

Evaluation of Agronomic Performance and Consumer Preference of Selected Watermelon Cultivars in Northern Sri Lanka

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The watermelon (*Citrullus lanatus*) is a highly demand fruit in dry zone of Sri Lanka. Identifying a best suitable cultivar for dry zone is essential. The objectives of the study were, to identify the suitable cultivars in Northern Sri Lanka and to assess the consumer preference on different watermelon cultivars. A field trial was conducted at Sri Lanka School of Agriculture, Paranthan farm practice field between April to August in 2019 and all the students (20) of batch 2019/20 were selected for analyzing consumer preference. Four cultivars such as 'Sugarbaby', 'Thilini', 'Pilot-F₁' and 'Manulla-F₁' were selected. The experiment was laid out in a Randomized Complete Block Design (RCBD) with four replicates. For growth performance, main vine length, number of vines, number of branches, number of leaves, leaf area per plant and for yield performance, days to flowering, sex ratio, number of fruits per plant and fruit weight were considered. Additionally, major pest and disease incidence and consumer preference were assessed based on the color, appearance, aroma, no of seeds and flavor of each cultivar by using "likert scale". The statistical analysis was done using Minitab statistical software (Version 18). Analysis of Variance (ANOVA) was declared significant at 5 % level. Turkey grouping was used to separate the mean and linear correlation. Results were concluded that, no any significant difference between varieties and growth performance while there was a significant difference ($P < 0.05$) in yield performance in terms of number of fruits per plant and fruit weight. Accordingly, mean number of fruits per plant from pilot-F₁, thilini, sugarbaby and manulla-F₁ were 7.75, 7.0, 4.25 and 2.5 respectively. With respect to mean fruit weight, pilot-F₁, thilini, sugarbaby and manulla-F₁ were 0.937, 1.28, 1.78 and 0.981 kg and respectively. In accordance with consumer preference, thilini was not preferred because of undesirable color, flavor, aroma, more number of seeds and inner and outer appearance. Sugarbaby was highly preferred than the Thilini and Manulla-F₁ and which was recorded least percentage of pest and disease incidences. Therefore, 'Sugarbaby' showed its potential. The Pilot- F₁ emerged the better performer though it contained some desirable traits for fruit fly attack. Hence, since it contains more desirable than undesirable agronomic traits, it should be improved for production especially in Northern Sri Lanka and seed companies should make efforts of availing its seeds to growers.

Keywords: Agronomic performance, Consumer preference, Northern, Sri Lanka, Watermelon