

## Evaluation of genotype x environment interaction on morphological characteristics of eight selected *Labisia pumila* var. *alata* clones (Kacip Fatimah) by Francis and Kannenberg's method

### ABSTRACT

Since *Labisia pumila* species are not yet produce locally, it is important for this species to undergo propagation and testing at different environment in different location so that only variety or clones that has good mean plant growth over a wide range of environments can be identified as well as introduced to Malaysia farmer. In other means, the selected clones of *L. pumila* produced are genetically superior and genetically stable. The aim of this study is to evaluate interaction of genotype x environment between eight selected *Labisia pumila* var. *alata* clones and to identify stability of these eight clones respected to plant growth characteristics; plant height, leaf number, leaf length, leaf width, and collar region. Eight clones (KF01, KF02, KF03, KF04, KF05, KF06, KF07 and KF08) had tested at four different locations of FRIM Research Station; SPF Mata Ayer, Perlis; SPF Maran, Pahang; SPF Setiu, Terengganu; and FRIM Kepong, Selangor. The experimental unit consisted of 3 blocks, 0.7 m between clone and 0.4 m within rows in randomized complete block design (RCBD) at area of 0.04 ha under a drip irrigation system. Clones main effect from ANOVA analysis was found in give highly contribution for the phenotypic expression of this species at each locations. Across locations, highly significant was found for clone and location / (GXE) effects. The interaction existed raised the need to use stability analysis by Francis and Kannenberg's method to predict the stability. Results scattergram from Francis and Kannenberg's method showed that clones KF07 and KF08 were shows its superiority in growth performances as both present in Group I. Thus, both were selected as potential elite planting materials as they considered stable and perform well in various range of environments at four locations trial.

**Keyword:** Environments; *Labisia pumila*; Plant growth; Scattergram; Stability