

Morphological and Agronomical diversity present in popular cluster onion (*Allium cepa*.L.) L and races in Northern region of Sri Lanka

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There are three major groups of cultivars available in Jaffna district; *Jaffna local*, *Vallarai* and *Vethalam*. Twenty characters were studied for twenty six germplasm of these groups collected from Jaffna district. Of which plant height, leaf width, bulb shape, size, maturity group, TSS and yield potential varied among them. Maturity day was the powerful tool to separate different germplasm according to their group as sort, intermediate and long day groups. Leaf colour and bulb skin colour also had significant differences. *Peeranki vethalam* (013/Ac/Jc/20) had highest plant height (26.66 cm), widest leaf (0.58 cm), more number of leaves per plant, highest single plant weight (39.96 g), heaviest bulb (6.68 g) with more breadth (2.27 cm) and highest yield (18 tons/ha). Multipliers were taller plant with wider, more number of leaves than shallots and they attained heavier plant with heavier bulb, which lead to high yields. Colour difference, in RHS clour chart, in leaf and flesh were contrast among three majour groups. *Kalvethalam* had significantly lighter colour skin and bulb flesh colour than that of other germplasms Among shallot *Thinnavelly red*, a newly improved variety, natural mutation from from Jaffna local differed by its dark colour bulb skin. Shallots (*Jaffna local* and *Vallarai*) had relatively more cluster than multipliers and had greater per day productivity. *Kalvethalam* had relatively lower per day productivity within multipliers. According to maturity period, germplasms were classified as short age group (<60 days), medium age group (60-70 days), long age group (>70 days), *Jaffna local*, *Vallarai* and *vethalam* respectively. Therefore this study concluded three major types of germplasms, had three different maturity durations and the yield potential. Flowering efficiency varied widely with the range from 01-65 %. Ample diversity has been confirmed among the tested entries.

Keywords: Characterization, Cluster onion, Landraces.