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Comparison of growth and plant production of 10 black pepper local selections with Panniyur-1 under "Bamboo Rapid Multiplication System"

H M R Hennayake*, A M C I M Attanayake and Y M H B Yapabandara
Research Station, Department of Export Agriculture, Matale.

Introduction of high yielding pepper cultivars with superior quality is prime important to improve the pepper cultivation in the country. Although ten high yielding pepper local selections have been identified by the Department of Export Agriculture, sufficient quantities of planting materials are not produced. Therefore the objective of this study is to compare the growth and plant production of the 10 local selections with Panniyur-1 i.e., the recommend fast growing hybrid.

Ten local selections i.e. KW30, MW18, MN1, KW33, MB12, KW31, IW5, GM28, GK49, MW21 and Panniyur-1 were established in "Bamboo Rapid Multiplication System". Ten vines in each selection were established in plots and replicated three times. RCBD was used as experimental design. Data were collected on vine length, number of leaves and number of nodes at one month interval. Survival of mother vines after harvest was also recorded. After 4 ½ months vines were harvested and single nodal cuttings were prepared and established in 5"x 8" "polythene bags filled with potting mixture of equal parts of top soil, sand, coir dust and cow dung and placed in a humid chamber. Data were collected on percentage of success by counting healthy plants (plants with 6-7 leaves suitable for field planting) after 5 months. Data on length was analyzed by using ANOVA and LSD was used for mean separation whereas the data on counts and percentages were transformed (log) and used for the analysis.

Significant differences were observed in vine growth, percentage of success and percentage of mother vine death. Significantly higher vine growth was observed in Panniyur-1 (100.7 cm) than 7 local selections i.e., MW18, MN1, MB12, KW31, IW5, GM28 and GK49 (60-87 cm). Other three local selections i.e., KW30, KW33 and MW21 showed a higher vine growth similar to Panniyur-1.

A higher percentage of plant success was observed in Panniyur-1 (68%) than local selections (24-49%). The lowest plant success percentage was observed in MW21 (24%).

After first harvest, survival of mother vine was also low (23%) in local selections compared to Panniyur-1 (80%). Results of this study revealed that growth, plant production and survival of mother vine are highly dependant on clonal characteristics.

*ramyalab@yahoo.com Tel: 066-2222822