ANNUAL REPORT

of the

ARIZONA AGRICULTURAL EXTENSION SERVICE

By

CHAS. U. PICKRELL
Director

FOR THE FISCAL YEAR ENDING JUNE 30, 1953

INCLUDING A REPORT ON PROJECT WORK

TO NOVEMBER 30, 1953

TABLE OF CONTENTS

ORGANIZATION

Richard A. Harvill . . . . . President of the University
Phil S. Eckert . . . . . Dean of the College of Agriculture
Chas. U. Pickrell . . . . . Director of Agricultural Extension Service
Howard R. Baker . . . . . Assistant Director of Agricultural Extension Service
Jean M. Stewart . . . . . State Leader of Home Demonstration Work
Kenneth L. McKee . . . . . State Leader of 4-H Club Work
Nellie Campion . . . . . Administrative Assistant

County Agricultural Agents

C. L. Isaacson . . . . . Apache County
Carmy G. Page . . . . . Cochise County
William Brechan . . . . . Coconino County
S. W. Armstrong . . . . . Gila County
S. L. Owens . . . . . Graham County
John L. Sears . . . . . Greenlee County
J. H. O'Dell . . . . . Maricopa County
Richard Hoover, Assistant . . . . . Maricopa County
Otis Lough, Assistant . . . . . Maricopa County
James R. Carter, Assistant . . . . . Maricopa County
Ray Milne, Assistant . . . . . Maricopa County
Lewis Whitworth, Assistant . . . . . Maricopa County
W. E. Gregory . . . . . Navajo County
G. E. Blackledge . . . . . Pima County
Robert E. Oberly, Assistant . . . . . Pima County
Maurice Bossuyt, Assistant . . . . . Pinal County
Alvin Allen . . . . . Yavapai County
Albert R. Face . . . . . Yuma County
Robert I. McCreight, Assistant . . . . . Yuma County
Theodore H. Siek, Itinerant Assistant . . . . . Yuma County
E. S. Turville . . . . . County Agricultural Agent at Large
C. G. Lueker . . . . . County Agricultural Agent at Large

Home Demonstration Agents

Maryetta Gaskill . . . . . Cochise County
Virginia Twitty . . . . . Graham & Greenlee Counties
Isabell Pace . . . . . Maricopa County
Laurayne Kennedy, Assistant . . . . . Maricopa County
Rosemary Shepherd, Assistant . . . . . Maricopa County
Anne B. Shute . . . . . Navajo & Apache Counties
Madeline Barley . . . . . Pima County
Lucinda Hughes . . . . . Yavapai-Coconino-Gila Counties
Mariel Hopkins . . . . . Yuma County
Evalyn Bentley . . . . . Home Demonstration Agent at Large

Cooperative Specialists

Helen L. Church . . . . . Extension Specialist in Clothing
Charles C. Ellwood . . . . . Extension Specialist in Agronomy
Ellen Kightlinger . . . . . Assistant State Leader, 4-H Club Work
Joe McClelland . . . . . Extension Information Specialist
James E. Middleton . . . . . Extension Specialist in Irrigation
Elsie H. Morris . . . . . Extension Nutritionist
Daniel Ralston . . . . . Assistant Information Specialist
Howard E. Ray . . . . . Extension Specialist in Soils
J. N. Roney . . . . . Extension Specialist in Entomology
Grace Ryan . . . . . Extension Specialist in Home Management
Ivan J. Shields . . . . . Extension Specialist in Plant Pathology
Thomas M. Stubblefield . . . . . Extension Economist
Harvey F. Tate . . . . . Extension Horticulturist
W. R. Van Sant . . . . . Extension Specialist in Poultry & Dairying

APPOINTMENTS AND RESIGNATIONS

July 1, 1952 to June 30, 1953

Appointments

Theodore H. Siek, Assistant County Agent, Yuma County -
September 1, 1952

Carlton Camp, Itinerant Assistant County Agent -
February 16, 1953

C. L. Isaacson, County Agricultural Agent, Apache County -
June 1, 1953

Anne B. Shute, Home Demonstration Agent, Navajo & Apache Counties -
December 1, 1952

Laurayne Kennedy, Assistant Home Demonstration Agent, Maricopa County -
April 10, 1953

Rosemary Shepherd, Assistant Home Demonstration Agent, Maricopa County -
June 8, 1953

