

Application of Simple Sequence Repeats (SSR) Markers on Variety Identification of Foxtail Millet [*Setaria italica* (L.) Beauv.]

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Abstract

Foxtail millet is one of the most important crops for indigenous peoples in Taiwan. Taitung county has been the main place of production, therefore TTDARES has focused on this subject for many years. In this study, 10 varieties are used for developing SSR markers and determining genetic similarity. The result can be utilized for variety identification and future breeding program. A total of 72 SSR markers were screened and 20 with polymorphic markers were selected and the polymorphism percentage was 61.6 %. The minimum primer pairs for identify 10 varieties was recommended by using P3, P50, one of SITM04, SITM59 and Pri44, and one of B227 and P88. Based on genetic distance, 10 varieties can be divided into two main groups. The first group includes TCS1 and TTS1, and other varieties are attributed in the second group. The result of this study can be referenced for future breeding program.

Key words : foxtail millet, simple sequence repeat (SSR) molecular markers.

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