

YUMA CITRUS

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planting of citrus, so most groves are in soils that have several years' history of plant growth.

Scattered Small Plantings

East of the Wellton-Mohawk Mesa there are a few spots where citrus exists in Yuma County. These spots are the Dateland area with about 15 acres planted, Horn (N.E. on the Bruce Church Co. property) where some trial plantings of 100 acres are being conducted, and the Hyder area where a few scattered trees have been placed to observe their growth characteristics. There are several large plantings planned for these areas if these trial plants are satisfactory.

The newest citrus area is in the Yuma Valley, where trial planting two years ago have gone through two winters with little damage. This has triggered new plantings of several hundred acres. (See Yuma Valley table) Many of these recent plantings are 240 trees to the acre, half on Rough Lemon rootstock and half on Troyer rootstock. Research shows that Troyer does better on the heavier soils, but is more easily affected by salts than Rough Lemon.

These new plantings actually are commercial-sized research blocks, designed to help select the best rootstock for the valley. Some older citrus acreage in the valley, now approximately 25 years old, was all budded on the old favorite rootstock, Sour Orange. This still is one of the best rootstocks, but due to the disease tristeza, (Quick Decline) in California, most citrus currently being planted in Yuma County is not being planted on Sour Orange rootstock.

Additional Acreage Planned

Many new plantings are planned for the Yuma Valley, the Wellton-Mohawk Mesa and surrounding areas where good soil and high quality water can be found. The Yuma County citrus acreage is now slightly over 21,500 acres and plantings proposed for next year will add about 2,000 more acres.

Yuma area lemons, oranges and grapefruit have been received well on domestic markets and overseas. Two new citrus packing sheds are being built to handle the increasing volume of fruit that will be available. Packing facilities in Yuma are the newest in the nation, due to the recent expansion by existing packing houses and new ones now being built.

After 50 Years

EXTENSION SERVICE IS BOTH OLD AND NEW

Joe McClelland

"There's nothing new under the sun."

Many are the arguments begun by the above statement, but the fact remains that often we are surprised by the basic truth it indicates.

Take the Cooperative Extension Service, for instance. It's a branch of The University of Arizona's College of Agriculture, with offices in every county of Arizona. Just 50 years ago it was established under the "cooperative" Smith-Lever Act which set up a county, state, and federal government partnership that ever since has been the envy of other nations throughout the world.

Principles Are the Same

Now, needless to say, there are a lot of new things in the Extension program—and in Arizona agriculture—since that 50-year-ago beginning. But essentially the basic principles involved have not changed. The similarities may be more dramatic than the changes.

The Cooperative Extension Service program still follows the Smith-Lever law's directive "to aid in diffusing useful and practical information on subjects related to agriculture and home economics and to encourage application of same."

Fifty years ago, the Extension Service staff consisted of a superintendent (later called director), a livestock specialist, a state 4-H club agent, an office secretary and two county agents.

Today there are 37 state-staff sub-

Joe McClelland is probably one of the "most read" editors in Arizona, having edited countless agricultural and home economics publications since he became Extension Information Specialist here just 17 years ago. His work has won many blue ribbons in national competition, and Joe himself has been honored by his national association (American Association of Agricultural College Editors) by serving as its president, as well as holding other offices of trust in that organization.



HIGHLY CAPABLE DIRECTOR of the Cooperative Extension Service at The University of Arizona today is Dr. George E. Hull.

ject-matter specialists, and a county staff of 54, with an office in each of the state's 14 counties. And the job of Extension continues to be that of education, with the entire state as its classroom.

The Extension Service is under the direction of Dr. George E. Hull. The list of directors, with their terms of service over the 50-year period, is as follows:

Stanley F. Morse

July 1, 1914 - August 15, 1916
(first year Superintendent, second year Director and State Leader)

Estes Park Taylor

October 1, 1916 - June 30, 1920

William M. Cook

July 1, 1920 - June 30, 1922

Alando B. Ballantine

(Acting Director)

July 1, 1922 - June 30, 1923

Clarence T. Dowell

July 1, 1923 - July 31, 1923

Pontius H. Ross

September 22, 1923 - October 31, 1936

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George W. Barr

(Acting Director)

November 1, 1936 - April 30, 1937

Chas. U. Pickrell

May 1, 1937 - June 30, 1958

John W. Pou

July 1, 1958 - March 16, 1961

George E. Hull

March 16, 1961 -

First Were Farm Demonstrations

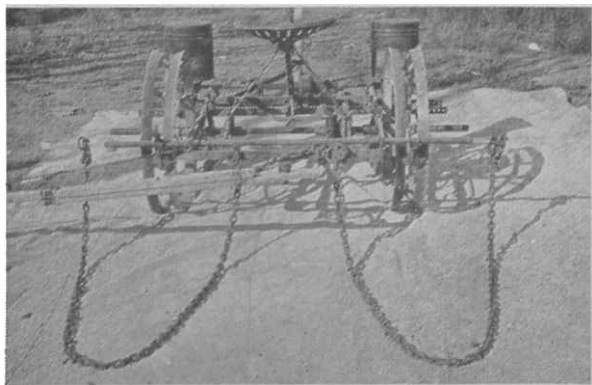
Arizona's Extension programs started with the basic farm demonstration—showing groups of farmers the practical application of the findings of research from the College of Agriculture at The University of Arizona, from other similar colleges, and from the United States Department of Agriculture. Essentially, Extension still demonstrates to the residents of Arizona the results of research affecting agriculture and the wide scope of agricultural business—as well as home economics. And, as was the case 50 years ago, the work with youth of the state through 4-H clubs is a vital part of the entire program. The 4-H plan is "Learning by Doing."

