Evaluation of hybrids with high yield and yield attributes in bitter gourd (*Momordica charantia* L.)

**P. ARUNA AND V. SWAMINATHAN**

**ABSTRACT**: The hybrids of bitter gourd were evaluated for high yield and yield attributes. The research study were carried out at Western Block of Horticultural College and Research Institute, Periyakulam. Five hybrids were used for evaluation in the study. Among the entries evaluated, 09/BIGHY B4 recorded earlier flowering (78 days) followed by the entry 09/BIGHY B7 (80 days) and PDM(80 days) which were at par. The fruit length was high in 09/BIGHY B7 while increased fruit weight was recorded in MC 84. Number of fruits per plot was high in the entry 09/BIGHY B4. The entry MC 84 recorded increased fruit weight, highest yield per plot and total yield per hectare. The entry 09/BIGHY B4 can be selected for earliness, the hybrids 09/BIGHY B7 and MC 84 also proved to be superior hybrids and hence, can be selected for further use in breeding programme.

**KEY WORDS**: Bitter gourd, Evaluation, Hybrids, Yield


Bitter gourd (*Momordica charantia* L.) is one of the nutritionally and commercially important cucurbitaceous vegetables. It is one of the most popular vegetable in China, Taiwan, Vietnam, Thailand, India and Philippines. Bitter gourd also called bitter melon, has an acquired taste. The plant is grown mainly for the immature fruits although the young leaves and tips are edible. Bitter gourd being a cross pollinated crop offers scope for heterosis breeding. High heterotic vigour for yield in bitter gourd had been reported earlier by Tewari and Ram. (2001). The present investigation was, hence, taken up to evaluate bitter gourd hybrids for higher yield and other yield attributing characters.

The experiment was carried out at Western Block of Horticultural College and Research Institute, Periyakulam. Five hybrids were used for evaluation in the study. The varietal trial were carried out in RBD with three replications with a spacing of 3.0 x 0.5 m. The plot size adopted was 10 x 3.0 m. Observations were recorded on vegetative and yield characters. Cultural practices were followed as per the package of practices. Observations were recorded from 5 randomly selected plants in each genotype. The statistical analysis was done as per the method suggested by Panse and Sukhatme (1967).
yield per hectare (43.77 q). The results are in agreement with the findings of Sit and Sirohi (2003) in bottle gourd, Gogi et al (2009) in bitter gourd, Yadav et al. (2008) in bitter gourd, Purohit et al. (2007) in ridge gourd, Singh et al. (2007) and Sundaram (2009) in bitter gourd.

**Conclusion:**

Among the entries evaluated, 09/BIGHY B4 recorded earlier flowering. Hence the hybrid 09/BIGHY B4 can be selected for earliness. The fruit length was high in 09/BIGHY B7 while increased fruit weight was recorded in MC 84. Number of fruits per plot was high in the entry 09/BIGHY B4. The entry MC 84 recorded increased fruit weight, highest yield per plot and total yield per hectare. Hence, the hybrids 09/BIGHY B7 and MC 84 can be used in selection for further breeding programme.

**REFERENCES**


**Table 1**: Evaluation of hybrids for higher yield in bitter gourd

<table>
<thead>
<tr>
<th>Name of the entry</th>
<th>Days to 50% flowering</th>
<th>Fruit length (cm)</th>
<th>Fruit weight (g)</th>
<th>No. of fruits / plot</th>
<th>Total yield (kg/plot)</th>
<th>Total yield (q/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/BIGHYB4</td>
<td>78</td>
<td>15.04</td>
<td>102.9</td>
<td>108</td>
<td>10.8</td>
<td>61.56</td>
</tr>
<tr>
<td>09/BIGHY B5</td>
<td>83</td>
<td>13.42</td>
<td>85.4</td>
<td>91</td>
<td>7.65</td>
<td>56.67</td>
</tr>
<tr>
<td>09/BIGHY B7</td>
<td>80</td>
<td>38.10</td>
<td>80.6</td>
<td>72</td>
<td>5.90</td>
<td>43.77</td>
</tr>
<tr>
<td>PDM</td>
<td>80</td>
<td>15.15</td>
<td>102.9</td>
<td>87</td>
<td>8.88</td>
<td>65.78</td>
</tr>
<tr>
<td>MC84</td>
<td>88</td>
<td>17.18</td>
<td>122.2</td>
<td>96</td>
<td>11.82</td>
<td>87.55</td>
</tr>
<tr>
<td>S.E. +</td>
<td>0.61</td>
<td>1.09</td>
<td>1.26</td>
<td>1.44</td>
<td>0.93</td>
<td>1.34</td>
</tr>
<tr>
<td>C.D. (P=0.05)</td>
<td>1.42</td>
<td>2.51</td>
<td>2.92</td>
<td>3.32</td>
<td>2.15</td>
<td>3.09</td>
</tr>
</tbody>
</table>

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