

VARIABLE RIPENING OF FRUIT IN AVOCADO CONSIGNMENTS

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There has, over the past few years, been an increasing trend towards supplying ripe, ready to eat avocado fruit to the consumer. In order to achieve this, pre-packers need to ripen fruit in a programmed manner, to ensure the correct state of ripeness at retail sales point. However, within a consignment or fruit which has been graded to appear the same, considerable variation in ripening rate occurs, creating substantial logistical problems. The purpose of the study reported on, was to investigate the avocado fruit ripening physiology, with a view to identifying components which can be measured at harvest and packing, allowing for physiologically more uniform fruit within a consignment. Fruit maturity can be estimated by measuring water content at harvest. Previous work indicated a role for abscisic acid (ABA) in the process. The study tested this by infusing water or ABA into fruit immediately after harvest, and studying the ripening pattern. ABA synchronized and hastened ripening very effectively, while water in small amounts decreased ripening spread, possibly by creating more uniform water contents across the group of fruit. In a separate field study, fruit water content at harvest was the most important single factor explaining ripening variation. A further additional factor was fruit magnesium content. Based on the results, a suggested mechanism of fruit ripening initiation and progression is presented, together with mechanisms of evaluation on the pack line, to ensure more physiologically more uniform fruit within consignments, and thus better suiting logistical requirements of pre-packers.