

ANATOMICAL AND MORPHOLOGICAL CHARACTERIZATION OF ROOTS OF SEEDLING AND CLONAL AVOCADO (*Persea americana* Mill) ROOTSTOCKS

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Anatomical and morphological characteristics of roots of clonal and seed avocado (*Persea americana* Mill) rootstocks were studied on nursery plants. For this research, 10-month-old ungrafted seedling rootstocks of Mexícola, Nabal, Reed and Zutano varieties and 18-month-old clonal avocado rootstocks of Duke 7 and Toro canyon varieties were used. Trunk diameter, leaf and root area, fresh and dry weights in both leaf and root were determined for each rootstock. Additionally, root morphology was assessed by identifying the type of roots (fine roots with only primary growth or thick roots with secondary growth) and the root branching order for each rootstock. The different components histologically examined were anatomically assessed, while the proportions of stele and cortex were determined. Clear morphological differences could be established between adventitious root system shown by clonal rootstocks and root system formed by a primary root and its ramifications presented by seedling rootstocks. Histologically in both clonal and seedling rootstocks, roots below 2 mm in diameter had a pattern of development different to that of roots with larger diameter, verifying a clear specification of the roots according to their diameter and rate of lignification. Finer roots with thicker cortex may function primarily for water absorption, whereas thicker roots with larger stele presumably function for water transport.