MARADOL PAPAYA EMBRYOS TRANSFORMATION BY BIOBALISTIC

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Introduction. *Lipoxygenase* (LOX, EC 1.13.11.12) are a class of dioxygenases non-heme iron-containing and are widespread in diversity of plants and some prokaryotes, catalysing the hydroperoxidation of polyunsaturated fatty acids (PUFAs) (Palmieri-Thiers *et al*., 2009). The role of LOXs and HPL in fruit ripening is not known, but their involvement in strawberry ripening is assumed (Leone *et al*., 2006)
The objective of this study was to obtain Maradol papaya plants genetically modified (GM) by biolistic with lipoxygenase gene (LOX) in antisense.

Methods. Globular embryos of Maradol papaya immature fruits was co-bombardment with an equimolar mixture of the plasmid containing the antisense LOX gene (*pCambia 2301*) and *pWGR1515* plasmid containing the hygromycin resistance gene on tungsten particles; 48h later at bombardment, transient expression was measured (GUS *uidA*). The embryos were maintained in selective medium plates (MEmb); subsequently transferred to G medium, and then to selective medium (G medium with hygromycine) to remove non-transformed plants.

Results. The transient expression (GUS *uidA*) was positive at 48h post-bombardment, indicating the insertion of transgenes. These embryos subcultured for two months in MEmb developed torpedo stage, the two subsequent months hold G medium to produce small plantlets. About 60% of seedlings from bombarded embryos were removed at culture during two months in G medium adding hygromycin B, the remaining plantlets that resisted at antibiotic were regenerated, showing an intense olive-green color of its small leaves and stems.

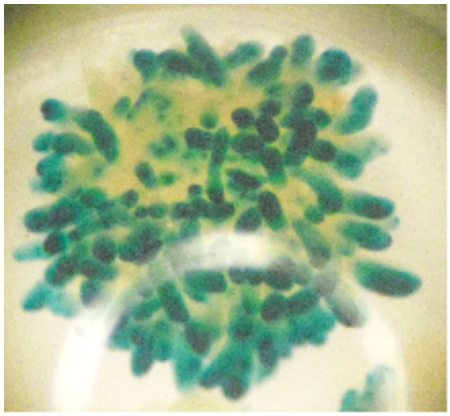
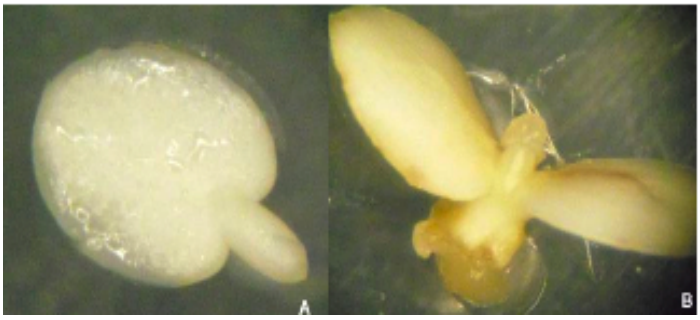


Fig.1 Embryos transient expression



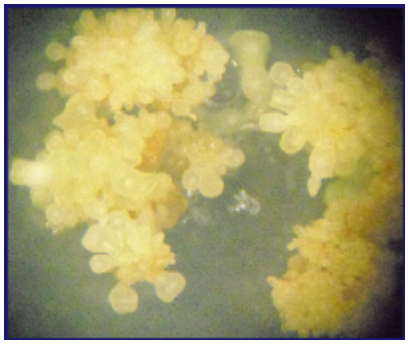


Fig. 2. *Marado*l papaya Embryos

Conclusions. Regeneration was achieved seedlings form bombarded embryos that transiently expressed GUS reporter gene UidA, and which resisted the selection by subculturing in presence of hygromycin, which indicates the presence of the transgenes in the cells (*pCambia 2301* and *pWGR1515*)

References.

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