Ivan J. Shields, Extension Plant Pathologist -
October 16, 1952

Daniel Ralston, Assistant Information Specialist -
March 25, 1953

Netta Mitchell, Secretary, Information Office, State Office -
July 1, 1952

Marion Kronberg, Assistant Secretary, State Office -
July 1, 1952

Cheer Owens, Stenographer, State Office -
July 1, 1952

Treesa Cotton, Stenographer, Maricopa County Office -
July 1, 1952

Doris Jean Jennings, Stenographer, Maricopa County -
July 1, 1952

Neda Davis, Stenographer, Apache County Office -
August 1, 1952

Beverly J. Anderson, Secretary, Pima County Office -
August 1, 1952

Antoinette J. Raffa, Stenographer, State Office -
September 10, 1952

Joan Clasen, Stenographer, State Office -
October 16, 1952

Lois Gene Hammer, Stenographer, Pinal County Office -
November 1, 1952

Charlotte Taylor, Stenographer, State Office -
December 1, 1952

Nancy L. Hastings, Stenographer, State Office -
December 1, 1952

Maxine Wiley, Stenographer, Coconino County Office -
January 16, 1953

Reina Sanchez, Stenographer, Navajo County Office -
March 1, 1953

M. Jeanne Cross, Stenographer, State Office -
March 1, 1953
Barbara Fishel, Stenographer, Greenlee County Office -
March 1, 1953

Resignations

Lonnie McGrew, Assistant County Agent, Yuma County -
August 26, 1952
Walter Wilkening, County Agricultural Agent, Pinal County -
July 7, 1952
D. W. Rogers, County Agricultural Agent, Apache County -
May 23, 1953
Carlton Camp, Itinerant Assistant County Agent -
May 14, 1953
Frank Pritchard, Itinerant Assistant County Agent -
June 15, 1953
C. G. Lueker, County Agent at Large -
June 30, 1953
Mae Baldridge, Home Demonstration Agent, Pinal County -
August 23, 1952
Izola Parker, Home Demonstration Agent, Navajo & Apache Counties -
December 18, 1952
Evalyn Bentley, Home Demonstration Agent at Large -
June 30, 1953
Walter Armer, Extension Specialist in Animal Husbandry -
August 12, 1952
George Wormley, Assistant Information Specialist -
October 29, 1952
A. Rogene Gaddis, Stenographer, Coconino County Office -
September 1, 1952
Antoinette Raffa, Stenographer, State Office -
November 8, 1952
Betty Jo Scott, Stenographer, Greenlee County Office -
November 30, 1952
Doris Jean Jennings, Stenographer, Maricopa County Office -
December 4, 1952
Charlotte Taylor, Stenographer, State Office -
June 10, 1953
Cheer Owens, Stenographer, State Office -
June 18, 1953

Transfers

Theodore H. Siek, Transferred from Assistant County Agent to
Itinerant Assistant County Agent, Yuma County -
October 1, 1952
Maurice Bossuyt, Transferred from Itinerant Assistant County Agent to
Assistant County Agent, Pinal County -
February 9, 1953

Virginia Twitty, Transferred from Assistant Home Demonstration Agent, Maricopa County, to Home Demonstration Agent, Graham and Greenlee Counties - February 16, 1953

Marvel Nichols, Transferred from Stenographer, Maricopa County, to Assistant Secretary, Maricopa County - July 1, 1952

Returned from Leave

Robert McCreight, Assistant County Agent, Yuma County - October 1, 1952

Ray Milne, Assistant County Agent, Maricopa County - May 1, 1953

PUBLICATIONS

During the period July 1, 1952 to June 30, 1953, the following publications were issued:

Number of copies	Extension Circular
3,000	#129 - Raising 4-H Pigs (Rep.)
5,000	#136 - Furniture Repair (Rev.)
5,000	#146 - 4-H Leader's Handbook, Building for Tomorrow (Rev.)
5,000	#148 - Fruit Insect Control Hints (Rev.)
5,000	#149 - In Furniture the Finish Counts (Rev.)
6,000	#179 - Cotton Insect Control (Rev.)
10,000	#195 - Household Pests (Rep.)
5,000	#201 - Your 4-H Demonstration
3,000	#203 - Defoliating Cotton in Arizona
5,000	#203 - Defoliating Cotton in Arizona (Rev.)
3,000	#204 - Requirements for Arizona 4-H Club Work
5,000	#204 - Requirements for Arizona 4-H Club Work (Rev.)
5,000	#205 - Water Management
3,000	#207 - Guide Posts in Buying Household Equipment
6,000	#208 - Arizona Fertilizer Recommendations, 1953
3,000	#209 - Soil, Water and Sunshine
6,000	#210 - Insect Control Recommendations
5,000	Folder #63 - Your Key to 4-H Parent Support (Rev.)
1,500	"List of Available Publications"

