

IN VITRO PROPAGATION RESULTS OF SORBUS ARIA 'GRAN SASSO'

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In this study, we want to find the best media type during *in vitro* multiplication and rooting of *Sorbus aria* 'Gran Sasso', additionally, to eliminate endogenous bacterial contaminations with the use of silver nitrate (AgNO_3). Prepared buds or single nodes from twigs or shoot tips were successfully surface sterilized in different ratios (41.8 and 90.9%), and produced significantly more and longer shoots on half-strength Murashige and Skoog (1962) medium with 20 g/l sucrose, 7 g/l agar, plus various doses of meta-topolin (mT), benzylaminopurine (BA) and benzylaminopurine-riboside (BAR). The best cytokinin concentrations/types were 0.4 mg/l BA and 0.8 mg/l BAR (effected 6.2 and 9.6 shoot reached 31.8 and 35.8 mm). In case of hormone-free medium, the number of shoots was only 1.7 with 22.3 mm length. On the other hand, 0.1 and 0.2 mg/l mT increased the leaves' length (up to 22.9 and 22.2 mm) and 0.1-0.4 mg/l KIN resulted the highest total chlorophyll contents (2002-2900 $\mu\text{g/g}$), however, the hardest (0.8 mg/l) concentration decreased these leaf parameters in every cytokinins. Thus, BA and BAR stimulated shoot proliferation better than KIN and mT (which were more effective for leaf development). We observed the best rooting values (3 and 3.6 root) on hormone-free media contained 0.5 and 0.75 g/l activated charcoal (AC), but induction (as pre-treatment with the use of 15 mg/l IBA auxin supplementation until 24 or 72 hour) was essential. Additionally, longer induction time resulted longer (80-121.8 mm) roots and higher rooting ratio (up to 28%). Culturing period (after induction: 2, 3 or 4 month) also affected shoots' length: if plants had more time, they produced longer (34.22-37.6 mm) shoots. The use of AgNO_3 in different dosages (0.5-5 mg/l) moderately reduced endogenous bacterial contamination, but higher concentrations (especially from 2 mg/l) definitely shortened shoots and leaves.