Effect of organic and inorganic fertilizer on the growth and yield of bottle gourd [\textit{Lagenaria siceraria} Mol. Standl.]

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Abstract

The present experiment was carried out during June to September 2018 in Departmental Research Field of Department of Horticulture, SHUATS, Prayagraj. The experiment was conducted in Factorial Randomized Block Design (RBD), with eight treatments, replicated thrice with two varieties of Bottle Gourd. The treatments were T1 (Control (100% RDF)), T2 (75% RDF + 25% FYM), T3 (25% RDF + 75% FYM), T4 (75% RDF + 25% Vermicompost), T5 (25% RDF + 75% Vermicompost), T6 (75% RDF + 25% Poultry manure), T7 (25% RDF + 75% Poultry manure), T8 (25% RDF + 25% FYM + 25% PM + 25% VC). From the present experimental findings it is found that the treatment T5 (25% RDF + 75% Vermicompost) was found superior over other treatments in terms of growth, yield and quality of Bottle gourd. In two varieties of Bottle gourd, variety C.B.H. 11 was found better with different treatments of organic and inorganic fertilizers, in terms of economics maximum gross and net return was recorded in treatment T5, but maximum cost benefit ratio was recorded in treatment T7 and lowest readings was recorded in T0 (Control).

Keywords: Bottle gourd, FYM, vermicompost and poultry manure

Introduction

Bottle gourd [\textit{Lagenaria siceraria} Mol. Standl.] belong to the family of Cucurbitaceae having chromosome no. 2n = 22. Bottle gourd originated in Tropical Africa and domesticated in Asia, Africa and New World. India is the second largest producer of vegetable in worlds after China. According to recommendation given by India Council of Medical Research (ICMR) an average man with vegetarian or Non-vegetarian food habit should consume 300 g vegetable per day, which include 125 mg leafy vegetable, 100 g of root vegetable and 75 g of other vegetable (Fagarin \textit{et al.}, 2010) [3]. In the year 2002, the total vegetable production of country was 97.5 million tons from 7.59 million hectares of land (Gupta \textit{et al.}, 2010) [7]. In the country, vegetable crops are grown only in 2.8% of total cultivated land and share 10% of the world’s vegetable production with productivity of 13.6 t ha-1, which is quite low as compared to other advanced countries (Shanmugasundram, 2001) [10].

It is a warm season vegetable, which thrives well in warm and humid climate but it can be grown throughout the year in Northern India as off – season vegetable. The young and tender fruit of bottle gourd are mostly used in rayata, halwa, petha etc. dry shells of the mature fruits are used to make containers and musical instruments.

In subtropical climate of north and central India two crops, one in summer and the other in rainy season are taken in a year. Most of the cultivars in this region are specific to the crop season but some of them perform well in both the crops seasons. During summer the crop is sown in February- March and the vines are allowed to spreads on the ground. The rainy season crop is grown in unirrigated upland condition and sown in July – August; the vines are trained to climb on some artificial structure. The area and production of summer season crop is higher than the rainy season crop. In the temperate climate, the crop may be grown during summer – rainy season, if the temperature ranges from 15 °C to 25 °C available for a period of 100-120 days. In tropical conditions it can be grown throughout the year under irrigated conditions.

In India, organic and inorganic research work on bottle gourd were held by many scientists and some new concepts like food security potential of bottle gourd also gives importance to its cultivation. In the past decades its cultivation was forced by applying chemical fertilizers for higher yield which is ecologically harmful. In this experiment two varieties of bottle gourd [\textit{Lagenaria siceraria} Mol. Standl.] will be treated with different combination of organic
manures and inorganic fertilizers under Allahabad agro-climatic condition to check the possible outcome of bottle gourd.

Materials and Methods

The Experimental was conducted in Factorial Randomized Block Design (FRBD) with 16 treatments of Organic and Inorganic fertilizers with three replications in the Research field of Department of Horticulture, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj during June to September, 2018. Total number of treatments were Eight viz. T₁ (Control (100% RDF)), T₂ (75% RDF + 25% FYM), T₃ (25% RDF + 75% FYM), T₄ (75% RDF + 25% Vermicompost), T₅ (25% RDF + 75% Vermicompost), T₆ (75% RDF + 25% Poultry manure), T₇ (25% RDF + 75% Poultry manure), T₈ (25% RDF + 25% FYM + 25% PM + 25% VC) and two varieties i.e. C.B.H.11 and NBH-LATTOO NO.1 were used.