In addition to the printed circulars, mimeographed material was supplied in sufficient quantities to meet immediate needs. The following list shows the important mimeographed circulars issued during the year.

Number of Copies	Title
1,000	Some Hardy Evergreen and Deciduous Shrubs
2,000	Flower Planting Outline
500	Shrub Control in Arizona
800	Sorghum for Arizona
430	Dairy Herd Improvement Notes (Monthly)
500	Dairy Heifer Selection Day Regulations
2,000	Be a Wise Buyer
1,000	Homemade Toys for Various Age Groups
1,000	Christmas Suggestions
500	4th Year & Advanced Food Requirements
300	Brucellosis in Arizona
600	Tailored Lamp Shades
2,000	Third Year Clothing
600	Some Ornamental Trees Which Do Well in Arizona
800	Arizona Cotton Recommendations
1,250	Agricultural Outlook for 1953
600	The Family Meal Hour
400	Eating in the Open
1,300	Arizona Cotton Recommendations for 1953
300	Helping Others Take it Easy

FINANCIAL SUPPORT

Summary of Expenditures by Projects, Showing Source of Funds for Extension Work under Smith-Lever Extension Act, July 1, 1952 to June 30, 1953

	Federal Funds	Offset Funds	Funds Not Used as Offset		Total
			College & State	County	
Administration	$ 26,360.93	$	$ 3,726.20	$	$ 30,087.13
Publications	7,440.50				7,440.50
County Agent Work (white)	54,289.24	54,094.15	2,900.58	68,817.70	180,101.67
Home Demonstration Work (white).	28,931.60	19,780.62		9,024.58	57,736.80
Boys & Girls Club Work (white) .	11,093.22	679.89	5,697.38		17,470.49
Specialists:					
Horticulture	2,338.87	5,700.00	897.77		8,936.64
Livestock-Animal Husbandry	359.08		927.20		1,286.28
Poultry-Dairy	7,314.14		1,467.34		8,781.48
Agronomy	3,197.57		4,518.50		7,716.07
Soils	3,741.42		4,529.99		8,271.41
Nutrition	5,742.65		595.87		6,338.52
Entomology	1,926.69	5,989.66			7,916.35
Plant Pathology	1,323.76		3,541.61		4,865.37
Agricultural Economics	1,945.83		5,456.31		7,402.14
Clothing	1,141.75		5,640.54		6,782.29
Information	11,276.50	5,879.92	2,576.62		19,733.04
Agricultural Engineering	1,501.64		212.16		1,713.80
Irrigation	6,553.97		1,069.53		7,623.50
Home Management	6,758.09				6,758.09
Total Expenditures	$183,237.45	$92,124.24	$43,757.60	$77,842.28	$396,961.57
Unexpended Balance	640.00				640.00
TOTAL	$183,877.45	$92,124.24	$43,757.60	$77,842.28	$397,601.57

INTRODUCTION

All of the fourteen counties of the State were served by the program of the Agricultural Extension Service. All counties except one - that of Mohave - were served through programs conducted from County Extension Offices.

There are three main divisions of the program:

1. Service to the farm and ranch
2. The rural home
3. The junior division, which consists chiefly of Boys' and Girls' Club Work.

There are twelve County Agricultural Agents, eleven Assistant Agricultural Agents, eight Home Demonstration Agents, three Assistant Home Demonstration Agents, and subject matter specialists in the following fields:

Agricultural Economics
Agricultural Engineering
Agronomy
Animal Husbandry
Clothing
Dairy
Entomology
Home Management
Horticulture
Information
Irrigation
Nutrition
Plant Pathology
Poultry
Soils

In addition, there is a State Leader of Boys' and Girls' Club Work, an Assistant State Leader of Club Work, a State Leader of Home Demonstration Work, the Director, and one Assistant Director, who also functions as Leader of County Agents.

