 75 and 90 days after transplanting

Treatments	Plant spread (cm)							
	45 DAT		60 DAT		75 DAT		90 DAT	
	N-S	E-W	N-S	E-W	N-S	E-W	N-S	E-W
T_1: 75% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	48.93	49.74	51.67	54.47	52.60	56.92	53.10	57.60
T_2: 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC	50.93	51.37	55.74	56.55	57.58	60.49	57.92	60.81
T_3: 50% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	39.37	40.54	46.00	47.11	48.57	50.32	48.67	50.62
T_4: 50% RDF + Vermicompost (5t/ha) + AMC	40.13	42.86	47.71	49.31	49.36	52.77	49.49	52.98
T_5: FYM (10t/ha) + AMC	36.00	37.40	43.00	45.92	44.07	46.96	44.67	47.15
T_6: Vermicompost (5t/ha) + AMC	38.93	39.83	44.93	46.65	46.17	49.21	46.51	49.61
T_7: 100% NPK (Recommended Dose Fertilizer)	41.47	45.96	48.55	50.26	50.08	53.62	50.13	53.71
T_8: Control (Without manures and fertilizers)	32.51	34.81	36.39	37.83	38.71	39.20	38.93	39.35
S.Em±	0.53	0.30	0.47	0.40	0.38	0.38	0.26	0.35
CD@ 5%	1.59	0.91	1.42	1.22	1.15	1.16	0.78	1.06

Table 5: Effect of integrated nutrient management on fresh herb weight per plant (g), dry herb weight per plant (g), Fresh herb yield (q ha^{-1}) and Dry herb yield (q ha^{-1}) of sweet basil (*Ocimum basilicum* L.)

Treatments	Fresh herb weight per plant (g)	Dry herb weight per plant (g)	Fresh herb yield (q ha^{-1})	Dry herb yield (q ha^{-1})
T_1: 75% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	365.67	64.91	329.11	58.42
T_2: 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC	380.73	67.37	342.18	60.61
T_3: 50% RDF (Recommended Dose Fertilizer) + FYM (10t/ha) + AMC	324.89	56.25	292.41	50.62
T_4: 50% RDF + Vermicompost (5t/ha) + AMC	337.67	57.35	303.90	51.63
T_5: FYM (10t/ha) + AMC	309.87	51.35	278.88	46.23
T_6: Vermicompost (5t/ha) + AMC	316.87	53.26	285.18	47.93
T_7: 100% NPK (Recommended Dose Fertilizer)	348.72	60.16	313.83	54.13
T_8: Control (Without manures and fertilizers)	211.82	33.17	190.60	29.83
S.Em±	0.52	0.32	0.62	0.48
CD@ 5%	1.36	1.12	1.56	0.97

Conclusion

On the basis of result observed from this experiment it was concluded integrated nutrient management practices showed promising results in sweet basil with significantly highest plant height, highest number of branches per plant, highest number of leaves per plant, highest plant spread N-S and E-W at 45, 60, 75 and 90 DAT, maximum fresh herb yield and dry her yield when 75% RDF (Recommended Dose Fertilizer) + Vermicompost (5t/ha) + AMC is applied followed by INM treatment 75% RDF (Recommended Dose Fertilizers) + FYM (10t/ha) + AMC.

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