ABSTRACT
A field trial was conducted during 2006-07 at Kittur Rani Channamma College of Horticulture, Arabhavi, Gokak (Tq.), Karnataka to study the nutritional treatments on the performance of curry leaf var. Suvasini. Foliar spray of vermiwash produced vigorous growth with significantly higher fresh leaf yield (13.07 t/ha) compared to control (11.13 t/ha). Among nutritional treatments, RDF + FYM (10.00 kg/plant) with vermiwash foliar spray at 50 per cent dilution recorded higher fresh leaf yield (17.74 t/ha) followed by FYM + RDF without vermiwash (15.79 t/ha) and FYM along with vermiwash (15.65 t/ha) compared to control (6.32 t/ha) in curry leaf var. Suvasini.

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Curry leaf (Murraya koenigii Spreng) is one of the under-exploited species of Indian origin and its aromatic spicy leaves are used for flavouring of dishes and food stuffs. Foliar spray of nutrient solution and plant growth substances are one of the cultivation practices significantly influencing productivity of horticultural crops. Vermiwash obtained from earthworm bed contains many growth regulating substances (Nielson, 1965). Vermiwash is a very good foliar spray solution containing abundant beneficial microbes, viz., heterotropic bacteria, fungi, actinomycetes including nitrogen fixers, phosphate solubulisers enriched with enzymes, hormones and vitamins (Shweta et al., 2005). Beneficial effect of integration of organic manures, viz., FYM and vermicompost with inorganic fertilisers is well established. Present study was undertaken to assess the response of curry leaf to foliar spray of vermiwash and nutritional treatments with particular reference to leaf yield and quality.

MATERIALS AND METHODS
A field experiment was conducted at Kittur Rani Channamma College of Horticulture, Arabhavi, Gokak (Tq.), Karnataka during 2006-07. Soil of the experimental plot was medium deep black with a pH of 7.8. Experiment was laid out as split plot design replicated thrice on curry leaf var. Suvasini planted in the year 2004. Main plot treatments included foliar spray of vermiwash (50%) (M₁) and control (no foliar spray) (M₂) and sub-plot treatments included RDF (300: 50: 50 g NPK/plant/year) (S₁), RDF + FYM @ 10 kg per plant (S₂), FYM @ 10 kg per plant alone (S₃), vermicompost @ two kg per plant (S₄) and control (no manures and fertilisers) (S₅). Recommended dose of fertilisers (300 : 50 : 50 g NPK/plant/year) was applied in four splits at three months intervals after each clipping. Full dose of phosphorus and potassium was applied as basal dose during the commencement of monsoon (i.e., June 2006) (Anonymous, 2004). The plants were spaced at 3.0 x 1.5 m and were trained as individual bush at a prescribed height at 1.2 m. Observations were recorded on growth and yield attributes.

RESULTS AND DISCUSSION
Significant variation in growth attributes at 90 days after fourth clipping during June month was observed due to foliar spray of vermiwash at 50 per cent dilution and nutritional treatments (Table 1). The treatment sprayed with vermiwash (M₁) recorded higher plant height (170.77 cm), number of primary branches (6.84), crown size (1.27 cm) and leaf area of compound leaf (49.50 cm²)
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Number of shoots per 0.25 m²</th>
<th>Number of shoots per compound plot</th>
<th>Annual basal leaf yield per year (g)</th>
<th>Yield per hectare ()</th>
<th>B : C ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>16.90</td>
<td>11.73</td>
<td>13.05</td>
<td>20.00</td>
<td>19.25</td>
</tr>
<tr>
<td>S₂</td>
<td>21.25</td>
<td>17.93</td>
<td>19.70</td>
<td>21.10</td>
<td>19.36</td>
</tr>
<tr>
<td>S₃</td>
<td>29.35</td>
<td>22.93</td>
<td>26.90</td>
<td>26.50</td>
<td>20.73</td>
</tr>
<tr>
<td>S₄</td>
<td>15.80</td>
<td>11.70</td>
<td>15.60</td>
<td>15.90</td>
<td>19.93</td>
</tr>
<tr>
<td>S₅</td>
<td>16.50</td>
<td>11.40</td>
<td>16.50</td>
<td>19.50</td>
<td>20.25</td>
</tr>
<tr>
<td>S₆</td>
<td>15.85</td>
<td>12.33</td>
<td>18.52</td>
<td>20.73</td>
<td>13.87</td>
</tr>
</tbody>
</table>

