Morphological Characterization of Prioritized Weed Species at Seedling Stage in Export-ready Coir Samples

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Novel weed introductions have raised with the increased movements of goods and people. Hence, it is essential to detect and prevent the movement of weeds across borders. In Sri Lanka, the National Plant Quarantine Service (NPQS) is the main body that is responsible for regulate the movement of invasive weeds. Coir is one of the largest export commodities in Sri Lanka. Many countries are importing coir as a potting medium for soilless cultivation; thus, the free of certain weed species is a main concern. The NPQS uses grow-out tests for 21 days to check the presence of weed seeds in export-ready coir samples. However, the current practice is inadequate to accurately identify the weed contaminants. Therefore, rejection of coir consignments due to the presence of unconcerned weed species is a problem leading to a considerable economic loss. Seedling Identification Guides (SIG) are useful to identify key morphological characters at the seedling stage for some species and enable species identification. Thus, the main objective of the present study was to prepare a SIG for weed species [*Crotolaria juncea* L., *Mimosa pudica* L., *Mimosa pigra* L., *Leucaena leucocephala* (Lam.) de Wit, *Lantana camera* L., *Convolvulus arvensis* L., and *Rumex* sp.] frequently found in coir samples. Five seeds from each species were planted in four-inch-diameter plastic pots and kept in a contained space to prevent accidental weed escape. Fifteen morphological characteristics were recorded until true leaves arose. Among the observed characters, shape of the cotyledons and true leaves, and leaf texture were the most useful. *Mimosa pigra* and *M. pudica* can be distinguished by their cotyledon shape, leaf apex, and leaf base. Cotyledon shape, leaf apex, and leaf base are useful characters for distinguishing C. *arvensis* and *Rumex* sp. For quick and reliable identification, we recommend a suitable molecular approach.

Keywords: Seedling guide, Weeds, Coir, Morphological identification

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