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Preliminary Studies on Low Temperature Ripening of Avocados for Control of Anthracnose

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Commercial production of avocados in the Lower Rio Grande Valley is hampered by a number of factors. The varieties and hybrids currently in production are either very susceptible to low temperatures, have low salt tolerance or are susceptible to anthracnose rot. Until a variety is developed which is tolerant of or resistant to these conditions, cultural and handling practices which will offset these deficiencies are needed.

Because of its cold-hardiness, the Mexican race of avocados has been explored by the Texas Avocado Society for selections which may be adapted to the Lower Rio Grande Valley. This race is particularly susceptible to anthracnose rot however. If this disease can be adequately controlled several of these selections show promise for commercial production in this area. Attempts at field control of this organism have not been successful.

Since the disease does not usually appear on the fruit until after it has been harvested (except with highly susceptible varieties) the idea developed that possibly it could be controlled after the fruit is harvested.

During the 1955 season several fungicidal dips were used in an attempt to control anthracnose rot but they proved ineffective.

Preliminary tests conducted during the 1955 and 1956 season with fruit from several selections of the Mexican type avocado strongly suggest that ripening at low temperatures will control anthracnose rot of avocados. Ripening at 55° to 60° F. has practically eliminated the appearance of anthracnose, whereas, ripening at 80° has resulted in severe infection of the fruit by this organism. There is usually 100 per cent infection at the end of 3 to 4 days at 80°. Avocados ripened at 55° to 60° have held up well for as long as four weeks.

This method of ripening avocados has been successfully used by one producer during the 1956 season.

Further testing of this procedure will be continued using fruit from all varieties and seedlings that show promise of commercial adaptation to Valley conditions.