



The Camera Looks at AGRICULTURAL RESEARCH

Research projects in agriculture are being carried on by staff members of the University of California from Tulelake, near the Oregon border, to El Centro, near the border of Mexico; on crops that run the gamut from alfalfa to zucchini. Some of the work is done in laboratories on the four University campuses; some in climate-controlled greenhouses; some in test plots at the University's field stations or on farms in cooperation with growers.

In many cases, colleagues in the Agricultural Extension Service work side by side with Experiment Station staff mem-

The photo below shows a test plot of newly developed sweet potato varieties set out at the U. S. Cotton Field Station, near Shafter. The object of the project is to try to develop varieties of sweet potatoes that are resistant to stem rot and to nematode damage. The variety being harvested by hand is resistant to nematodes, has a fair yield, excellent flavor and good storage life. However, it is not resistant to stem rot so will probably be used in further breeding work—which is under the direction of G. C. Hanna, Olericulturist in the Experiment Station, Davis.

bers, testing, keeping records and evaluating data obtained.

Here are a few of the projects currently under way. More detailed information on them will appear from time to time in CALIFORNIA AGRICULTURE and other publications and releases of the Division of Agricultural Sciences.

In a few years, much of the irrigation water for the west side of Fresno County will probably come from the projected San Luis Reservoir instead of being pumped from wells. The present well water at the West Side Field Station contains approximately 12 milliequivalents per liter total salts; the Kings River water used in this experiment simulates the expected quality of San Luis water and contains approximately 1 meq/l. The latter penetrates the soil at about one-half to one-third the rate of the well water. Just how this will affect crops in the area, or what treatment will have to be given the San Luis water to improve penetration is being studied at the West Side Field Station, near Five Points, in ring infiltrometers planted to alfalfa. The river water used in the tests is brought in by tank truck. The penetration studies have been going on for two years under the direction of L. D. Doneen, Professor of Irrigation, Davis, and H. Yamada, Assistant Specialist in Irrigation, U. S. Cotton Field Station, Shafter.





These turfgrass test plots at the Kern County Industrial Farm, near Bakersfield, are part of a long-range program to determine which varieties will do well in lawns, on golf courses and playing fields in the lower San Joaquin Valley. Among the grasses being tested are five varieties of hybrid Bermudas, of which two—Tifgreen and Sun-turf—are already showing promise in fineness of texture and tolerance to heavy foot traffic. All varieties tested require considerable maintenance and adequate irrigation. The tests were begun in 1957 and it is planned to continue them for several more years. They are under the supervision of John Hoyt, farm advisor in Bakersfield, with assistance from V. B. Youngner, Assistant Professor of Floriculture and Ornamental Horticulture, Los Angeles.

Researchers at the U. S. Cotton Field Station, Shafter, are looking for genetic types of cotton that are resistant to spider mites. The tall variety shown in the background has spider mite resistance, but produces cotton only late in the fall. It will be used in future breeding experiments to develop varieties that will have the desired spider mite resistance plus a good yield of high quality fiber. In the photo of the



The photo above shows weed control results in cotton test plots at the West Side Field Station. The investigations using herbicides on cotton were conducted in four categories: Screening for selectivity, preplanting applications, soil incorporation at planting, and layby applications. Two of 13 new herbicides showed promise, Dacthal and Zytron. The cotton displayed a remarkable tolerance to both. Preliminary results indicate that Dacthal, applied either as preplanting treatment or at layby, may provide weed control comparable to diuron with better cotton tolerance—but little is known yet about soil residue or the costs involved. This work is under the supervision of John H. Miller, Associate in the Experiment Station, U. S. Cotton Field Station, Shafter.

leaves the large leaf, upper left, and the long pointed leaves are wild cotton varieties brought in from Mexico and Arizona respectively, and have high resistance to spider mites but produce little cotton. The other leaves are from varieties that produce good yields but are highly susceptible to the mites. Tests are under the direction of Thomas F. Leigh, Assistant Entomologist in the Experiment Station.

