P 26 Growth and Acclimatization of *in vitro* Plantlets in Sweet Potato

EUN, Jong-Seon[1*] · PARK, Jong-Suk[1] · KIM, Young-Seon[2]

[1]*Dept. of Horticulture, Chonbuk Nat'l Univ, Chonju 561-756, Korea*

[2]*Dept. of Ornamental Horticulture Industry, Namdo Provincial College of Jeonnam, Changheung 529-850, Korea*

Objectives

To examine the proper culture condition for growth and acclimatization of in vitro plantlets, The nodal explants derived from apical meristem were inoculated on sugar-free or 3%-, 6%-sugar contained MS medium with 1 sheet, 3 sheets or without membrane filter on the lid.

Materials and Methods

1. Materials

Single-nodes of virus-free plantlets derived from apical meristem in sweet potato (cv. Yulmi)

2. Methods

MS medium supplemented with 0.1 mg/L NAA, 0.9% (W/V) agar, PPFD 80 mmol · m-2s-1, 16-h photoperiod at 28℃, adjusted pH 4.8 With 1 or 3 sheets of MF or without membrane filter (MF-) on the lid Sugar concentrations of 0, 3 or 6%

Results and Discussion

There was no effect of membrane filter attached to the lid in sugar-free medium for the shoot growth, whereas attachment of MF enhanced the root growth remarkably. MF-treatment containing 3% sugar has increased shoot length and number of node with 6.5cm and 9.6 nodes, respectively. MF attachment of 3 sheets (MF+3) in the same sugar contents induced shorter shoot length than MF- medium, but showed the better response in root length, leaf area and percentage of dry weight with 19.7 cm, 28.1 cm^2 and 12.0% each. In the high sugar medium of 6%, MF- treatment showed the best responses measured the shoot length at 11.2 cm and number of node at 12.2. Although MF+3 treatment inhibited the shoot length at 1.4 cm and number of node at 5.8 compared with MF+1, The percentage of dry weight of shoot and root indicated the highest with 14.5% and 14.0%. In conclusion, MF+1 containing 6% sugar and MF+3 treatment containing 3% sugar were the proper medium condition for acclimatization and the medium of 6% sugar without membrane filter was the best for the in vitro growth and propagation.

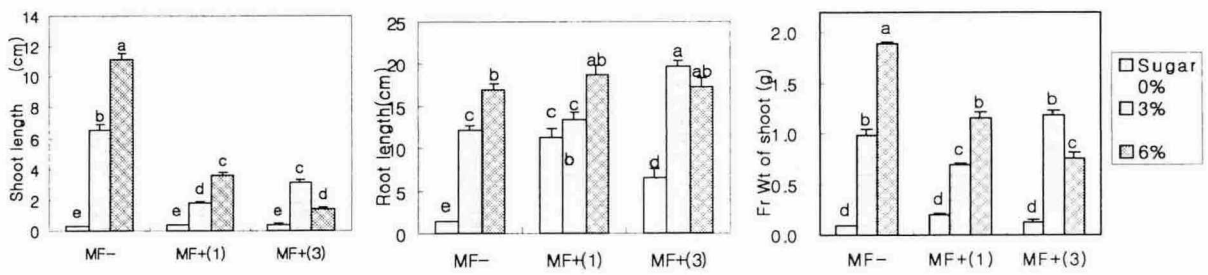

Figure 1. Effects of sugar concentration and membrane filter on the growth of *in vitro* plantlets.

*Corresponding author. Tel 063-270-2576 E-mail jseun@moak.chonbuk.ac.kr