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Differential success of somatic embryogenesis in random gene pool of Norway spruce

Mauleová M., Vítámvás J.

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[fulltext]

Somatic embryogenic cultures were established from proembryonal suspensor masses (PEMs) derived from mature seeds of Norway spruce. In this study we used more than 4,300 seeds of *Picea abies* from randomly collected commercial seed lot (originated from open-pollination). Most of the studies are focused on selected genotypes known for higher response to propagation protocols. As indicated in this study, there is a significant variation in success rate of somatic embryogenesis in randomly selected seed lot of Norway spruce. Nutrient GD (1 to 4), LP (1 to 5) media and different level of plant grow regulators (BA, NAA, kinetin and 2,4D) were used for initiation and proliferation of embryogenic cultures. Transfer of embryogenic callus onto medium containing abscisic acid stimulated development of early-established individual embryos. Media GD (5 and 6) and LP (9 to 11) supplemented with ABA (7.5; 20; 38 μM) and PEG 4000 (2%), were used for stadium of maturation.

Conversion of somatic embryos to plantlets was stimulated by partial desiccation treatment (HRH-treatment) and by medium changes. On these media plantlets started to regenerate within three weeks.

Keywords:
Norway spruce; somatic embryogenesis; *Picea abies*; plant grow regulators

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