

SELECTION OF PRIMERS RAPD IN *ETLINGERA ELATIOR*

Sidney Vasconcelos do Nascimento^{1*}; Maria Rosa Travassos da Rosa Costa²; Marcelo Murad Magalhães³.

¹Empresa brasileira de pesquisa agropecuária (Embrapa Amazônia Oriental)/Universidade Federal do Pará. svn_live@hotmail.com / svn.live@gmail.com

² Empresa brasileira de pesquisa agropecuária (Embrapa Amazônia Oriental). maria-rosa.costa@embrapa.br.

³ Empresa brasileira de pesquisa agropecuária (Embrapa Amazônia Oriental). marcelo.magalhaes@embrapa.br

Introduction

The tropical specie *Etilingera elatior* (Jack) RM Smith belongs to the family Zingiberaceae and is widely used as an ornamental plant, and it has a very exotic look flashy and showy flowers of various colors. Despite of its great potential still no research related to genetics is available, a fact that hinders the implementation of programs to improve the specie.

Objective

This work represents the first genetic studies of the species, and aimed to select RAPD primers.

Materials and methods

Forty-two were used in plants with different phenotypes from the Germplasm Bank of Embrapa Eastern Amazon. DNA was extracted from the leaves with a predetermined protocol and quantification was made in agarose gel 1.0%. After quantification, DNA target concentration was adjusted to 3 ng / µl. Aliquots were stored at -20 ° C. Amplification reactions were performed according to the protocol of Williams et al. (1990), as modified in a final volume of 10 µl with sterile distilled water, 20 mM Tris-HCl (pH 8.0), 50 mM KCl, 2.0 mM MgCl₂, 200 M of each dNTP , purified BSA (2.5 mg / ml), 1.3 µM primer, Taq DNA polymerase 1U.I and 15 ng of genomic DNA. The amplification reactions were performed in an Eppendorf Mastercycler thermocycler with 40 cycles of 1' at 94 ° C, 1' at 37 ° C and 2' at 72 ° C, followed by 7' at 72 ° C. The separation of amplified products was made in agarose gel 1.5%.

Results

There were evaluated four sets of primers (OPG, OPA, OPU and OPJ) resulting in 80 primers tested. The most polymorphic primers were OPA 06, OPJ 14 both with 10 polymorphisms and OPU 06, OPU 10, OPU 12, 14 and OPG 05 with nine polymorphic bands. Primers with more than four polymorphism were: OPG 02, 04, 05, 06, 07, 08, 10, 13, 14, 16, 18, OPA 01, 02, 03, 04, 05, 06, 07, 10, 13, 16, 17, OPU 03, 06, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 20 and OPJ 01, 11, 12, 13, 14, 15, 16, 18, 19.

Conclusion

The primers selected are effective for use in the genetic characterization of the species using RAPD markers.

References

WILLIAMS, J. G. K.; KUBELIK, A. R.; LIVAK, K. J.; RAFALSKI, J. A.; TINGEY, S.V. DNA polymorphisms amplified by arbitrary primers are useful as genetic markers. *Nucleic Acids Research*, v.18, p.6531-6535, 1990.