

Shoot Induction and Genetic Stability of *in vitro* Cultured Pea

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Pea (*Pisum sativum*) is one of important legume crops in the world. It is commonly used as a protein source for animal and human diet, and also used as a natural nitrogen source which is produced by a symbiotic bacterium in their root nodule and helpful for terrestrial ecosystem. The successful *in vitro* manipulation is depended on three main factors including physiology of plant donor, *in vitro* manipulation approach, and stress physiology during plant cultivation. Moreover, genotype is an important for plant manipulation; different genotype gives the different response to regeneration efficiency. An efficient condition of shoot induction for pea (*Pisum sativum* cv. 'Sparkle') was developed by using optimum explant, plant growth regulator concentrations, and pretreatment of BA onto explant. The average shoot number per explant showed the highest on two kinds of shoot induction media (MSB5 media containing 2 mg/L BA and a combination of 2 mg/L BA and 1 mg/L TDZ) with cotyledonary node explants culture. Moreover, the pretreatment of explant in 200 mg/L BA solution was found to be more effective in shoot induction than that of non-pretreatment. The analysis of genetic stability of regenerants by using 13 ISSR markers presented that *in vitro* regenerated plants showed polymorphism with 8.3% compared with their mother plants.

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