There is also a secretarial and stenographic staff necessary for the administration of the headquarters office and twelve county extension offices.

Significant activities and results of the program of the Agricultural Extension Service in Arizona during the period covered by this report, December 1, 1952 to November 30, 1953, were:

12,274 Farm and home visits
15,678 Office calls
16,871 Telephone calls
1,664 News articles or stories prepared for papers of the state.
1,045 Radio talks prepared and delivered
29 Television programs prepared and presented
78,193 Bulletins distributed
136 Result demonstrations conducted
1,485 Meetings for adults held or participated in by Extension Agents, with a total attendance of 99,948.
1,057 Meetings for 4-H Club or Youth Work held or participated in by Extension Agents, with a total attendance of 52,891
677 Meetings held or conducted by local leaders in adult work with an attendance of 10,976
3,019 Meetings held or conducted by local leaders in 4-H Club Work with an attendance of 36,566
3,022 Families were assisted directly or indirectly by the Extension Program in Homemaking
4,875 Families were assisted directly or indirectly by the Extension Program in Agricultural Practices

(4)

The Extension Service cooperated with the following Federal Agencies:

Bureau of Land Management, Bureau of Reclamation
Farm Credit Administration
Farmers Home Administration
Fish and Wildlife Service
Forest Service
Bureau of Indian Affairs
Production and Marketing Administration
Rural Electrification Administration
Soil Conservation Service
Bureau of Agricultural Economics
Bureau of Animal Industry
Bureau of Dairy Industry
Bureau of Entomology and Plant Quarantine
Bureau of Human Nutrition and Home Economics

The Extension Service also cooperated with the following State Departments and local organizations:

Health Department
State Departments of agriculture and horticulture
State Dairy Department
State Livestock Sanitary Board
State Department of Education
State Land Commissioner
State Fish and Wildlife Service

Vocational agriculture and home economics departments
Cattle Growers' Associations (State and County)
Citrus Growers
Farm Bureau (State and County)
Irrigation Districts
Water Users' Associations
Wool Growers' Association

Cultivated land located in the various counties is as follows:

Apache	17,200 acres	Navajo	16,100 acres
Cochise	32,950	Pima	60,000
Coconino	20,175	Pinal	315,500
Graham	36,140	Santa Cruz	6,960
Greenlee	5,500	Yavapai	14,200
Maricopa	560,000	Yuma	162,000

Cotton continued to be the major commodity in Arizona, more cotton being produced in Arizona in 1953 than during any previous year. The total income from cotton was approximately $200,000,000; cattle and calves ranked next with $60,000,000; vegetables, $45,000,000; dairy, $15,000,000; alfalfa and other hay, $12,000,000; commercial grains, $10,000,000, with enough production of miscellaneous crops to make a total cash income of $370,000,000, which was not as large in value as the income of 1952.

The decreasing supply of irrigation water, accompanied by the increasing cost of the same, continued to be of major importance.

Through a combination of improvement of quality and greater efficiency in methods of production, Arizona remains at the top in acre yield over all the states of the Union.

Included in the program was service to the Indians as well as white people.

Following is a summary of activities in the various counties and also a summary of the work by projects.

SUMMARY OF COUNTY REPORTS

Apache

As livestock is the principal means of agricultural income in the county, the Extension program in 1953 dealt with many livestock problems. Drouth conditions have made necessary special work in connection with obtaining emergency feeds and recommendations for supplemental feeding.

Poisonous plants continue to be a problem. An exhibit of both poisonous and other range plants was started to aid stockmen in proper identification, and control suggestions were supplied wherever possible. Test work was also done on the control of noxious weeds on crop land. Good results were obtained in controlling blue weed and whorled milkweed.

An extensive testing program was conducted for dairy stockmen in the county. Cows and calves were checked for Bang's and T. B. The County Agricultural Agent assisted the veterinarian in scheduling and conducting the testing.

Grasshoppers were quite serious in certain localities within the county. The Hunt area and the Alpine area suffered the worst. Aldrin emulsion spray was recommended and used in some instances, the amount of success being variable.

Some advice was requested and given on bacterial wilt of alfalfa and other crop diseases and insects. Wilt of alfalfa is a problem in parts of the county.

