EFFECT OF GENOTYPES AND HORMONAL RELATIONS ON PINEAPPLE ANTHER CALLUS FORMATION

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Introduction

Pineapple (*Ananas comosus* [*L.*] Merr), is a vegetatively-propagated specie with high heterozygous level. Haploid plant production could represent an important advance for genetic studies and breeding. The main advantages of using haploids in breeding programs are the production of homozygous lines in the shortest possible time (1, 2). It would allow the obtainment of homozygous parents and the non previous-reported pineapple heterosis. The first results in attempts to induce callus of several pineapple genotypes are presented in this paper.

Materials and Methods

Anthers of five different pineapple genotypes: "Serrana" smooth cayenne, "México" smooth cayenne, "Oriente" smooth cayenne, Red spanish and "Piña blanca" were used. Inflorescences were collected at immature stage and immersed its ten minutes in 1 % calcium hypochlorite solution. Anthers uninucleate staged microspores-containing were cultivated on (3) medium with sucrose at 9 % and three hormonal relations of 3,6 dichloro-2-methoxybenzoic acid and 6-Benzylaminopurine (5:1, 10:1 and 15:1). Cultures were placed at 24 ± 1 °C in the dark. Each treatment involved between 75 and 100 anthers.

Results and Discussion

The callus formation from the anther wall inner parts was achieved after 9 weeks in culture in all tested genotypes (Table 1). The callus was yellowish-white or yellow color with hard and nodular structures. Calli appeared mainly at the cut end of filaments.

The callus induction depended upon the genotype and the hormonal rate, to agree with previous reports (4, 6). The highest callus formation percentages were obtained with "Oriente" smooth cayenne with a relation 15:1 as hormonal rate. Calli showed green color appearance after transfering to regeneration medium. It would be a possible step in plant conversion from pineapple anther callus.

Table 1. *Callus formation percentages from pineapple anthers after 9 weeks in culture (in each genotype, media with same letters are not statistically different, $p < 0.05$).*

Hormonal Relations	Genotypes				
	Serrana	México	Oriente	Spanish	Piña Blanca
5:1	0.00	-	12.00c	3.50b	-
10:1	0.00	16.00a	30.59b	15.29a	0.00 b
15:1	0.01	8.88b	56.66a	17.24a	3.06 a

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