EXPRESSION OF HUMAN PRO-INSULIN IN TRANSGENIC TOBACCO AND MAIZE. Sousa SM[1], De Lucca PC[1], Parizotto EA[1], Carneiro A[2], Carneiro NP[2], Carvalho CHS[2] and Leite A[1]. [1]Centro de Biologia Molecular e Engenharia Genética - UNICAMP, Campinas-SP, [1]Centro de Biologia Molecular e Engenharia Genética - UNICAMP, Campinas-SP, [2]Centro Nacional de pesquisa em Milho e Sorgo, EMBRAPA, Sete Lagoas-MG . pdelucca@unicamp.br

Tobacco and maize plants were genetically transformed with the gene encoding for the human pro-insulin. The gene was cloned downstream of the γ-kafirin promoter and the α-coixin signal peptide sequence. This promoter allows the specific expression of the mRNA in endosperm of seeds whereas the signal peptide drives the protein to the endoplasmic reticulum. The construct was used to transform tobacco by *Agrobacterium*-mediated transformation method, using the *npt II* gene as selective marker. The transgenic of tobacco was analysed by PCR, β-glucoronidase assay and southern blotting and the presence of pro-insulin in mature seeds was detected by radioimmunoassay and western blotting. Somatic embryos of maize were transformed by particle bombardment, using the *bar* gene as a selective marker. The presence of pro-insulin gene in maize plants were confirmed by PCR and southern-blot. As soon as these plants grow the presence and the quantity of pro-insulin in seeds will be analyzed . Órgão Financiador : FAPESP and CNPq.