Other work included poultry, corn variety tests, housefly control, and an economic survey of the county in cooperation with the Extension Economist and the FHA representative.

The home demonstration program in the county is carried through Extension clubs and LDS relief societies. Special effort was made during the year to publicize the program in the county and to get wider distribution and use of Extension Service home economics circulars.

The 4-H program has an enrollment of 70 boys and girls with 86 projects in 10 clubs. Girls club work continues with very active leadership. The boys clubs were newly formed during the year and an expanded program started.

Cochise

Drouth conditions in Cochise County limited returns to livestock men as compared with the past three years. Quality of stock improved, due to the culling program resulting from the need to reduce cattle numbers. Supplemental feeding on ranges has become a general practice.

The acreage in cultivation increased more than in any previous year. Cotton was the principal crop. Grain sorghum acreage was also important. The practice of using commercial fertilizers for cotton production was more generally accepted than in the past. Farmers were more aware of the need for timeliness in application of insecticides for controlling boll worms in cotton than in 1951 or 1952.

Six cooperative field tests were conducted on cotton, alfalfa and grain sorghums. At a Field Day September 15 the different tests were observed. The general interest of farmers attending was indicative of the value of this type of work in providing information of value in improving agricultural production.

Serious infestations of insects in cotton have occurred in the county the past five years. More insect control was practiced by farmers in 1953 than in any previous year. Cotton insect control meetings were planned by the County Agent in order to inform farmers of cotton insect-control problems and to encourage more timely insect control than had been practiced in previous years. Circular letters announcing the meetings were mailed to all farmers and publicity was sent to all newspapers and the two radio stations in the county.

Adult home-economics work was carried on in 17 communities by means of the 15 homemakers' clubs, 2 relief societies, and individual contacts. The 1953 projects selected by Cochise County homemakers were hair styling, choosing accessories, care and repair of home plumbing and small electrical appliances, and making cornices and valances. Special-interest meetings were given on home freezing, french bread and hot rolls.

The 4-H club program was carried in the county by 9 clubs with an enrollment of 113 members in 139 projects. Agricultural project clubs at Double Adobe, Elfrida, and the mixed project clubs at Willcox and Frontier were reorganized. Home economics clubs were reorganized in Double Adobe, Paul Spur, San Simon. Frontier and Willcox groups have both agricultural and home economics members. A new home economics club was organized in Tombstone.

Major county activities during the year were the 4-H Club Fair and Fat Stock Sale, and the County 4-H Club Achievement Day. There were 286 exhibits at the County Fair and 22 head of stock in the sale. One hundred five 4-H Club members, parents and leaders attended the 4-H Achievement Day program.

Coconino

In 1953 the farmers of Coconino County had their first successful crop in five years. All crops matured. Small grains and pinto beans were both good and markets were satisfactory. The orchardist, however, suffered the greatest frost damage this spring that they have ever experienced. A severe killing frost hit five nights in succession and almost ruined the peach crop and reduced the apple crop about fifty percent.

The range cattle industry experienced one of its worst years in 1953. Cattle prices continued to decline and not until late October did the cattlemen feel the bottom had been reached. Range calves were sold from 12 to 16¢ with September, October, and November delivery. Most all cattlemen culled their herds very heavily this year. All cattlemen are quite discouraged but they feel a slow but steady increase in prices will begin in the near future.

Growing of certified seed potatoes was again discussed in 1953. This county used to produce a sizeable acreage of seed potatoes in the early 1940's. Most growers decided against the program because of the extra work to produce the seed and the difficulty in securing suitable labor.

During 1953 the County Agent had a great number of requests for assistance in the growing and care of home gardens.

The past few years there have been many methods introduced to eradicate the Juniper that is seriously threatening to take over the best range grass areas. Many practices had to be abandoned because of high cost or lack of control.

The County Agent surveyed an area that was done in late summer of 1951 to see how well grasses have become re-established. Under each tree the density of the grasses was much heavier than in the open. This grass had also gone to seed and the seed had been scattered quite a distance around each fallen tree. The cattle are unable to get all the grass from under these trees because of the limbs. This will enable the grasses to reseed each year. There was a great difference between the range where Junipers had been pulled over and where they had been untouched. The cost of only $1.50 per acre to have Junipers cabled out enabled many ranchers to do part of their land and the results so far seem quite promising.

