

ABSTRACT
MICROPROPAGATION OF CHESTNUT (*Castanea sativa* Mill.)
IN SEMI-SOLID AND LIQUID CULTURE

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In this study, micropropagation of three different chestnut genotypes have been compared in the GD+MS (1/2*NH₄NO₃ and KNO₃) and MS (1/2*NH₄NO₃ and KNO₃) semi-solid media. In addition to semi-solid media, their status of development has been observed in liquid medium (MS 1/2*NH₄NO₃ ve KNO₃) shake culture which having less workforce cost. Genotypes used in this study have been selected among the chestnut stands from Nazilli district of Aydın province. The genotype numbers are N-3-4, N-23-1 and N-7-3. During the experiments, chestnut buds cultured in January in GD medium have been transferred in to MS (1/2 Nitrate) medium after six weeks, in March. Their development in this culture has been observed for a period time of six weeks. Moreover, in March another set of buds have been directly planted into MS (1/2 Nitrate) medium and they were also observed for six weeks. From our results, it can be seen that the shoot formation level has reached to 41.48% for MS (1/2 nitrate) medium and 25.51% for GD+ MS (1/2 Nitrate) medium relatively. The highest value of development has been obtained with offshoots from the N-3-4 (37.21%) genotype for MS (1/2 nitrate) medium. In addition, while the highest value of bud out and browning percentage is observed in the GD+ MS (1/2 Nitrate) medium, the number of average leaves is achieved in the MS (1/2 nitrate) medium.

When the results of liquid MS (1/2 Nitrate) are taken into consideration, it can be seen that a browning has been appeared on the explants. Some losses occurred already before the third week of cultivation.

Keywords: Chestnut, *Castanea sativa* Mill., semi-solid medium, liquid medium, micropropagation, GD medium, MS medium.