

# Extension Service *Teaches*

## Its Classroom Is the Farm Field and Farm Home of Arizona's Agriculture

By Chas. U. Pickrell

Although operating largely off the campus, the Agricultural Extension Service is a definite part of the College of Agriculture of the University of Arizona. While it may not be classed as an academic exercise, it is teaching in the broadest sense of the word. The Extension Service classroom is the farm field and the farm home. It converts research results into farm practice.

The Extension Program is based on the philosophy of people helping themselves. One of its principal lessons is that of expanding welfare and happiness of rural people through local leadership, by means of doing, showing, and demonstrating. All programs are set up on a county basis. The County Agent's office is the center

of all Extension activities. The entire effort of the State Staff is directed toward assisting the programs in the various counties of the state.

The Extension program divides quite distinctly into three phases. The first, that with men; the second, with women; and the third, dealing with programs of interest to youth.

The problems of production are of chief interest to farm men and are becoming more numerous as well as more complex. Rural women are gaining a broader concept of the responsibilities as citizens. They are increasingly concerned with community health problems, schools, libraries, recreational facilities, and other phases of community welfare which develop a continually increasing demand for aid in family problems.

Learning by doing has characterized the extension educational programs for rural youth from the begin-

ning. This work was first known as boys and girls club work and has later become identified as 4-H Club work, the four H's being the initials of their pledge—"My HEAD to clearer thinking, my HEART to greater loyalty, my HANDS to greater service, my HEALTH to greater living for my club, my community, and my country."

This program for boys and girls ranging from 10 to 21 years of age has caught the imagination of the American people. The program here consists of activities corresponding with the adult programs in both agriculture and home economics.

How did the Extension Service come to be? Answering that question, requires a brief glimpse into the early history of education.

The American educational system started with public schools about 185 years ago. Agriculture traces its educational advance to the founding of the Land Grant College system 100 years later, in 1862.

At first the Land Grant institutions were equipped only for teaching. The first task was to build a body of scientific information regarding soils, crops, and livestock production available to students attending. The need for this information prompted, some 25 years later, Federal and State leg-

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Right in the field is the Extension Service classroom. Below, Farmer E. L. Larson (left) of Snowflake studies potato-disease problems with James C. Armer, county agricultural agent for Navajo County.



## *Progressive Agriculture* IN ARIZONA

Volume 1 Oct.-Nov.-Dec., 1949 No. 3

Published quarterly by the College of Agriculture, University of Arizona, Tucson, Arizona; Dr. P. S. Burgess, dean of agriculture. Reprinting or quoting permitted with proper credit.

Entered as second-class matter March 18, 1949, at the post office at Tucson, Arizona, under the act of August 24, 1912.

Arizona farmers, ranchmen, and homemakers may have their names placed on the mailing list to receive *Progressive Agriculture* at no cost by sending a request to the College of Agriculture, University of Arizona, Tucson, Arizona.

Editorial Board: Ralph S. Hawkins, chairman; Robert L. Matlock, Experiment Station; Howard R. Baker, Extension Service; R. W. Cline, Resident Instruction; Mildred R. Jensen, School of Home Economics; Joe McClelland, ex-officio member and editor.

## Frost Protection For Arizona?

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Fifth, the duration of low temperatures is less at 50 feet than at 5 feet. On January 3-4 there were 11 hours below 26° at 5 feet and 3½ hours at 50 feet. On the next night a greater difference existed with 13 hours and 1 hour respectively.

These studies indicate that temperature inversion in the Salt River Valley is sufficient to provide favorable conditions for the use of frost-protection devices. Inversion appears to be similar to that which occurs in many areas in California where orchard heating is practiced. From the meteorological viewpoint, heating can be accomplished here. The economic aspects of heating, however, involve many other factors which should be carefully considered by the growers.

—Robert H. Hilgeman is Associate Horticulturist.

## They Learn to Teach Arizona's Farmers

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education of a successful teacher of agriculture. The findings of research in agriculture and the development of new practices in teaching require continuous study on the part of the progressive teacher.