The greatest change in the past 50 years actually has been in agriculture itself. Cotton was barely mentioned in the first Extension annual report—but corn, grain sorghums, lettuce, wheat, and potatoes were the subjects of the earliest informational bulletins issued by the Extension Service.

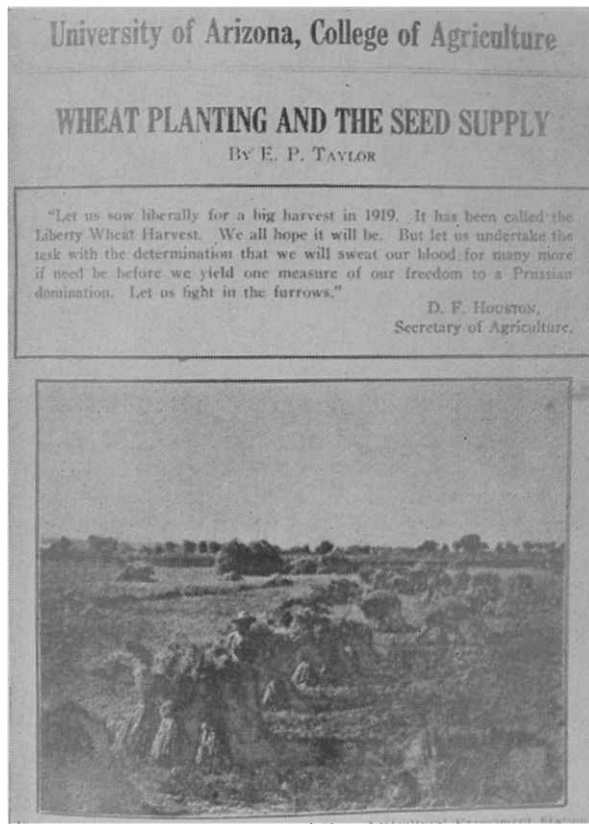
Poultry, purebred livestock, silos and silage, water storage, the production of clean milk, and the range bull were subjects of other early agricultural publications. "Corn as a Trap Crop for The Cotton Bollworm" was the title of the first publication relating to cotton.

Helping the Housewife

"Home Management" was covered in publications as early as 1917, along



FAR CRY FROM today's efficient farm machinery was this early "recommended" cotton planter. Note the drag chains which returned a dirt mulch over the planted area.



WHEAT WAS THE subject of one of Extension's earliest bulletins, printed in 1919 (left, above) and also one of the most recent bulletins published in 1964 (right, above).

with "Nutritive Value of Standard Foods."

Later, "Foods for Hot Weather" was the topic of a rather extensive circular that included menus and recipes as well as cooking rules. "Garment Making" was a popular 4-H club manual at this time.

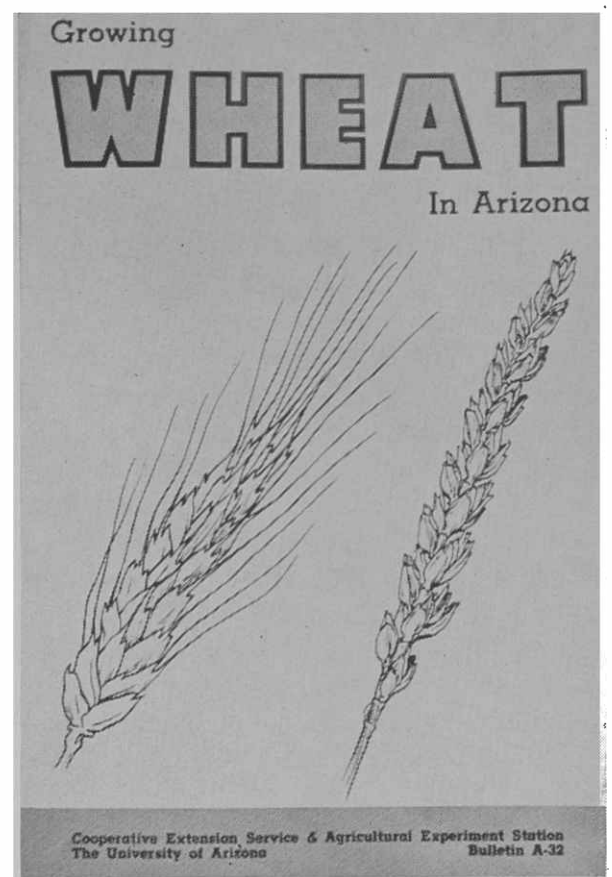
The first Extension project in cotton production was entitled "Egyptian Cotton Extension." Established in 1916, it became a leading activity in Maricopa county.

