

# FLORISTIC COMPOSITION AND NUMERIC ABUNDANCE OF WEEDS IN THE UNIVERSITY EXPERIMENTAL STATION, DODANGOLLA

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The University Experimental Station at Dodangolla, located in the mid country intermediate zone (IM3), covers an extent of 83 ha of which 72 ha are allocated for crop production. Of this area 70% is utilized for perennial crop production and the rest for annual crop production. Weeds are a major constraint to crop production in all agro-ecosystems. Knowledge on the diversity of weed flora under different cropping systems and cropping seasons is important in designing judicious weed management practices. Thus, a survey was conducted as the first step of a long-term study in identifying the diversity of weed flora in selected crop production systems at the University Experimental Station.

In the present study, the area under annual crop production was excluded as these fields had been continuously subjected to various fertilizer and agrochemical applications, resulting in a temporary shift in weed flora. All the perennial cropping systems with no fertilizer or agrochemical application during the past 6 months were considered for the survey during yala (2000) and maha (2000/2001) seasons. Stratified random sampling techniques were used for data collection.

Thirty-six perennial crop production models were identified at the University Experimental Station. In all the surveyed perennial cropping systems, 56 species of weeds were identified of which 52% (29 species) were from family Poaceae, 22% (12 species) were from family Asteraceae, and 8% (5 species) were from family Cyperaceae. The remaining was distributed among other plant families. Seventy two per cent of total weed flora was perennial species with *Panicum maximum* (Guinea Grass) and *Pennisetum polystachyon* (Yellow foxtail) dominating majority of the fields. Perennial grasses dominated under Ipil-ipil, Teak, Jak and Coffee while annual broadleaves dominated the rest of the monocrop cultivations. Perennial grasses also dominated in a majority of the mixed cropping systems while annual broadleaves were dominant in Coffee+Coconut+Banana and Guava+Banana systems. However, in majority of the systems, the relative abundance of the perennial grasses was lower than that of the non-crop land, except in two perennial crop situations where the crop canopy allowed more light penetration than the others. In the present study, the impact of the mono and mixed cropping situations on the weed composition was not clearly evident.

The experimental station experienced a severe drought during the study period resulting in no significant change in the composition of weed flora during the two seasons. The diversity of weeds varied widely with the cropping situation, even among the perennial crops. *Panicum maximum* was the dominant grass species irrespective of the cropping situation indicating the ability of this species to survive under different environmental conditions. Surveys will be continued in three-year cycles in order to identify the shift in weed flora and to understand the changes in floral biodiversity under perennial cropping systems in the University Experimental Station.