

Thitima Tharawoot 2009: *In vitro* culture of *Bauhinia siamensis* K. & S. S. Larsen *sp. nov.*
Master of Science (Botany), Major Field: Botany, Department of Botany. Thesis Advisor:
Associate Professor Malee Nanakorn, Ph.D. 64 pages.

In vitro shoot induction of *Bauhinia siamensis* K. & S. S. Larsen *sp. nov.* from 2nd - 6th nodal segments was conducted on MS medium containing 1 g/L activated charcoal (AC) and 0, 5, 10 and 15 μ M BA for 6 weeks. BA could not induce shoot multiplication but BA at 10 μ M gave the highest average shoot length of 1.26 cm with average number of 4.18 nodes. The 6th nodal gave the highest average shoot length of 1.29 cm with average number of 4.4 nodes. The following experiments were used 6th nodal *in vitro* shoots as the explant. The effect of TDZ at 0, 0.1, 0.25, 0.5 and 1 μ M in combination with 0 and 5 μ M BA on MS solid medium containing 1 g/L AC on shoot multiplication was investigated. The result showed that TDZ either alone or in combination with BA had no effect on shoot multiplication. Thus the study on the effect of activated charcoal on shoot multiplication of four different explant types were conducted using MS solid medium supplemented with 0, 5, 10 and 15 μ M BA and with or without 1 g/L AC for 6 weeks. It was found that the medium without AC could induce shoot multiplication. The highest average number of shoot was 26.9 shoots when cultured 6 cm height shoot on MS medium supplemented with 5 μ M BA. The 6th node with 2 cm height shoots, which placed on 5 and 10 μ M BA medium, gave the highest average number of shoot at 3.0 and 9.3 shoots, respectively. The average shoot number, 12.6 shoots, was obtained when cultured cotyledonary node on BA 10 μ M. For root induction, derived shoots at 4 cm height were placed on MS medium supplemented with NAA or IBA at 0, 1, 3 and 5 μ M or dipped the cut end of the shoots in NAA solution at the concentrations of 0, 2.6, 4.0 and 5.3 mM for 5 min or in powder of seradix[®] and implanted in free hormone MS media. It was found that dipping the cut end of shoots in 5.3 mM NAA solution gave the highest percentage of rooting at 70% and average root number of 3.2 roots. The plantlets were transplanted to two growing medium; sand: rice-hull ash: brick pieces (1: 1: 1) and rice-hull ash: coconut husk dust (1: 1), under high humidity condition at the initial stage. After 30 day, the plantlets grown in sand: rice-hull ash: brick pieces growing medium gave 20% survival rate which was higher than the plantlets grown in rice-hull ash: coconut husk dust.

Student's signature

Thesis Advisor's signature