New Machine May Revolutionize Lettuce Harvesting

A machine that may well revolutionize the lettuce industry, second largest farm business (dollar-wise) in Arizona, is now being developed at The University of Arizona's experimental farms.

It is a discriminating lettuce picker. Discriminating because it automatically rejects lettuce heads that haven't reached the maturity needed for harvesting.

Behind the project is graduate student Bill Harriott, part-time research assistant at The U of A, who for five years prior to coming to Tucson was a designer of farm equipment.

More Work Needed

Harriott, who started on the invention as soon as he enrolled at UA in September of last year, says that although the machine has reached the stage of reality, several more years are needed to perfect it to the point where it can be produced commercially.

Its impact on the lettuce industry, which in the past forty years has grown to a peak of some $35 to $45 million annually in this state, will be felt primarily in two areas.

It will help solve the growing labor problem. Lettuce remains one of the crops which is entirely hand picked, usually by migratory workers or braceros. And the workers have to be trained to pick lettuce properly, by size and firmness of the head.

Harriott says the recent federal restrictions on imported labor, and the shortage of domestic help, not even available in some areas, has created a labor problem. In Arizona, most regions where lettuce is grown yield two crops each year, unlike the midwest.

Will Cut Labor Cost

Secondly, under the present manual harvesting of lettuce, as much as 20 per cent of the price is attributed to picking and packaging. "We think it will substantially reduce the cost of lettuce," Harriott said.

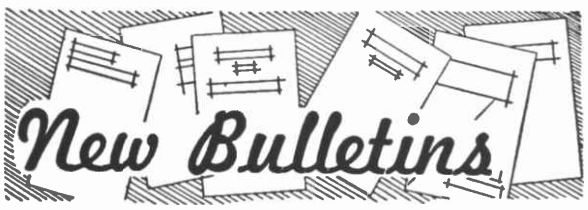
The machine is now in two individual pieces which have to be integrated into one working unit. The first consists of two robot-type arms which travel down a lettuce row, measuring the firmness and size of the heads. If the head comes up to par, the arms signal the lettuce cutter — a series of shovel-like blades which scoop down and take the head.

Plan Conveyor-Packer

A third part, yet to be devised and added to the machine is a conveyor and packaging unit, which will receive the selected heads.

The cutter is powered by a hydraulic motor, and the entire unit mounts on a farm vehicle. Both units are operational to some degree now, and represent the only such machine in the nation.

Trade names used in this magazine do not endorse products named nor imply criticism of similar ones not mentioned.



These and other College of Agriculture publications are available to residents of Arizona from local County Extension Offices. Or you may write to The University of Arizona at Tucson for them. The publications listed below have been issued since the last issue of *Progressive Agriculture in Arizona.*

Bulletins

A-1 (revised)—Chemical Weed Control Recommendations for Irrigated Areas of Arizona

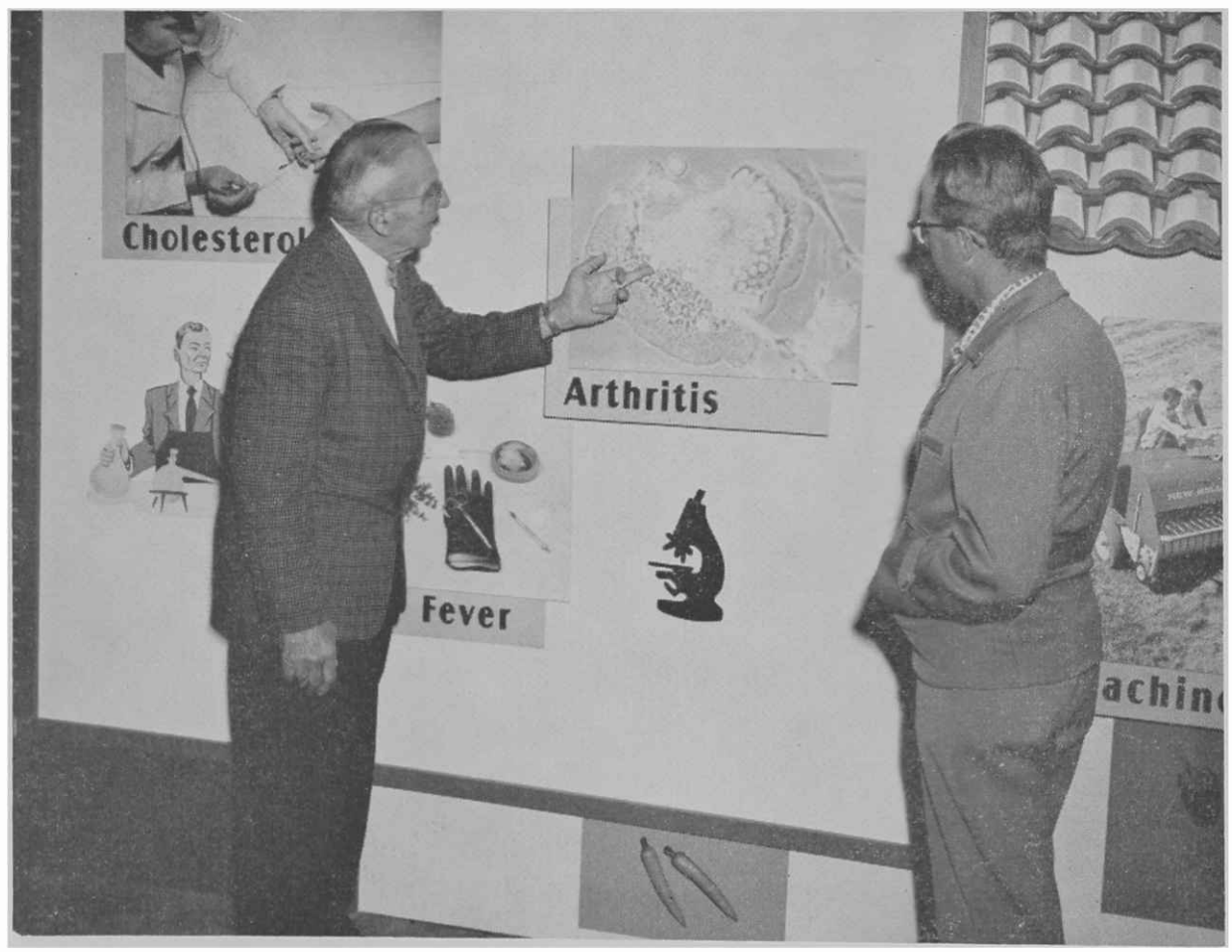
Circulars

240 (reprint)—Madam Chairman, a parliamentary handbook

Folder

77 (reprint)—Inventory and Record of Important Papers

UA Research Exhibit at State Fair



EVERY YEAR the U of A College of Agriculture brings an instructive story to the Arizona State Fair at Phoenix. Last November's exhibit stressed the medically-related research which this college is doing. Manning the exhibit was Dr. T. F. Buehrer, who had been a staff member of this college for many years, prior to retirement. He is shown at left above. At right is Lloyd Patterson, U of A agronomy research assistant at the Cotton Research Center. In the show ring a Holstein sire entered by the university topped his breed, with other ribbons being won by beef entries. (Photo by Bob McKnight)