

**B-39 : PLANT REGENERATION FROM ANTERS OF F<sub>1</sub>  
CROSSES OF INDICA/JAPONICA RICE**

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In conventional breeding, it is difficult to obtain fertile cultivars from Indica x Japonica crosses as the F<sub>1</sub> hybrid shows partial sterility while F<sub>2</sub> and succeeding generations segregate vigorously. The use of haploids which can be obtained through anther culture can shorten the stabilization phase because instant homozygotes can be obtained by simply doubling the chromosome complements of haploids. Further, sterility problems in F<sub>1</sub> crosses and the segregation of characters in the succeeding generations can also be overcome.

For this study, F<sub>1</sub> hybrids of three Indica/Japonica crosses (Hua Lien Yu 173/Bg 1222, Hua Lien Yu 173/Bg 850-2 and Hua Lien Yu 173/Bg 300) were obtained from the Central Rice Breeding Station, Batalagoda. Anthers were cultured (25 °C, dark) in 5 different media (FJ<sub>1</sub>, FJ<sub>2</sub>, AH<sub>1</sub>, AH<sub>2</sub> and AH<sub>3</sub>) solidified with agar (0.8% w/v) for callus induction. These culture media were based on N<sub>6</sub> medium. Following an incubation period of 4-8 weeks, calli formed (only a few calli from Hua Lien Yu 173/BG 300, due to its poor pollen viability) were transferred to five agar-solidified media (SK<sub>11</sub>, M<sub>1</sub>, M<sub>4</sub>, M<sub>5</sub> and A<sub>1</sub>) for regeneration of plants. These media were based on Murashige and Skoog (1962) medium. These callus cultures were maintained at 26 ± 1°C under fluorescent light (1000 - 2000 Lux, 16h). Green shoots emerged from the calli of the crosses Hua Lien Yu 173/Bg 1222 within 2-4 weeks of transfer to regeneration media. Calli established from the Hua Lien Yu 173/Bg 850-2 and Hua Lien Yu 173/Bg 300 produced albino plantlets on regeneration media. Shoots produced roots following transfer to hormone-free Murashige and Skoog medium. The plants were finally transferred to soil and further observations are in progress.

To obtain green plants from the crosses of Hua Lien Yu 173/Bg 850-2 and Hua Lien Yu 173/Bg 300 the culture media and conditions have to be perfected.