

## Gametophyte Development of the Moss *Bartramia pomiformis* HEDW. under *in vitro* Culture Condition

**Md. Giush Uddin Ahmed, Young Deug Chang and Cheol Hee Lee\***

Dept. of Horticultural Science, Chungbuk Nat'l Univ., Cheongju 361-763, Korea

\*Corresponding author. Tel: 043-261-2526, E-mail: leech@chungbuk.ac.kr

*Bartramia pomiformis* bud induction was carried out in to gametophyte development, to study from primary and secondary protonema. Primary protonema was raised from spore culture of indehiscence mature sporophyte collected in nature and secondary protonema from suspension culture of *in vitro* gametophyte. Distinct bud development of gametophyte was obtained from comparative study of primary and secondary protonema. Spore and suspension culture were established using Knop (1865) major salts and Nitsch & Nitsch (1956) trace element medium. Observation was made with SOMETECH video microscope system. Lowest time taken for bud induction was found from secondary protonema. After transition of chloronema, highest percentage of caulonema was observed from secondary protonema. Caulonema from secondary protonema was thicker walled and darker than from primary protonema on same growing media. In differentiation, bud production was apical cells to growth via a three-faced apical cell for primary protonema and four-faced for secondary protonema. Bulbils were identified in the proximal part of secondary protonema and it was acted as propagule. The most pertinent morphological assay in studies of two different bud differentiations are growth of single caulonema strand and different time they require to initiate a bud.