Climatic condition in the experimental site

The area of Prayagraj district comes under subtropical belt in the south east of Uttar Pradesh, which experience extremely hot summer and fairly cold winter. The maximum temperature of the location reaches up to 46 °C; 48 °C and seldom falls as low as 4 °C–5 °C. The relative humidity ranges between 20 to 94%. The average rainfall in this area is around 1013.4 mm annually. However, occasional precipitation is also not uncommon during winter months.

Results and Discussion

The present investigation entitled “Effect of organic and inorganic fertilizer on the Growth and Yield of Bottle Gourd [Lagenaria Siceraria Mol. Standl.]” was carried out during June to September 2018 in Departmental Research Field of Department of Horticulture, Naini Agricultural Institute, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj (U.P.) India. The results of the present investigation, regarding the effect of organic and inorganic fertilizers on growth and yield of Bottle gourd, have been discussed and interpreted in the light of previous research work done in India and abroad. The experiment was conducted in Factorial Randomized block design with 8 treatments, three replications and two varieties of bottle gourd.

The results of the experiment are summarized below.

In terms of length of lateral branches treatment T₃ (25% RDF + 75% Vermicompost) recorded maximum (8.10 m) vine length, followed by T₇ (25% RDF + 75% Poultry manure) with (7.69 m) where as minimum Vine length (m) (5.66 m) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maxmium vine length (7.12 m) was observed in variety C.B.H. 11 closely followed by NBH – Latto No. 1. Similar findings of Mujahid et al. (2010) [7] in lettuce and Bano and Kale (1987) [2] in brinjal and radish were also observed.

In terms of Number of branches/plant treatment T₄ (25% RDF + 75% Vermicompost) recorded maximum (6.55) Number of branches/plant, followed by T₇ (25% RDF + 75% Poultry manure) with (6.02) number of branches, where as minimum Number of branches/plant (3.47) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Number of branches/plant (5.59) was observed in variety C.B.H. 11. Similar findings has been reported by Mujahid et al. (2010) [7] and Vadiraj et al. (1993) [2] in brinjal and Bano and Kale. (1987) [2] noticed that the application of vermicompost along with chemical fertilizer number of branch.

In terms of Length of lateral branches treatment T₃ (25% RDF + 75% Vermicompost) recorded maximum (4.04 m) Length of lateral branches, followed by T₇ (25% RDF + 75% Poultry manure) with (3.73 m) Length of lateral branches, where as minimum Length of lateral branches (3.19 m) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Length of lateral branches (3.75 m) was observed in variety C.B.H. 11. Similar result was notice in Bano and Kale (1987) [2] in brinjal.

In terms of days to appearance of first male flower treatment T₃ (25% RDF + 75% Vermicompost) recorded minimum (67.14 days) for appearance of first male flower, followed by T₇ (25% RDF + 75% Poultry manure) with (69.26 days) for appearance of first male flower, where as maximum Days for appearance of first male flower (80.99 days) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, minimum Days for appearance of first male flower (72.51 days) was observed in variety C.B.H. 11. Similar results were also obtained by Bano and Kale (1987) [2] in the cucurbits.

In terms of days to appearance of first female flower emergence treatment T₃ (25% RDF + 75% Vermicompost) recorded minimum (70.04 days) for appearance of first female flower, followed by T₇ (25% RDF + 75% Poultry manure) with (72.73 days) for appearance of first female flower, where as maximum Days for appearance of first female flower (84.54 days) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, minimum Days for appearance of first female flower (75.41 days) was observed in variety C.B.H. 11. Similar result was also obtained by Bano and Kale (1987) [2] in the cucurbits.

In terms of Node number of first female flower emergence treatment T₃ (25% RDF + 75% Vermicompost) recorded minimum (12.33 days) for Node number of first female flower emergence, followed by T₇ (25% RDF + 75% Poultry manure) with (12.49 days) for Node number of first female flower emergence, where as maximum Node number of first female flower emergence (15.86 days) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, earliness in Node number of first female flower emergence (13.59 days) was observed in variety C.B.H. 11. Similar result has been reported subbiah et al. (1985) [11] in tomato and brinjal.

In terms of Number of male flowers per plant treatment T₃ (25% RDF + 75% Vermicompost) recorded maximum (75.78) Number of male flowers per plant, followed by T₇ (25% RDF + 75% Poultry manure) with (74.18) for Number of male flowers per plant, where as minimum Number of male flowers per plant (63.65) was recorded in treatment T₀ (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Number of male flowers per plant (70.62) was observed in variety C.B.H. 11 with closely followed by variety NBH – Latto No. 1. Similar findings previously also reported by Jose et al. (1998) [4] in Bottle gourd.

