

COMPREHENSIVE RESEARCH ON PRUNES

PROGRAM AREA: Agricultural Engineering. Physical properties related to
side cracking

PROJECT LEADER: T. H. Burkhardt

PERSONNEL: Ching Yung and R. F. Mrozek

OBJECTIVES:

To cooperate with Dr. Uriu (Pomology) to study the effects of skin strength, skin elastic modulus, thermal expansion, fruit growth, and moisture transfer within prunes on side cracking. Emphasis will be placed on development of suitable measurement techniques.

WORK IN PROGRESS:

Members of the Agricultural Engineering Department are assisting with analysis of data collected by the Pomology Department. As a result of this cooperative effort tests will be developed for the 1971 growing season to collect important data which is still needed.

EXPERIMENTS COMPLETED:

New techniques have been developed for tensile testing of prune skin to minimize variability in size and shape of the samples. These techniques allow each specimen to be positioned for testing with no damage of the sample cell structure. A computer program has been written to assist with evaluation of the skin testing data.

WORK PLANNED:

The contribution of thermal expansion and contraction of the skin and flesh to the side cracking problem will be investigated.

MAJOR ACCOMPLISHMENTS:

Tensile testing techniques have been developed to determine the strength and elasticity of prune skins.

EVALUATION OF PROJECT:

Through the cooperative efforts of the Departments of Pomology and Agricultural Engineering the causes of prune side cracking will be determined and techniques for reducing or eliminating side cracking will be developed.