COMPARISON OF MORPHOLOGICAL CHARACTERS OF HIGH PERFORMING SEEDLINGS AND EXTENSIVELY USED VEGETATIVELY PROPAGATED (VP) TEA CULTIVARS IN SELECTED TEA ESTATES IN PASSARA REGION

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ABSTRACT

Total tea production in Sri Lanka has been declining due to yield reduction. Vegetatively propagated tea cultivars that have a narrower genetic diversity compared to seedling tea are extensively cultivated in the Passara region where prolonged drought conditions were experienced over the past few decades. Further, there is a scarcity of suitable planting materials and well-adapted teas in this area. However, there is high performing seedling tea in the Passara region which is a good source to increase genetic diversity and gives a comparatively high yield. This study was conducted to compare twenty-one of selected high performing seedlings and extensively used vegetatively propagated cultivars in selected tea estates, Passara for ten morphological traits. According to the analysis of variance results, there was a significant difference between selected tea bushes from each estate in consideration of the given quantitative morphological traits. Cluster analysis was performed for all the considered characters to identify whether they are genetically overlapped. A seedling labelled as GS4 from Gonakale estate has been clustered with TRI 2025 while GS2 and GS3 seedlings have been clustered together with TRI 2043. Seedling VS1 from Varellapathna estate has been clustered together with TRI 2023 while seedling VS3 has been clustered with CY9. None of the selected seedlings from Hopton estate was clustered together with selected vegetatively propagated cultivars in the same estate. Therefore, GS2, GS3, and GS4 seedlings from Gonakale estate and VS1, VS3 seedlings from Varellapathna estate can be recommended to maintain as mother bushes to obtain cuttings for nurseries and they can be used to increase the genetic diversity of tea in Passara region.

Keywords: Genetic diversity, Morphological characters, Seedlings, Vegetatively propagated tea cultivars,