INTEGRATION OF THE HUMAN GROWTH HORMONE GENE INTO SOYBEAN (*Glycine max* l. (MERRIL) AND BEAN (*Phaseolus vulgaris* L.) GENOME. Vianna G, Cunha NB, Cipriano TM, Povo AM, Dias BBA, Albino MMC, Soares CF, Silva LM, De Luca PC[1], Parizotto EA[1], Leite A[1], Aragão FJL, Rech EL. EMBRAPA Recursos Genéticos e Biotecnologia, Parque Estação Biológica, Brasília, Distrito Federal, CEP 70.770-900. [1]Centro de Biologia Molecular e Engenharia Genética, Universidade Estadual de Campinas, Cidade Universitária "Zeferino Vaz", Cx. P. 6104, CEP 13081-970, Campinas, São Paulo. rech@cenargen.embrapa.br

The production of recombinant proteins is one of the major succsess of the recombinant DNA technology. Animals and bacterial cells are required to synthesize proteins with the appropriate post-translational modifications. Transgenic plants are a potential alternative to be commercially utilized as bioreators. The development of technologies for the introduction and expression of foreign gene in plants at a high-frequencies, has allowed studies of gene function, and has resulted in great advances toward plant genetic engineering carrying enhanced input and output traits. We have utilized the human growth hormone, under control of: 1) the monocot tissue-specific promoter from sorghum γ–kafirin seed storage protein gene; or 2) the dicot seed-storage beta-phaseolin promoter, to generate genetically modified soybean and bean plants by biolistic. The apical meristematic region of mature soybean and bean embryonic axes were excised, and co-bombarded with the plasmid vectors. Then, the co-bombarded soybean embryonic axes were transferred to the culture medium containing MS basal salts, sucrose and cytokinin, during three to five weeks in culture under selective pressure with the herbicide imazapyr. In bean, co-bombarded embryonic axes were transferred to similar soybean culture medium during two to three weeks and cultured under selective pressure with the herbicide ammonium glufosinate. Putative soybean and bean transgenic shoots were excised and transferred to the greenhouse to further development. The presence of the introduced genes were analysed by PCR, utilizing specific primers. Studies on the expression of the proteins have been carried out in the produced seeds. The results obtained, will form the foundation to evaluate the potential commercial utililization of soybean and bean plants to produce human growth hormone. Órgão Financiador : EMBRAPA, UNICAMP, FAPESP