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Anatomy and Transpiration of the Avocado Inflorescence

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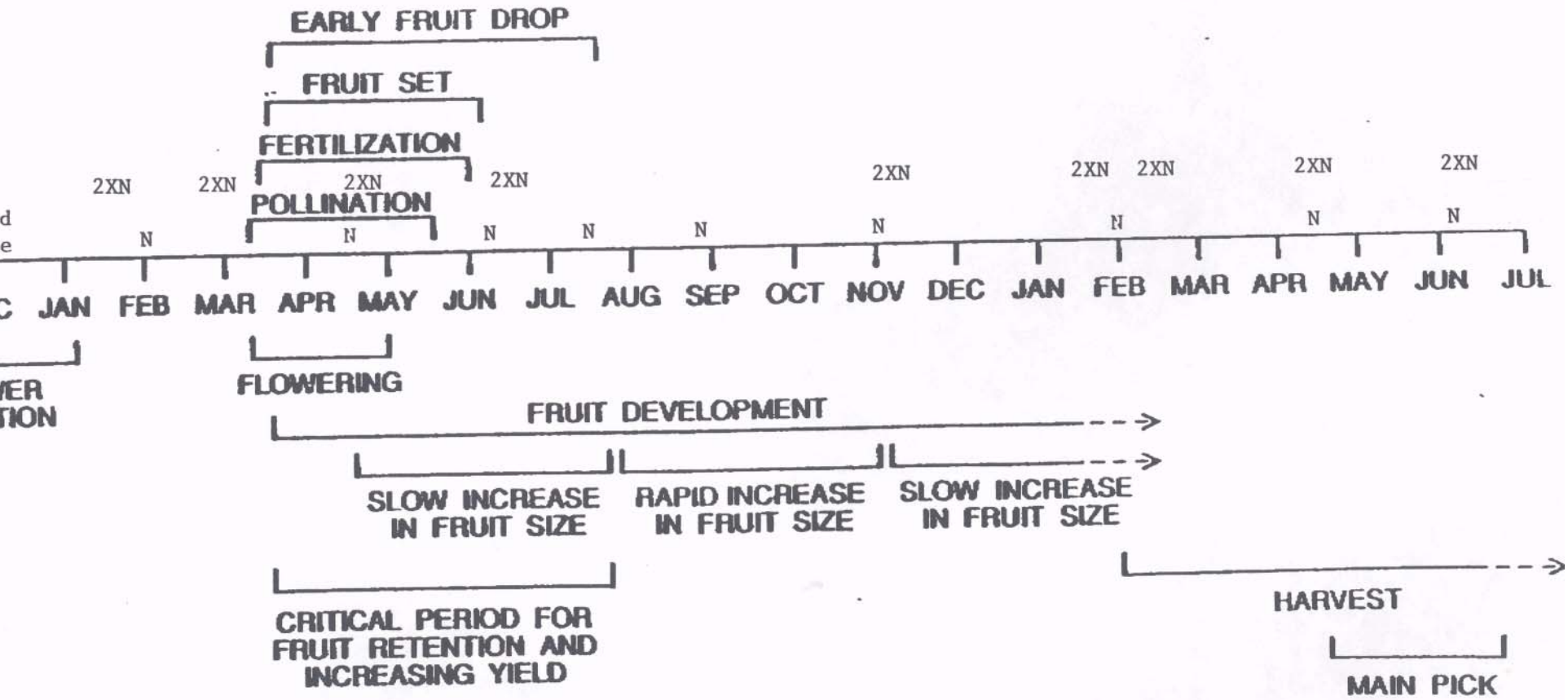
ABSTRACT

Leafy inflorescences of 'Hass' and 'Fuerte' avocado *(Persea americana* Mill) were examined by scanning electron microscopy (SEM) and by porometry. Sepals and petals could not be distinguished by their position in the flower, by visual gross morphology or by microscopic surface structure and were, hence, designated as tepals. These tepals were arranged in two whorls of three, followed by two whorls of three outer and three inner stamens, each opposite a tepal. Six staminodes were located opposite the overlap between two tepals in the whorl intermediate to the two whorls of stamens. Stomata found exclusively on the abaxial surface of the avocado tepals, appeared functional, and were of the common elliptical form. Stomatal size was uniform and small with 8 to 9 x 11 to 13 μm (vestibule 1 to 2 x 6 to 8 μm). The stomatal frequency of 2.8 to 3.4 stomata mm^{-2} on abaxial tepal surfaces was low relative to that of avocado leaves (350 to 510 stomata mm^{-2}) or fruit (50 to 75 stomata mm^{-2}).

Leaves of the avocado inflorescence were densely covered by abaxial crystalline epicuticular wax, and they were dewaxed to enable assessment of stomatal sizes and numbers. Stomata were absent from the adaxial surface of both tepals and leaves as well as peduncles. Trichomes were abundant on tepals and young leaves in the avocado inflorescence. Flowers, peduncles, and leaves transpired 1.2 to 1.3, 0.6 to 0.8, and 0.7 to 1.1 mmol H_2O m^{-2} s^{-1}, respectively.

WERING, FRUIT SET, AND FRUIT DEVELOPMENT IN THE 'HASS' AVOCADO*



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