

03-2-05

Effect of Methyl Jasmonate on in vitro Bulb Formation and Growth of *Allium victorialis*

So-Young Park*, Jin-Kwon Ahn, Wi-Young Lee, Hae-Jin Park

Plant Biotechnology Div., Forest Genetic Resources Dept., Korea Forest Research Institute, Suwon, 441-350, Korea

Objectives

Effect of three growth retardants viz., paclobutrazol, ABA and methyl jasmonate, on in vitro bulb formation and growth of *Allium victorialis* var. *platyphyllum* Makino were studied.

Materials and Methods

1. Plant materials : *Allium victorialis* var. *platyphyllum* Makino, 0.1g shoot clump proliferated on MS medium containing 3.0 mg/L BA and 0.1 mg/L NAA.
2. Basal medium : MS medium + sucrose 6% + agar 0.75%, pH 5.7-5.8.
3. Growth retardants
 - ① Á N-dimethylaminosuccinamic acid (Paclobutrazol) : 0 - 2.0 mg/L
 - ② Abscisic acid (ABA) : 0.01 - 2.0 mg/L
 - ③ Methyl jasmonate (Me Ja) : 0.01 - 10.0 mg/L

Results and Discussion

Shoot clumps of *Allium victorialis* var. *platyphyllum* Makino were cultured on MS medium containing three kinds of growth retardants; Paclobutrazol (0 2.0 mg/L), ABA (0.01 2.0 mg/L), Me JA (0.01-10.0 mg/L). Paclobutrazol and ABA induced shoot proliferation in low concentrations (0.01 mg/L) without bulb formation. No bulb formation was observed even in high concentration of Paclobutrazol while small bulbs were formed in high concentrations of ABA. Bulb formation started on medium containing Me JA occurred approximately 4-6 weeks of culture. Further, 1.0 mg/L Me JA resulted in bulb formation at high frequency (100%) as compare to the control (46.1%). Bulbs formed in medium containing Me JA showed increased dry matter. Bulb formation of *Allium victorialis* can be improved by addition of appropriate concentration of Me JA.

* Corresponding author: So Young Park, TEL: 031-290-1167, E-mail: soypark7@hotmail.com