MICROPROPAGAÇÃO DO PORTA ENXERTO DE VIDEIRAS '420-A'

MICROPROPAGATION OF GRAPEVINE '420-A' ROOTSTOCK

Pryscilla Menarin DZAZIO
Orientador: Professor Dr. Luiz Antonio BIASI (Departamento de Fitotecnia e Fitossanitarismo - UFPR)

RESUMO

Porta-enxerto de videira '420-A' é um dos mais utilizados na viticultura, por apresentar resistência a filoxera e nematóides e pela afinidade com importantes variedades de copa. Com o objetivo de estabelecer um protocolo de micropropagação deste porta-enxerto, foram realizados vários experimentos em laboratório e casa de vegetação. O estabelecimento das culturas foi realizado com segmentos nodais obtidos de brotações de estacas lenhosas armazenadas sob temperatura fria (4 a 60C) durante período mínimo de 30 dias. A assepsia das brotações foi realizada pela imersão em benomyl 2g.L-1(2 horas) e solução de NaOCL 2,5% acrescido de tween 20 0,1% (20 minutos). Foram testadas diferentes citocininas (BAP e cinetina) em várias concentrações (0, 1, 5 e 10 mM), diferentes diluições do meio MS (MS, MS/2, MS/4 e MS/8) e diferentes meios de cultura (MS, NN e WPM) no cultivo inicial. Na multiplicação das brotações foram testadas diferentes meios de cultura (MS, MS/2, NN e WPM). No enraizamento testaram-se os seguintes meios de cultura: MS/2 líquido com espuma fenólica, MS/2 sólido e MS/2 com carvão ativado (1g.L-1). Diferentes substratos (casca de arroz carbonizada, vermiculita e PlantmaxÒ) foram testados na aclimatação das mudas. A avaliação dos experimentos foi realizada pelos seguintes parâmetros: porcentagem de brotações da gema axilar (>0,5 cm), comprimento da brotação principal, número de folhas expandidas da brotação principal, número de brotos por explante e porcentagem de explantes perdidos por contaminação e oxidação. No experimento de enraizamento também foram avaliados: porcentagem de explantes apresentando raízes e número de raízes.

ABSTRACT

The grapevine rootstock '420-A' is the most utilized in viticulture. In order to establish a protocol of micropropagation from that rootstock, was made several experiments in vitro and glasshouse. In vitro establishment of the grapevine rootstock '420-A' were carried out with nodal segments taken from shoots of hardwood cuttings stocked under cold temperature (4 / 6º C) for least period of 30 days. The shoots was sterilized by dipping in benomyl (2g.L^{-1}) for 2 hours and NaOCL 2.5% supplemented with tween 20 (0,1%) for 20 minutes. In the initial culture, different cytokinins (BAP and kinetin) and concentrations (0/ 1/ 5 and 10 μM), different MS salts concentrations (MS/ MS/2/ MS/4 and MS/8) and different culture media (MS/ NN and WPM) were tested. During the multiplication of shoots, different culture media (MS/ MS/2/ NN and WPM) were tested. In the rooting different culture media was tested (MS/2 liquid with phenolic foam; MS/2 solid and MS/2 with addition of charcoal (1g.L^{-1}). In the acclimatization of shoots different substracts (rice's rind/ vermiculite and commercial substract Plantmax®) was tested. The evaluation of the experiments was carried out through percentage shoots of the axillary bud, main shoot length, number of leaves for main shoot, number of shoots for explant and percentage of the explants lost for contamination and browning. In the rooting experiment percentage of the explants with roots and number of the roots for explant was evaluated. The kinetin did not effect the development shoots of axillary bud. BAP (1/ 5 and 10μM) increased the number of shoots (1.3/ 1.76 and 1.75 shoots/explant), respectively. The increase of BAP concentration reduced the number of leaves per explant and increased the vitrification. The best results was obtained with 1 μM BAP. The medium culture MS led to increase growth of shoots in the initial culture (24.4 mm). The growing shoots was mostly inhibited in the culture media MS/4 and MS/8, especially after their first subculture. For the multiplication of shoots the half strength MS medium seemed to be the most appropriate. Rooting occurs during multiplication of shoots, thus the use of charcoal in the medium culture is indispensable for rooting. The bigger survival of shoots was registred when were used vermiculite (95.8%) and Plantmax® (87%) for the aclimatization. It was concluded that rootstock '420-A'can be micropropagated through nodal segments in culture medium MS supplemented with 1μM BAP, the multiplication of shoots in half strength MS medium and aclimatization with vermiculite and Plantmax®.