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PLANT REGENERATION FROM MESOPHYLL PROTOPLASTS OF SHRUBBY HONEYSUCKLE, LONICERA NITIDA CV MAIGRUM

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Leaf protoplasts of axenic shoot cultures of Lonicera nitida cv Maigrum underwent cell wall regeneration and sustained division to give multicellular colonies on a modified, ammonium-free MS (Murashige and Skoog) medium containing 0.5 mg/l NAA (1-naphthaleneacetic acid), 1.0 mg/l BAP (6-benzylaminopurine) and 150 mg/l CH (casein hydrolysate). Callus was produced upon transfer of cell colonies to MS medium with 2.0 mg/l NAA and 0.2 mg/l BAP. About 110 days from isolation protoplast-derived shoots were regenerated on a half-strength MS medium with 0.01 mg/l NAA, 5.0 mg/l BAP, 0.5 mg/l zeatin and a complex mixture of group B vitamins. The replacement of such mixture by 250 mg/l CH promoted rhizogenesis in calli with shoot buds being subsequently regenerated from the protoplast-derived roots. Micropropagation of protoplast-derived shoots (of either origin) was difficult, due to a strong apical dominance, but could be accomplished by transferring single-node explants to half-strength MS medium with 1.5 mg/l BAP. Such shoots were, in turn, successfully rooted and transferred to the glasshouse where they completed acclimatization.