

1971-72 Report
COMPREHENSIVE RESEARCH ON PRUNES
February 26, 1973

PROGRAM AREA: Agricultural Engineering

PROJECT NUMBER & TITLE: Optical Prune Sorting

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OBJECTIVES

To modify the optical and electronic components of the optical prune sorter for improving sorting efficiency, and to evaluate these modifications.

WORK IN PROGRESS

We have had difficulties in finding suitable personnel for running tests to evaluate the modified sorter. We hope to get the evaluation tests under way in the near future.

EXPERIMENTS COMPLETED

1. Tests were conducted to find the optimal focal length for the sorter lenses, and the appropriate new lenses were added to the sorter. The longer focal length will make the sorter less sensitive to changes in prune diameter.
2. The viewing area was increased to make the sorter less likely to reject nonscorable defects.
3. The electronic circuitry was modified so that all sensors give identical signals when they are "looking" at a standard target.
4. End viewing sensors were added to sort out end cracks.

WORK PLANNED

To evaluate the current version of the optical prune sorter and to report these results to the research subcommittee of the Prune Advisory Board.

MAJOR ACCOMPLISHMENTS & IMMEDIATELY APPLICABLE RESEARCH RESULTS

These can be determined better after the evaluation tests are completed.

EVALUATION OF PROJECT

A commercial optical prune sorting device should reduce packaging costs from two to four dollars per ton. If there is mutual agreement that this method of prune sorting shows sufficient promise, we will request further funding for the development of a prototype sorter to be tested in prune processing plants.

PUBLICATIONS OR REPORTS

Burkhardt, T. H. and R. F. Mrozek. Optical sorting of dried prunes. A paper presented at the Dried Fruit and Tree Nut Research Conference. Fresno, California. June 23, 1972.

Burkhardt, T. H. and R. F. Mrozek. A light reflectance sorting device for dried prunes. Paper number 72-836 presented at the 1972 Winter meeting of the American Society of Agricultural Engineers, Chicago, Illinois.