

**B-21: Selection of Maha pengiri types (*Cymbopogon whinterianus*) with high geraniol content**

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Sri Lanka had been the leading supplier of citronella oil in the 18<sup>th</sup> century and the industry is now facing crisis due to declining market owing to the low quality of oil (<75% of total geraniol) obtained from the present cultivation of Heen pengiri (*Cymbopogon nardus*). Java citronella oil has a good demand due to its high quality (>85% of total geraniol). Most citronella oil producing countries are growing Java citronella (*C. winterianus*). Since Java variety has evolved from Sri Lanka citronella grass there is a possibility for the presence of superior types with high geraniol content. Therefore this study was aimed at the selection of high oil yielding citronella varieties with good quality oil (>85% of total geraniol).

Screening was done in the germplasm collection of citronella available at Kundasale. Morphology, anatomy and chemical analysis were studied in detail. Five high yielding varieties were selected based on oil yield and the total geraniol content. Although the selected varieties were not pure Java type, they contained high geraniol content (>85%). The highest oil yield (3.5%) was obtained from variety Ks22 followed by Ks21 (3.2%), Ks23 (2.9%) and Ks11 (1.6%).

Selection Ks11 is recommended because of its high leaf yield and the total geraniol content (89.6%). Under experimental conditions Ks11 yielded 36000 kg of leaf/ha/year which is 5 times as high compared to the Heen pengiri variety (7200 kg/ha/year). Also this variety showed considerable drought resistance as well as resistance to leaf rust.