For comparing the following:

- S₁ : 0.75 kg/ha
- S₄ : 0.75 kg/ha
- S₅ : 0.75 kg/ha

**Table 2**: Effects of foliar spray of varnish on yield and yield attributes in curry-saver, Suarez.

**Table 3**: Growth attributes in curry-saver, Suarez as influenced by foliar spray of varnish and nutritional treatments during bud allaying at 90 days after sowing.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Initial height (cm)</th>
<th>Number of primary branches per plant</th>
<th>Number of secondary branches per plant</th>
<th>Crown size (cm)</th>
<th>Induction per compound plot (cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>168.36</td>
<td>158.40</td>
<td>76.74</td>
<td>76.74</td>
<td>76.74</td>
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<tr>
<td>S₂</td>
<td>178.30</td>
<td>167.75</td>
<td>72.88</td>
<td>72.88</td>
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</tr>
<tr>
<td>S₃</td>
<td>175.73</td>
<td>163.70</td>
<td>70.93</td>
<td>70.93</td>
<td>70.93</td>
</tr>
<tr>
<td>S₄</td>
<td>175.73</td>
<td>163.70</td>
<td>70.93</td>
<td>70.93</td>
<td>70.93</td>
</tr>
<tr>
<td>S₅</td>
<td>158.40</td>
<td>147.53</td>
<td>66.45</td>
<td>66.45</td>
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</tr>
<tr>
<td>S₆</td>
<td>157.73</td>
<td>149.70</td>
<td>65.93</td>
<td>65.93</td>
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</tr>
</tbody>
</table>

**Table 4**: Growth attributes in curry-saver, Suarez as influenced by foliar spray of varnish and nutritional treatments during bud allaying at 90 days after sowing.
compared to corresponding values of 160.36 cm, 5.66, 1.21 m and 47.13 cm in control (M3). Among sub-plots receiving nutritional treatments, RDF + FYM (S2) recorded significantly higher plant height (172.88 cm), number of primary branches (7.40), crown size (1.42 m) and leaf area (53.55 cm2) followed by FYM alone (S1) (169.31 cm, 6.60, 1.31 m and 48.98 cm2, respectively). Among interaction effects, RDF + FYM with foliar spray of vermiwash recorded significantly higher plant height (178.50 cm), number of primary branches (8.0) and secondary branches (8.7) followed by FYM with foliar spray of vermiwash (175.43 cm, 7.2 and 8.7, respectively).

Nutrient and growth promoting substances in vermiwash and RDF + FYM favoured the growth. The favourable conditions for growth due to the presence of growth promoting substances present in vermiwash was also reported by earlier workers in several crops (Karuna et al., 1999 in anthurium, Vijayananthan et al., 2004 in teak and casuarinas seedlings). Sengupta et al. (2000) reported in betelvine that supply of N at 200 kg per hectare through FYM and urea resulted in significantly higher growth performance.

Fresh leaf yield and yield attributes differed significantly due to foliar spray of vermiwash and nutritional treatments (Table 2). Foliar spray of vermiwash gave the highest annual fresh leaf yield per plant (5.79 kg) and per hectare (13.07 t) compared to control (5.05 kg/plant and 11.13 t/ha, respectively). Among nutritional treatments, RDF + FYM recorded the highest annual leaf yield per plant (7.47 kg) followed by FYM alone (6.18 kg/plant) compared to the lowest in control (3.09 kg/plant). Among the interaction, treatment receiving RDF + FYM along with foliar spray of vermiwash recorded the highest leaf yield (8.0 kg/plant) with a B : C ratio of 3.07 compared to the lowest recorded in control (3.09 kg/plant leaf yield and 1.57 of B : C ratio) without vermiwash.

Beneficial effects of FYM and inorganic fertilizers on soil properties like moisture retention, nutrient availability led to favourable condition for plant growth and development. Higher growth attributes resulted in better harnessing of solar energy to produce more carbohydrates, which in turn translocated leading to higher leaf yield. Similar results were obtained by foliar spray of vermiwash in paddy as reported by Thangavel et al. (2003) and in vegetable pea by Mahyto and Yadav (2005). Application of FYM (17.47 t/ha) along with RDF resulted in higher yield in ginger (17.16 t/ha) compared to RDF alone (Pawar and Patil, 1987).

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