

## D-D2-39

### *In vitro* propagation for multiple shoot induction in *Acorus calamus*

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*Acorus calamus* is known as aromatic and medicinal plant. It is usually propagated by rhizome division. *In vitro* propagation of rhizome buds were performed to select proper hormone concentration and to obtain multiple shoots. These rhizome explants were cultured on Murashige and Skoog's (MS) medium supplemented with different concentrations of 1<sup>6</sup>-benzyladenine (BA) and Thidiazuron (TDZ). The growth and multiplication rate was increased with a increase of BA concentration, but it was decreased above a concentration of 4 mg l<sup>-1</sup> BA. In concentrations of TDZ, 1 or 2 mg l<sup>-1</sup> induced scores of shoot buds. Thereby, rapid shoot multiplication by using TDZ was more effective than by using BA. Regenerated shoots from explants were rooted on MS medium supplemented with 1 mg l<sup>-1</sup> Napthaleneacetic acid (NAA). We will investigate the hormone concentration in detail and transplant the rooted plantlets in the soil in order to examine their phenotypes. We suggest that this propagation technique would be a useful tool for the rapid multiplication of *Acorus calamus*.

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## D-D2-40

### Mass production of transgenic crops using useful genes developed in Korea Authors affiliated with NICS.

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We and Crop Functional Genomics Center devote our efforts to the improvements of crop qualities by introducing the useful genes into major crops such as rice, corn, and soybean with the prospect of commercialization of the transgenic lines world-wide. Genes and vector components of promoters were primarily chosen for those filed for patent by donators in the nation. Around 40 genes were being constructed into vectors under the control of either/ in the combination of PGD, RccI, or Rab21 as a constitutive, a root-specific or a grain/ABA inducible promoter, respectively. Genes will be joined to the vector with gate-way system. The high efficient method for making transgenic plants developed by National Institute of Crop Science is being applied. The tools of molecular biology such as flanking T-DNA sequencing, Northern and RT-PCR analysis, will be applied to select homozygous transgenic plants. The traits of agricultural use exemplified by crop yield, biomass as well as biotic and abiotic stress resistance will be monitored during the period of research.

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