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MOLECULAR MARKER USED TO DISTINGUISH VARIETIES OBTAINED BY REPEATED BACKCROSSING

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Varieties within a species are traditionally distinguished by morphological characteristics. In some species such as soybean however, varieties are generally obtained from very similar elite parent groups, which makes the morphological differentiation rather difficult. Especially if the varieties were obtained by repeated backcrossing . We evaluated two such pairs of varieties, using SSR markers. Variety Jataí was obtained by five backcrosses from variety Engopa 313. Using forty-two microsatellite markers distributed across the integrated genetic map of soybean, and genotyped in acrylamide gels (7% denaturing gel) one marker, Satt115, differentiated the two varieties. In another study, evaluated two soybean varieties (CD 201 and CD 208) obtained by backcrossing from variety Ocepar 4 Iguaçu. CD 201 was obtained after five backcross generations, and CD 208 was obtained after six backcross generations. Using 53 SSR markers genotyped in agarose gels, we found two markers that differentiate CD 201 from Ocepar 4 Iguaçu, and three markers that differentiated CD 208 from Ocepar 4 Iguaçu.. Amplifying a set of 282 markers markers, only one marker distinguished CD 201 from CD208. The results can demonstrate that even varieties obtained by repeated backcrossing can be discriminated by molecular markers, and such varieties are very similar (1% to 2% of genetic distance). Using Molecular assisted backcross, we obtained very similar varieties (less than 2% of distance from the recurrent parent), in three generations of backcross.

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Reference

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