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Adaptability assessment of newly developed cluster onion variety: ANKCLO 1

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Abstract

The development of high yielding cluster onion varieties is required to increase annual production while saving foreign exchange by minimizing importation. The experiment was conducted at Grain Legume and Oil Crop Research and Development Centre, Angunakolapelessa. Nine germplasm were employed with the recurrent parent selection procedure in a crossbreeding program. Selection was based on adaptation, self-pollination, and purification. Station trials were conducted in 2017 *Yala* and 2017/18 *Maha* seasons. Significantly high yields as 12.1t/ha (2017 *Yala*), 17.5t/ha (2017/18 *Maha*) were recorded in CLO-2015/1 and 11.4t/ha (2017 *Yala*), 18.3t/ha (2017/18 *Maha*) in CLO-2015/2. National Coordinated Varietal Test (NCVT) was conducted during 2018/19 *Maha* and 2019 *Yala* seasons. In 2018/19 *Maha* CLO-2015/1 line showed adaptability rank 1, according to the ranking and variance component methods. In 2019 *Yala* the CLO-2015/2 line showed adaptability rank 1 according to the above both analysis methods. Variety Adaptability Trials (VAT) was conducted 2019/20 *Maha* and 2020 *Yala* two seasons. According to the variance component method CLO-2015/2 showed adaptability rank 1 while CLO-2015/1 showed adaptability rank 2. Quality evaluation was done for two promising lines with three check varieties. Significantly higher pungency was recorded in CLO-2015/2 (17.7 μmol pyruvate/ ml) with TSS 20.8%. Significantly lower pH value (4.89) was recorded in promising line CLO-2015/2. Considering the above results promising line CLO-2015/2 was released with the name of "ANKCLO 1" at the variety releasing committee meeting held at the Department of Agriculture in 2021.

Keywords: Adaptability, CLO-2015/1, CLO-2015/2, Cluster onion, Out crossing

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