The Home Demonstration program for 1953 was well planned by the women and well participated in by them. Probably the most interesting problem worked on this year was how to remain "calm, cool and collected" when unexpected company arrives. This problem was broken down into two phases for project work; (1) Home Management and (2) Food Service. Each homemaker had her own experiences to contribute to the meetings and the results were highly satisfactory to the club members.

The 4-H club program in Coconino County failed to maintain its previous record of high quality community cooperation. Leaders are still a great problem in all clubs, and community friction has caused additional problems in some areas. Coconino County clubs still have a good recreational program. There were 3 mixed clubs, 2 project clubs with 9 leaders and 70 members during the year in the county.

Gila

Pruning demonstrations and educational meetings were held in the fruit producing sections of the county. The codling moth control demonstration was continued at Gisela. Fruit tree grafting demonstrations were held at three farms.

Farmers and rural residents were encouraged to plant home gardens to improve the diet of rural people. Exhibits from gardens were shown at the various fairs.

Practically all cattle in the county are now sprayed for control of flies and lice.

An active Cattle Growers Association is maintained in the county. Work on control of dwarfism in Hereford cattle has been started at the Bixby Ranch and the San Carlos Reservation.

Use of salt and cottonseed meal as supplemental feed was promoted in the county.

The homemakers council held its annual meeting at Young in September. Four homemakers clubs with 167 members were maintained this year. Thirty-two demonstrations, with an attendance of 809, were given to carry on the program. Specialists spent 32 days in the county and the County Agent spent 42 days on this project as the county does not have a home demonstration agent.

Six 4-H Clubs were organized with a total membership of 56 boys and girls. Forty-five 4-H Club members completed 52 projects. Five boys and girls were taken to the 4-H Roundup at Tucson.

Graham

Helping Graham County farmers make up their minds as to which varieties of short staple and long staple cottons they should plant has been an important part of this year's extension work. This has been accomplished through a general county-wide cotton meeting where presentation was made of data on variety yields from field tests on farms and at the Safford Experimental Farm. Fields of pure seed are being grown to supply seed for Graham County farmers. Field tests were made comparing two long staple varieties Pima 32 and Pima S-1.

A field day planned at the Safford Experimental Farm to study green manure crops was exceptionally well attended. After the Experiment Station study, the farmers visited the farm of Dr. Lavelle Hoopes where a green manure crop planted early last fall was just ready to be plowed under. The general interest shown indicates that the farmers will be planting more green manure crops next fall than ever before.

If the two demonstrations on controlling annual morning glory prove successful, weed control work will be a real highlight of the year. Fred Arle from the division of Weed Investigation, Bureau of Plant Industry, cooperated with the county agent in putting on a weed control meeting.

Four registered Holstein bulls were shipped into the county. A publicity campaign conducted by newspaper column and radio, together with personal visits, made dairymen more aware of the value of stock with high production records. A meeting on the interpretation of pedigrees helped. A survey

was made of all dairy bulls in the county to encourage the exchange of good sires.

A campaign to acquaint farmers with methods of killing cottontails and jack rabbits during the summer months has proved quite successful. Contrary to expectations the rabbits did eat green alfalfa tips put out as pre-bait better than they ate carrots. Strychnine put on the green alfalfa tips, after pre-baiting for three nights, killed many rabbits. During the latter part of June the State Fish and Wildlife Department sent Mr. Walter P. Sharp into the area to work with local farmers and ranchers on rabbit control. He will also handle animal predator work in this and part of Greenlee County.

Increased interest in landscaping home grounds was developed with two field meetings on landscape planning. At two evening meetings, colored pictures were shown of the different ornamentals suitable to this area, stimulating interest.

Home demonstration work is carried in the county through 16 homemaker and affiliated clubs with a total membership of 462. There are many channels through which homemaking information is given in addition to that through the leaders in the homemakers clubs. The passing on of information through the homemakers themselves to neighbors and friends, not members of clubs, is one of our most worthwhile means, yet intangible as far as getting into a report. Many others are reached through office and telephone calls as well as home visits, letters, bulletins issued, newspaper articles, radio programs and demonstrations to groups such as P.T.A., school and other social or community organizations.

The 4-H club program includes 143 boys and girls with 159 projects in 12 clubs. Most of the boys' project work is carried during the winter months and the heaviest part of the girls' project work is in the summer. However, this year some of the girls' clubs did start project work before school was out.

