The use of *in vitro* apical culture of grapevines to eliminate pathogens (different viruses, *Agrobacterium tumefaciens*)

B. ALTMAYER

Landes- Lehr- und Forschungsanstalt für Landwirtschaft, Wein- und Gartenbau, Breitenweg 71, D-6730 Neustadt, F. R. Germany

Abstract: Grapevines infected with different nepo-viruses (ArMV, RRV, GFV, TmBRV, SLRV) and grapevine leafroll (GLR), respectively, were propagated using *in vitro* apical culture. Shoot tip explants including the meristem and 1-3 leaf primordia (max. size 0.5 mm) were cultivated on a Linsmayer-Skoog medium, containing 1 mg/l IAA and 2 mg/l BAP at 28 °C. After regeneration of shoots and rooting in a modified White's medium, the completed plants could be transferred to the glasshouse and finally planted in the field.

None of these grapevines, regenerated from virus infected mother plants in 1984 and 1985 without heat treatment, shows symptoms of virus infection or reaction in the serological test whereas all control plants derived from cuttings of the same mother plants are virus-infected. Using the same method, *in vitro* apical culture can be used to eliminate *Agrobacterium tumefaciens* from infected grapevines.

To investigate the occurrence of modifications as well as to produce healthy plants many different grape varieties were propagated by this method. Ampelographic characteristics (size and form of leaves and grapes) were modified in at least two cases (clones of Silvaner and Riesling).

In vitro micropropagation of grape varieties

A. DALLOUL, S. MISIK and L. OLAH

Ltd. Company for Micropropagation of Grape, P.O.Box 25, H-6001 Kecskemét, Hungary, and P.O.Box 83, H-3301 Eger, Hungary

Abstract: Micropropagation – by shortening the time of production of propagation material – has an important role in the breeding of grape. Since one of the main tasks at the Eger-Mátra wine region is the breeding and clonal selection, we have started to examine the possibility of *in vitro* propagation of varieties and clones which are promising for this wine region.

Till now 9 varieties and clones have been examined by the method of HAYDU (1984).

We have found that the adaptability of varieties to micropropagation depends on the genotype. This is proved by similar behaviour among related clones.

In our experiments, propagation rates (= number of new buds/number of initial buds) have varied from 0.00 to 5.08 according to the genotype. The higher expenses of micropropagated plants can be recovered in the higher biological value of the virus-free propagation material. The expenses of micropropagation can be reduced by developing variety-specific technology.