To teachers on the job, the College of Agriculture offers the following services: assistance through individual and group conferences conducted throughout the state, bulletins and other teaching aids for teachers and their students, and special summer-school short courses to meet the specific needs of Arizona teachers.

The graduate short courses are arranged to enable teachers to pursue a continuous program of advanced study even though their work is a year-around job. In recent years, a total of nineteen different short courses have been offered by various departments in the College. Each summer about half of the teachers in the state enroll for these courses.

—R. W. Cline is head of the Department of Agriculture and Home Economics Education.

## Extension Service Teaches in Field

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isolation establishing research divisions in the Land Grant Colleges, known as Experiment Stations.

Although the first incentive for research in agriculture in these institutions was for student use, it soon became evident that results of agricultural research would be of great value to farmers if the information could be applied. In this movement to reach farm people there developed a plan in the field of education known as farmers' institutes.

A system of printing and mailing bulletins to farmers was also set up, but both of these efforts were unsuccessful in that neither contained a process to bring about the application of this research information to the farm. Farmers attended the institutes and read the bulletins, but a link in the educational process was missing. People learn by seeing - by doing. Someone conceived the idea of the demonstration method, in some respects resembling the methods used in teaching the natural sciences.

The idea also included a provision for the demonstration system to be operated by a teaching division of the Land Grant College consisting of teachers living with the farm people — knowing them and their problems. So, there came into being in 1914 under the Smith Lever Act the Agricultural Extension Service, a third division of each of the forty-eight Land Grant Colleges.

Without local volunteer leaders the Extension Service could not function as it does. In fact, Extension's widespread unpaid local leaders and co-operators are a unique contribution to this field of education.

The Extension system has been tested and revised through two world wars and the peace following these wars. It has adjusted its programs to periods of boom and depression. Today it touches a high percentage of the homes and farms in rural Arizona.

The work of the Extension Service can be expected to change to meet the new problems of homemaking and of agricultural production, involving new crops, new insects, new diseases, and probably new weeds.

The chief objective of the entire

## Growth Patterns Are Studied

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he became identified. Any deviation even for a month or two was cause of examination.

A group of 61 girls, 12 and 13 years of age living in southern Arizona most of their lives but living at the time in one school district in Tucson, was studied last year by Mrs. Elizabeth B. Hurley, graduate student. Instead of the above rate of advance she found 23% of her cases following the 2% age schedule (as shown on page 5), 84% following the 67% schedule, and 100% the 82% schedule. None was in the 98% or retarded schedule.

These girls were classified also into 9 general body types of physique referred to, respectively, as A<sub>4</sub>-A<sub>3</sub>-A<sub>2</sub>-A<sub>1</sub>-M-B<sub>1</sub>-B<sub>2</sub>-B<sub>3</sub>-B<sub>4</sub>; A<sub>4</sub> representing the very fat, B<sub>1</sub> the very thin, and M the average type. (See photos, page 5). Of the Tucson group, fewer cases were classified as being types A<sub>4</sub> to A<sub>2</sub> than those of the midwestern group with more being B<sub>1</sub> to B<sub>3</sub>. With this trend to the slender type, together with advanced age schedules of growth, more of the girls are expected to reach the taller statures at adulthood if they continue to conform to the age schedules of the northern girls. However the Arizona schedules may be somewhat modified by the fact that in post-adolescence, of the two groups, the Arizona girls show the greater drop in metabolic rate. It is of interest also that 82% of these 12- and 13-year-old girls had made, at the time of the study, 90% or more of their predicted full growth.

Continued observation of the girls studied by Mrs. Hurley to cessation of growth will give us the full picture. We should know then to what extent this marked acceleration in growth in preadolescence is characteristic of postadolescence resulting in the higher statures of adulthood.

—Ethel M. Thompson is Professor of Nutrition in Home Economics.

Extension Staff is that the County Agent's office will continue to help local farm people to meet their problems of agriculture.

—Chas. U. Pickrell is Director of the Agricultural Extension Service.