In terms of Number of female flowers per plant treatment T₃ (25% RDF + 75% Vermicompost) recorded maximum (31.88) Number of female flowers per plant, followed by T₇ (25% RDF + 75% Poultry manure) with (28.71) for Number of female flowers per plant, where as minimum Number of female flowers per plant (16.26) was recorded in treatment T₀.
In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Number of female flowers per plant (25.41) was observed in variety C.B.H. 11 followed by variety NBH – Latto No. 1. Similar findings previously also reported by Jose et al. (1998) \(^4\) in Bottle gourd. In terms of Fruit length treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (43.62 cm) Fruit length, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (39.05 cm) Fruit length, where as minimum Fruit length (24.92 cm) was recorded in treatment T\(_0\) (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Fruit length (37.32 cm) was observed in variety C.B.H. 11 followed by variety NBH – Latto No. 1. Similar findings previously also reported by Abusaleh (1992) \(^{1}\) in okra.

In terms of Fruit weight treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (1.94 kg) Fruit weight, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (1.80 kg) Fruit weight, where as minimum Fruit weight (1.13 kg) was recorded in treatment T\(_0\) (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Fruit weight (1.66 kg) was observed in variety C.B.H. 11 followed by variety NBH – Latto No. 1 Similar result has been obtained by Vadiraj et al. (1993) \(^{12}\) in cardamom and Sekhar and Rajahshee (2009) \(^{9}\) in tomato.

In terms of Fruit diameter treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (20.63 cm) Fruit diameter, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (19.49 cm) Fruit diameter, where as minimum Fruit diameter (13.19 cm) was recorded in treatment T\(_0\) (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Fruit diameter (20.24 cm) was observed in variety NBH – Latto No. 1 followed by variety C.B.H. – 11. The integrated use of NPK along with organic manures significantly influenced the length diameter ratio of fruit result are conformity with finding of Mausi (1960) \(^{6}\) also reported that application of muskmelon resulted in bigger fruit.

In terms of core diameter treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (19.17 cm) core diameter, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (18.26 cm) Core diameter, where as minimum Core diameter (12.00 cm) was recorded in treatment T\(_0\) (Control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Core diameter (18.96 cm) was observed in variety NBH – Latto No. 1 followed by variety C.B.H – 11. Enhanced flowering and vine growth might have result in higher core diameter of fruit the finding are in close conformity with result of Nath (2007) \(^{8}\) in cucurbit.

In terms of Rind thickness treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (1.60 cm) Rind thickness, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (1.53 cm) Rind thickness, where as minimum Rind thickness (1.20 cm) was recorded in treatment T\(_7\) (75% RDF + 25% FYM). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Rind thickness (1.36 cm) was observed in variety C.B.H. 11 followed by variety NBH – Latto No. 1. The result is conformity with finding of Abusaleha (1992) \(^{1}\) in okra.

In terms of Total yield per plant treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (35.72 kg) Total yield per plant, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (32.62 kg) yield per plant, where as minimum Yield per plant (12.61 kg) was recorded in treatment T\(_0\) (control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Yield per plant (27.74 kg) was observed in variety C.B.H. 11 followed by variety NBH – Latto No. 1. This is clearly indicated that integrated use of nutrient helpful in cell elongation of leaves use to development of cell and rapid cell division and cell elongation in meristematic region of plant due to production of plant growth substance and this may be due to abundant supply of plant nutrients and nitrogen which led in the growth of bottle gourd. Similar findings of Mujahid et al. (2010) \(^{7}\) in lettuce and Bano and Kale (1987) \(^{12}\) in brinjal and radish were also observed.

In terms of Number of fruits per plant treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (22.95) Number of fruits per plant, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (21.29) Number of fruits per plant, where as minimum Number of fruits per plant (11.07) was recorded in treatment T\(_0\) (control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Number of fruits per plant (17.99) was observed in variety C.B.H. 11 closely followed by variety NBH – Latto No. 1. The Similar result were reported by the Sekhar and Rajahshee, (2009) \(^{9}\) in tomato hybrid and Jose (1989) in Brinjal.

In terms of Shelf life of fruit treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (6.99 days) Shelf life of fruit, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (6.06 days) Shelf life of fruit, where as minimum Shelf life of fruit (3.68 days) was recorded in treatment T\(_0\) (control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Shelf life of fruit (5.24 days) was observed in variety C.B.H. 11 closely followed by variety NBH – Latto No. 1. These were significantly increase fruit yield and self life of the fruit due to the different treatment combination. These results are conformity with the findings has been by Jose et al. (1998) \(^{4}\) in Bottle gourd.

