

(124)

## Diversity and in-situ morphological characterization of weedy rice in selected locations of Sri Lanka

Ishara Perera\*<sup>1</sup>, Disna Ratnasekera<sup>2</sup> and Pramesha Madurangi<sup>2</sup>

<sup>1</sup>Grain Legumes and Oil Crops Research and Development Centre,  
Angunakolapelessa, Sri Lanka.

<sup>2</sup>Faculty of Agriculture, Mapalana, Sri Lanka.

\*isharauip@gmail.com

### Abstract

Weedy rice (*Oryza sativa f. spontanea*) of the Poaceae is a weed accompanying rice and is becoming a serious problem in rice growing areas all over the world. Weedy rice populations were first observed in Ampara district in mid 1990's in Sri Lanka and now becoming common in most of the rice growing areas. Weedy rice was reported to be progenies of crosses between wild rice and cultivated rice or the product of degradation of cultivated rice. Since weedy rice is considered as a natural hybrid between cultivated rice and wild rice it may be possible to use as a bridge to transfer genes from secondary gene pool to cultivated rice. Weedy rice may also contain important genes which can be incorporated into the cultivated varieties. The study was carried out to characterize the weedy rice accessions collected from different locations in terms of diversity in morphological traits. Twenty three locations were taken as the sampling sites from different agro ecological regions and quantitative and qualitative morphological data on plant height, panicle length, number of tillers and panicles, leaf length, awn color and awn size were taken from randomly selected fifty weedy rice individuals. Results revealed that significant difference was observed between Kurunegala (29.4cm) and Matara (37.1cm) for panicle length. Relatively taller weedy rice plants were observed at Ampara (146.9 cm), while Matara (144.2 cm) recorded the shortest. Number of tillers and the number of panicles were not significantly different. Weedy rice plants observed at Ampara (48.1cm) possessed the longest leaves. 68.13% of observed weedy accessions were awning and Ampara (78%) recorded the highest. Awnless plants were observed at Polonnaruwa (37.3%), Puttlam (34%) and Anuradhapura (33.6%) comparatively higher percentages. Information on morphological diversity should be useful for future breeding programmes of rice and proper conservation of genetic diversity in the adapted germplasm.

**Keywords:** Diversity, Morphology, Weedy rice