Kwang Hyun Hwang, Biochemistry

University: Gyeongsang National University
Year in School: Senior
Hometown: Masan, South Korea
Faculty Mentor: Dr. William Folk, Biochemistry
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Agrobacterium – mediated transformation of sorghum (Sorghum bicolor L.)

K. Hyun Hwang, L. Lu, X. R. Wu, Z. Zhang, and William R. Folk

Sorghum variety P898012 was transformed with agrobacterium tumefaciens containing a simple binary vector pSKRS to improve nutritional quality. Immature kernels of sorghum P898012 were harvested after 10 – 12 days pollination. After sterilization, embryos of size 1.0 – 1.6mm were isolated from kernels and immersed in agrobacterium suspension for 5 min, and placed onto co-cultivation medium, scutilla face up for 3 days at 25?. The embryos then transferred onto callus induction medium containing selection agent (Glufosinate 2.5 mg/L) for at least 4 weeks. As soon as herbicide-tolerant calli with somatic embryos developed, calli were transferred onto regeneration medium to develop shoots. At about 3 – 5 weeks, small shoots of height 3 – 5cm were moved into glass tubes containing rooting medium. PCR screening was used for determining transformation events at early stage. The results showed that an average of 2.54 % embryos treated with agrobacterium developed herbicide tolerance tissues on callus induction medium, but all of the condition embryos died of selection. Most of selected tissues developed shoots on regeneration medium, developing roots in rooting medium. After collecting a leaf from each plantlet, 20 DNA samples were purified by REDExtract-N0amptm kit for PCR. After PCR, 17 samples of 20 were positive.