In terms of deformed fruits treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded minimum (12.67%) deformed fruits, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (13.44%) deformed fruits, where as maximum deformed fruits (18.90%) was recorded in treatment T\(_0\) (control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, minimum deformed fruits (14.67%) was observed in variety C.B.H. 11, followed by variety NBH – Latto No. 1. The present study was observed has minimum deformed fruit by using the vermicompost with 25% RDF. The Similar result has been reported by Mausi (1960) \(^{6}\).

In terms of Total soluble solid treatment T\(_3\) (25% RDF + 75% Vermicompost) recorded maximum (4.59 °Brix) Total soluble solid of fruit, followed by T\(_7\) (25% RDF + 75% Poultry manure) with (4.40 °Brix) Total soluble solid of fruit, where as minimum Total soluble solids (°Brix) of fruit (3.93 °Brix) was recorded in treatment T\(_0\) (control). In two varieties of bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, maximum Total soluble solids (°Brix) of fruit (4.30 °Brix) was observed in variety C.B.H. 11, followed by variety NBH – Latto No. 1.Increased in Total soluble solids content of fruits in treatments of organic manures, previously also reported by Sekhar and Rajahshee (2009) \(^{9}\).

In terms of economics maximum gross return Rs. 571200.00 and Net Return Rs. 434020.00 was recorded in treatment T\(_3\) (25% RDF + 75% Vermicompost) but maximum Cost benefit ratio 1:5.89 was recorded in treatment T\(_7\) (25% RDF + 75% Poultry manure) followed by treatment T\(_0\) (75% RDF + 25% Poultry manure) with 1:4.89 and minimum Gross Return, Net Return and Cost Benefit Ratio (Rs. 201680.00, Rs. 111961.00 and 1:2.24 respectively) was recorded in treatment T\(_1\) (Control (100% RDF))).
### Table 1: Effects of Organic and Inorganic fertilizers on Vine length (m), Number of branches/plant, Length of lateral branches, Days to appearance of first male flower, Days to appearance of first female flower, Node no. of first female flower emergence, Number of male flower per plant, Number of female flower per plant, Fruit length (cm), Fruit weight (kg) and Fruit diameter (cm) of Bottle Gourd (*Lagenaria Siceraria*). Mol. Stand.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Treatment combination</th>
<th>Vine Length (m)</th>
<th>Number of branches/plant</th>
<th>Length of lateral branches</th>
<th>Days to appearance of first male flower</th>
<th>Days to appearance of first female flower</th>
<th>Node no. of first female flower emergence</th>
<th>Number of male flower per plant</th>
<th>Number of female flower per plant</th>
<th>Fruit length (cm)</th>
<th>Fruit weight (kg)</th>
<th>Fruit diameter (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Control (100% RDF)</td>
<td>5.66</td>
<td>3.47</td>
<td>3.19</td>
<td>80.99</td>
<td>84.54</td>
<td>15.86</td>
<td>63.65</td>
<td>16.26</td>
<td>24.92</td>
<td>1.13</td>
<td>13.19</td>
</tr>
<tr>
<td>T2</td>
<td>75% RDF + 25% FYM</td>
<td>6.67</td>
<td>5.24</td>
<td>3.55</td>
<td>77.36</td>
<td>80.67</td>
<td>14.15</td>
<td>65.69</td>
<td>19.99</td>
<td>32.48</td>
<td>1.26</td>
<td>15.87</td>
</tr>
<tr>
<td>T3</td>
<td>25% RDF + 75% FYM</td>
<td>7.14</td>
<td>5.85</td>
<td>3.72</td>
<td>74.14</td>
<td>77.12</td>
<td>13.31</td>
<td>69.28</td>
<td>23.74</td>
<td>33.62</td>
<td>1.33</td>
<td>17.06</td>
</tr>
<tr>
<td>T4</td>
<td>75% RDF + 25% Vermicompost</td>
<td>6.49</td>
<td>5.43</td>
<td>3.50</td>
<td>74.39</td>
<td>77.36</td>
<td>13.77</td>
<td>72.17</td>
<td>25.50</td>
<td>36.27</td>
<td>1.56</td>
<td>18.18</td>
</tr>
<tr>
<td>T5</td>
<td>25% RDF + 75% Vermicompost</td>
<td>8.10</td>
<td>6.55</td>
<td>4.04</td>
<td>67.14</td>
<td>70.04</td>
<td>12.33</td>
<td>75.78</td>
<td>31.88</td>
<td>43.62</td>
<td>1.94</td>
<td>20.63</td>
</tr>
<tr>
<td>T6</td>
<td>75% RDF + 25% Poultry manure</td>
<td>7.33</td>
<td>5.07</td>
<td>3.67</td>
<td>72.94</td>
<td>75.97</td>
<td>13.56</td>
<td>69.25</td>
<td>26.07</td>
<td>36.11</td>
<td>1.49</td>
<td>18.21</td>
</tr>
<tr>
<td>T7</td>
<td>25% RDF + 75% Poultry manure</td>
<td>7.69</td>
<td>6.02</td>
<td>3.73</td>
<td>69.26</td>
<td>72.73</td>
<td>12.49</td>
<td>74.18</td>
<td>28.71</td>
<td>39.05</td>
<td>1.80</td>
<td>19.49</td>
</tr>
<tr>
<td>T8</td>
<td>25% RDF + 25% FYM + 25% PM + 25% VC</td>
<td>7.40</td>
<td>5.13</td>
<td>3.67</td>
<td>73.15</td>
<td>76.91</td>
<td>14.00</td>
<td>73.23</td>
<td>22.47</td>
<td>35.53</td>
<td>1.48</td>
<td>16.52</td>
</tr>
</tbody>
</table>

