

## Selection of high oil yielding Citronella types with good quality and easy maintain

The Citronella industry presently in Sri Lanka has unprofitable due to low content of oil and low quality. Java Citronella has high quality oil, but handling is very difficult due to roughness of the plant. Therefore, the present study was aimed at the selection of high oil yielding Citronella types with good quality and easy to handle.

Based on morphological characters, fragrance of the crushed leaf, a germplasm survey of the Citronella was carried out in Hambantota,, Rathnapura, and Matara districts. A total of 83 cultivated Citronella accessions were collected and evaluated in Cinnamon Research station at Palolptiya. Number of shoots per point, plant height, stem colour, roughness of the plant, total grass yield oil percentage, and oil quality were evaluated. Analysis of variance for accessions showed highly significant ( $P < 0.0001$ ) differences for all the characters under study, indicating a wide range of variability among the accessions.

Observations on plant height and number of shoots showed a relationship with stem colour and brown coloured stems gave highest values. Nine selections out of eighty three showed more than 3% oil, while selection **HCC - 1** recorded the highest (3.64%).

The major constituents of volatile oils (Citronellal, Citronellol, Geraniol and total Geraniol) were detected using Gas Liquid Chromatography (GLC). Results indicated that, out of the ten high quality selections, **HGC-1** and **HNC-3** out yielded the rest in terms of oil yield and quality. Selection **HGC-1** showed a higher performance for

quantity as well as quality of the oil and less roughness (3.06% oil, 86.74 kg/ha/harvest oil yield, 16.2% Citronellal, 12.2% citronellol, 32.4% Geraniol and 66.36% total Geraniol).