06.02 - GENÉTICA MOLECULAR VEGETAL

06.02-049 SAAT: SONICATED ASSISTED *AGROBACTERIUM*-MEDIATED TRANSFORMATION OF TROPICAL MAIZE.
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There are several methods to genetically transform plants, such as *Agrobacterium*-mediated transformation of excised plant tissues, particle bombardment, electroporation, silicon carbide fibers, liposome-mediated transformation and *in planta Agrobacterium*-mediated transformation via vacuum infiltration of whole plants. The first two methods are the most commonly used for maize transformation. Recently, a new and potentially more efficient method to plant transformation via *Agrobacterium* was developed to reach the proper cells in the target tissue. This new technique called Sonicated Assisted *Agrobacterium*-mediated Transformation (SAAT) involves subjecting the plant tissue to brief periods of ultrasound in the presence of *Agrobacterium*. SAAT treatment produces small and uniform fissures and channels throughout the tissue, allowing to the *Agrobacterium* easy access to internal plant tissues. In the present study immature embryos of tropical maize lines were inoculated with *Agrobacterium tumefaciens* LBA4404 harboring the plasmid pCAMBIA C2-208 and submitted to sonication for five seconds. Different transformation parameters were analyzed in transient expression assays. Immature embryos of maize were cultured for one or five days on callus induction medium before sonication. Also, prior to SAAT treatments embryos were inoculated with *Agrobacterium* at 37°C for 2.5, 5.0 and 10 minutes. 75 to 80% of embryos showed positive histochemical GUS assay. Resistant calli, obtained in N_6 basal medium containing 30 mg/L Hygromycin, and plants regenerated in MS basal medium supplemented with 0.5 mg/L IBA and 1mg/L BAP. The putative transformed plants were acclimatized in green house and transgenic maize plants will be confirmed by Southern blot hybridizations. This work was supported by grants from FINEP/PADCT, PRONEX, CNPq, FAPEMIG and SEP/EMBRAPA