One county-wide general training session was held for leaders and officers, men and women. Frequent consultations by the agents with leaders take place the year around. Essentially, clubs and their leaders plan and execute their own programs with guidance from the county staff.

Greenlee

Greenlee County farmers wanted to know more about fertilizers and what effect they might expect from commercial fertilizers on cotton production. A cotton fertilizer test plot was established on the Foster farm near Franklin. Though this test failed due to a shortage of irrigation water, similar tests are planned for 1954.

Cotton farmers have been advised to pasture fields after picking and follow with deep plowing and heavy irrigation to control pink boll worm.

Since Texas 28 yellow hybrid corn came out first in a variety test in 1951, it has become more popular each year. In 1953 farmers in Greenlee County planted it 100 percent. This year the Extension Service conducted another variety test, testing Texas 28 and several other Texas hybrids, on the M. E. Frazier farm.

As a result of experimental plots using phosphates on alfalfa and soil testing, farmers began this year using treble superphosphate on their alfalfa fields as a soil booster. Some farmers claimed they boosted their yield three times the normal. In the Franklin area where farmers have always claimed it was unprofitable to raise alfalfa, seven farmers used treble superphosphate this year.

The home demonstration program in the county was conducted through five homemaker clubs and affiliated groups. Subjects covered included house and furnishings, food preparation and preservation, health and safety, clothing, family relationships, and recreation and community life.

The 4-H program included 7 clubs with 92 members taking 129 projects. Girls' work consisted of foods, clothing, and junior leadership. Boys' work included agricultural projects and junior leadership. Leader training was given along both subject matter and on organizational lines. One general training session was held at which leaders and club officers were trained by state and county staff. Essentially, clubs and their leaders plan and execute their own programs with guidance from the County Extension office.

Maricopa

Through a well-rounded information program, extension information has been passed on to farmers in the county. Coverage of agricultural news, through the "Arizona Republic", has been much improved. News letters on dairying and vegetable production have been sent to producers of these commodities throughout the year. Circular letters have been prepared and mailed as was necessary to bring timely matter to the attention of producers. Extension circulars and Experiment Station bulletins have been kept available at all times. Two radio programs have been used to keep the public informed of approved methods for all crops.

Livestock work related itself principally to the solving of specific problems. Dairy projects carried out during the year were:

1. Dairy Herd Improvement Association work, which provided dairy farmers with production records to aid with good management.

2. The Feeding and Management project which included barn meetings, dairy tours, data on roughage utilization and studies of modern practices used by dairymen.

3. Milk Marketing developed to aid in improving relations between producers and distributors.

4. Disease Control work which included cooperation with the Bureau of Animal Industry in a Brucellosis campaign, aiding dairymen with mastitis control, fly control and other disease and parasite problems.

5. The Breed Organization project carried out by cooperating with breed organizations.

Poultry projects consisted of feeding and management, and disease and parasite control. Telephone, office and field calls were made to solve specific problems. The Extension office cooperated with the Central Arizona Poultry Association, National Poultry Improvement Plan Board and the State Poultry Federation.

Farmers engaged in the production of field crops were given the latest available information and guidance on all phases of production with an emphasis being placed on efficient and economical production. Farmers were encouraged to treat their operation as a business, as well as solving immediate cropping problems. They were cautioned that production is a never-ending problem, but that they should never overlook their and their industry's problem of marketing.

Assistance was given in selecting adapted varieties; in seed-bed preparation, planting practices and cultural practices; in selection of fertilizer and fertilizer application; in identification of insects and insect control; in identification of diseases and disease control; in proper use of irrigation water; in harvesting and marketing; and in proper balance to the whole farming operation. Assistance also was given in the successful completion of two field days and a machinery field day held at the Mesa Experiment Station of the University of Arizona.

Cultural work was continued in the grape industry. Girdling and thinning tests were completed and information was furnished to the growers association in solving their problems and furnishing information to the growers.

Vegetable newsletters were prepared and mailed to the growers bi-monthly to present recent developments and information from the Vegetable Research Center. A plan was established to collect data to develop cost of production sheets for each vegetable commodity. This data will be collected from as many growers as possible to give complete information for each commodity.

New interest has been shown by many growers in nematode control. Information has been given to many vegetable growers who plan to plant vegetable crops on land which was planted to cotton in 1953.