### Table 2: Effects of Organic and Inorganic fertilizers on Core diameter (cm), Rind thickness (cm), Total yield per plant (kg), Number of fruit per plant, Shelf life of fruit (days), Percent deformed fruits and Total Soluble Solids (*Brix*) of Bottle Gourd (*Lagenaria Siceraria*). Mol. Stand.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Treatment combination</th>
<th>Core diameter (cm)</th>
<th>Rind thickness (cm)</th>
<th>Total yield per plant (kg)</th>
<th>Number of fruits per plant</th>
<th>Shelf life of fruit (days)</th>
<th>Percent of deformed fruits</th>
<th>Total soluble solids (<em>Brix</em>) of fruit</th>
<th>Cost Benefit Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Control (100% RDF)</td>
<td>12.00</td>
<td>1.26</td>
<td>12.61</td>
<td>11.07</td>
<td>3.68</td>
<td>18.90</td>
<td>3.93</td>
<td>1:2.24</td>
</tr>
<tr>
<td>T2</td>
<td>75% RDF + 25% FYM</td>
<td>14.43</td>
<td>1.20</td>
<td>16.88</td>
<td>13.32</td>
<td>4.48</td>
<td>14.75</td>
<td>4.06</td>
<td>1:2.82</td>
</tr>
<tr>
<td>T3</td>
<td>25% RDF + 75% FYM</td>
<td>15.81</td>
<td>1.30</td>
<td>22.56</td>
<td>16.89</td>
<td>4.62</td>
<td>16.64</td>
<td>4.15</td>
<td>1:3.36</td>
</tr>
<tr>
<td>T4</td>
<td>75% RDF + 25% Vermicompost</td>
<td>16.85</td>
<td>1.33</td>
<td>27.40</td>
<td>17.71</td>
<td>5.37</td>
<td>14.92</td>
<td>4.21</td>
<td>1:4.15</td>
</tr>
<tr>
<td>T5</td>
<td>25% RDF + 75% Vermicompost</td>
<td>19.17</td>
<td>1.60</td>
<td>35.72</td>
<td>22.95</td>
<td>6.99</td>
<td>12.67</td>
<td>4.59</td>
<td>1:4.16</td>
</tr>
<tr>
<td>T6</td>
<td>75% RDF + 25% Poultry manure</td>
<td>17.03</td>
<td>1.33</td>
<td>27.31</td>
<td>18.08</td>
<td>5.54</td>
<td>15.00</td>
<td>4.18</td>
<td>1:4.89</td>
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<tr>
<td>T7</td>
<td>25% RDF + 75% Poultry manure</td>
<td>18.26</td>
<td>1.53</td>
<td>32.62</td>
<td>21.29</td>
<td>6.06</td>
<td>13.44</td>
<td>4.40</td>
<td>1:5.89</td>
</tr>
<tr>
<td>T8</td>
<td>25% RDF + 25% FYM + 25% PM + 25% VC</td>
<td>15.28</td>
<td>1.32</td>
<td>24.94</td>
<td>16.98</td>
<td>4.49</td>
<td>15.46</td>
<td>4.12</td>
<td>1:3.59</td>
</tr>
</tbody>
</table>

*SE(d) = Standard Error, NS = Not Significant*
Conclusion
From the present experimental findings it is concluded that the treatment T₅ (25% RDF + 75% Vermicompost) was found superior over other treatments in terms of growth, yield and quality of Bottle gourd. In two varieties of Bottle gourd i.e. C.B.H. 11 and NBH – Latto No. 1, variety C.B.H. 11 was found better with different treatments of organic and inorganic fertilizers, and lowest readings was recorded in T₀ (Control) in all the parameters.

References
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