# Study of propagation of apple rootstocks via in vitro culture

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In vitro propagation of three apple rootstocks (M9, M26 and M.27) were studied . Primary explants were isolated from shoot tips in the field during Autumn (1993) to Spring (1994). Regeneration of adventitious shoots from leaves was also tested using leaves from in vitro plants, or field grown plants.

The best shoot proliferation for M.9 achieved on LS meium consisted of 2 mg/l 6-benzylamino purin (BAP) and 0.15 mg/l indole - 3- butyric acid (IBA) or 20 mg/l 6-$\gamma$-dimethylallyl amino purine (DMMA). On this medium the cultures were multiplied about five time every 25 days. The M.26 produced more than 10 shoots per test - tube on LS medium containing 20 mg/l DMMA every 25 days. M.27 produced satisfactory shoot proliferation on LS medium supplemented with 1.5 mg/l BAP and 0.1 mg/l IBA.

Adventitious shoot regeneration from leaves (M.9 and M.26) was tested. Using 2-3 youngest unfurled leaves from in vitro grown cultures were most responsive and tended to form the most adventitious shoots.

MS. Medium , containing 5 mg/l BAP and 0.1-0.2 mg/l IBA gave best results. Darkness during two weeks produced the best influence on regeneration rate and the number of shoots.

The most favourable combinations in LS medium for rooting of M.9 were 2 mg/l IBA , 162 mg/l PG and 1.9 mg/l thiamin. After 6 weeks roots were well developed and the small plants were removed from the tubes and placed in posts in humid propagating boxes in growth chamber. After 9 days the lids of the boxes were progressively raised over 8 days and then the plants were grown normally in the growth chamber.