

Investigation of Adventitious Root Development in MM106 and M26 Apple Rootstocks

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Abstract:

Anatomical changes occurring through the rooting process were investigated in MM106 and M26 clonal apple rootstocks in this study. Firstly, a weak callus layer was observed on the cuttings. It was determined that adventitious root primordia in MM106 and M26 rootstocks originated from the differentiation of the phloem cells near the vascular cambium. In later periods, primordia developed made a connection in the vascular tissues and went out from the callus tissue. The sclerenchyma layer formed as an interrupted ring. The presence of sclerenchyma layer was not a mechanical barrier in inhibition of root formation. It was determined that cambium tissue was in an active structure and formed the secondary tissues at the same time. In these rootstocks, no performed root initials or primordia were found.

Keywords: Apple rootstocks, adventitious root formation, root differentiation, root anatomy