

MORPHOLOGICAL CHARACTERIZATION OF PORTUGUESE ITALIAN RYEGRASS LANDRACES

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ABSTRACT

Italian ryegrass (*Lolium multiflorum* Lam.) is one of the most important forage grass species in Europe. In Portugal 34% of the cultivated area is dedicated to animal fodder. Italian ryegrass area in Entre Douro e Minho (EDM) region was mainly with landraces. Changes in traditional agricultural systems are contributing to a major loss of genetic diversity mainly to landraces. Portuguese Italian ryegrass landraces are threatened since nineteen years and collecting missions took place in EDM to ex situ conservation. The main Italian ryegrass landraces from EDM are “castelhano’s” and “verdeal’s” agro type. The aim of this study was to evaluate the existence of morphological variability between EDM Italian ryegrass landraces, to analyse the existence of duplicates in the germplasm collection and to evaluate the farmer’s classification. The landraces were characterised based on morphological traits of International Plant Genetic Resources Institute and International Union for the Protection of New Varieties of Plants descriptors list and the most discriminated traits were utilised in the multivariate analysis, using NTSYS v.2.0.

Italian ryegrass accessions belong to two different agro types based on morphological characteristics and farmers identified. Each landrace showed inter-population variability mainly on “verdeal” landrace. It was possible to differentiate the most of ryegrass accessions using the morphological traits used were initial stage of plant maturity.

The EDM germplasm preserves the Italian ryegrass genetic diversity, which is conserved in ex situ and is a good basis for research programs.

Key words: Italian ryegrass landraces, morphological variability, conservation ex situ