The first mention of Arizona crop production appeared in the 1917 Extension Annual Report, with alfalfa having the greatest acreage—185,000 acres. Cotton was grown on 52,000 acres; wheat 30,000; barley 32,000; corn 32,000; milo maize 30,000; sorghum 8,000; cantaloupes 3,000; citrus 2,700; deciduous orchards 5,200; pink beans 18,000; and potatoes 4,800. Also reported was 4,100 acres of feterita, and 600 acres of olives. Pasture crops were listed for 54,700 acres.

Expanded Crop Acreage

Total crop acreage in the state was 491,867 acres in 1917; it was 1,165,800 acres in 1963. Strangely enough, the acreage of alfalfa now is not much greater than in 1917, with 193,000 acres reported for 1963.

Within the area of agricultural production and practices, great changes have taken place. The Extension Service has continued for 50 years to help farmers—and others interested in the welfare of agriculture in Arizona—to adjust to these changes or,



in many cases, to help bring such changes about.

The area of agricultural marketing is of vital importance during the present era of business farming. But marketing also was recognized as part of the over-all Extension program as far back as 1916 when it was reported that "the Extension Service, together with the Arizona Farm Improvement Association, assisted farmers to find a market for 114,000 pounds of various kinds of seed crops valued at \$2,000."

Better Trained Personnel

For 50 years the Arizona Extension Service has served the people of this state. As the needs of the state's agricultural industry have changed, so has the organization. There are many more staff members now than 50 years ago. They are better trained in scientific agriculture and home economics. And they are working on a broader scale than did the early county agent or specialist.

But the present Extension program continues to reach the people of the state through the county extension office, and it continues to serve in the ways that local people want it to—as indicated through their requests for assistance. The technology of The University of Arizona is as close to the public as the County Extension Agent's office door.

The county extension staff, well trained and practical minded, is now supplemented by a state specialist

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Seed Selection One Key To Yield of Potato Crop

W. D. Pew

During the past few years considerable experimental work has aimed at developing methods for improving potato yields. The two major reasons for this work were first, to find a way to reduce or offset increased production costs and, second, to provide a crop better suited to the improved mechanical harvesting and bulk handling processes.

It was found that one of the easiest and most effective methods a grower could use to accomplish this was adjusting the seed-piece size and regulating the number of eyes on the seed piece. Since it is not feasible to regulate mechanically the number of eyes per piece, it was shown that the same success could be achieved by selecting or cutting seed pieces large enough to offset any effect the num-

ber of eyes per seed piece may have on yield.

To study these effects, seed pieces were cut into the various groupings as listed in the "Treatment" column of the adjoining table. These lots of seed were planted and grown under field conditions as ideal as possible. The results are tabulated in the table. They show several interesting comparisons.

Small Whole Tubers Best

It was observed that small, whole tubers, ranging in size from 1½ to 2 ounces (treatment 13) and 2 to 3

EFFECT OF SEED kind and size on plant growth is shown in these three photos taken at the same time, in the same trial, at the Mesa Experiment Station. At left, half ounce cut seed with three eyes; center, two ounce cut seed with three eyes, and at right, whole potato seed of three ounces and up. Note comparative growth of vines.

ounces (treatment 14) were consistently among the highest yielding group. This appeared consistent with the factor of seed-piece size, although certain other factors may have exerted some influence.

Other advantages in the use of small, whole seed pieces are elimination of labor to cut seed pieces, better protection against diseases and ease of handling and planting. Each of these factors would markedly reduce the cost in general potato production. Certain disadvantages are also apparent, such as chances of obtaining low producing stock as seed and an inadequate supply of tubers from high producing fields grown for seed production. The advantages, however, appear to outweigh the disadvantages.

A further comparison, made between the small whole tubers and the 2-ounce cut seed pieces, shows essentially the same production capability. These data indicate that, where good seed stock is available in adequate quantities, considerable labor can be saved by using uncut, whole tubers without adversely affecting yields.

Note Several Trends

Based on a closer evaluation of the data in the table, several general trends are noted. Important is the fact that the larger the seed piece, the greater the yield. However, the close relationship between seed-piece size and number of eyes, especially where the seed pieces are small, was always evident. For example, using ½ ounce seed pieces, the 3-eye pieces

Dr. Pew is professor of horticulture and also the very capable superintendent of the Mesa, Ariz., Branch Experiment Station.

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force as members of subject-matter departments in the fields of agricultural economics, agricultural engineering, agricultural marketing, agronomy, dairying, entomology, plant pathology, horticulture, livestock, poultry, soils, watershed management, 4-H club work, clothing, home management, foods and nutrition, and other home-economics areas.

One Aim—To Serve

Each extension worker—state staff or county—has but one professional goal: to best serve the people of Arizona in the broadest areas of agriculture and home economics. The work of the dedicated county agent of 50 years ago continues today through his counterpart, the dedicated Extension scientist working for his county people, for the College of Agriculture of The University of Arizona, and for a continuing strong agriculture and satisfying family living.