County agents collected suggestions from vegetable growers which will be used to establish a weed control experiment for 1954. Several growers stated that weed control is the number one production cost item in many vegetable crops.

A general program was followed to assist citrus growers with their cultural, insect and disease problems. Five citrus topworking and budding demonstrations were held to demonstrate this cultural practice. In cooperation with the Extension Entomologist and Entomologists of the Arizona Citrus Growers, intensive surveys of the citrus insect problems were conducted in the spring and fall and circular letters informing citrus growers of the insect situation were mailed.

In cooperation with Dr. Lemac Hopkins of the Experiment Station staff, many insecticides were tested to control the citrus brown wasp. An effective and economical control was obtained. This information has been made available to Entomologists in all 48 states.

The KOY Vegetable Garden was planned and planted and vegetable planting demonstrations were held during 1953.

The County Agents conducted deciduous fruit demonstrations dealing with varieties, pruning, fertilization, iron chlorosis control and disease control. In conjunction with this, a program of general cultural practices, insect and disease control affecting deciduous fruit was followed. County Agents and interested Extension Specialists held demonstrations to assist people with their home-planting problems.

Foods, clothing, house and furnishings, and special interest work, such as sewing machine clinics, made up the home demonstration program for the year. An estimated 2,970 families were reached by one or more phases of the program, 875 of these for the first time this year. There were 14 homemakers clubs and 17 LDS groups carrying the program.

The 4-H program includes 849 boys and girls enrolled in 42 clubs and carrying 1,167 projects with the help of 95 leaders and 44 junior leaders.

In some areas of the county, 4-H clubs are the means of holding the community interest and most community activities revolve around this group of young people. There has been an increasing number of both individuals and groups who look favorably upon the 4-H club program. As an example, there has been a decided increase in the number of requests for 4-H members to appear before civic groups and on television programs.

Navajo

Six educational meetings regarding horticulture were conducted in Winslow, Holbrook, Woodruff and Showlow communities. Ornamentals, especially roses were damaged by a severe winter. Stone fruit, apples, pears and others were damaged by late spring frosts. The cucumber crop at Snowflake and Taylor was heavier than 1952. The flower show at the Fair required more room. All horticulture exhibits, except apples, were larger.

Feeder cattle prices received were 60 percent lower than the all-time high. Yearling steers sold from $14.00 to $17.50 per hundred. Commercial Cattle exhibits took the show at the County Fair. Supplemental feeding was a common practice on the majority of the cattle outfits. Stock water tanks and spreader systems were constructed by many stockmen. Juniper control was carried on where funds were available.

Large family dairies had a good year. Silage and hay yields were good. Those dairymen that purchased hay and concentrate were able to buy at lower prices than previous years. Milk prices were higher than in 1952. The larger dairies were Bang's tested by the Bureau of Animal Industry.

The poultrymen have enjoyed a profitable year due to fairly high egg prices and lower feed costs. The quality of eggs on the market has improved due to the new State Egg Law.

Farmers are growing improved varieties of corn, alfalfa and wheat probably because of the many variety tests that were conducted throughout the County. Corn yields have reached 114 bushels per acre and silage yields have reached 23 tons per acre. Buffalo and Ranger alfalfa are replacing Arizona Common for hay. Arizona Common gives satisfactory yields the first 2 years of its growth.

This was a grasshopper year in the Showlow, Linden, Joseph City and Pinedale areas. Aldrin was used to control the hoppers. Some farmers were too late in applying aldrin. The insect control programs were continued on cattle, crops, gardens, orchards and city garbage cans.

"Blue Tongue" of sheep was discovered on the Navajo Reservation. Some cattle died from frosted Sweet Clover. Special livestock loans were available to cattle people that could qualify. Agricultural outlook meetings were held at Showlow and the Hopi Reservation. Ranchers were assisted in locating cattle buyers when requested to do so.

The home demonstration program in the county carried projects of your money's worth in food, freezing baked goods, your kitchen as a workshop, home lighting, pattern alterations, and family relationships.

The 4-H program in the county included 197 members in 14 clubs taking 242 projects. The lack of adult leadership continues to be one of the most difficult problems of the overall county program. The project work as a whole has been satisfactory.

Pima

Five result demonstrations on cotton fertilization were conducted this year. Three other demonstrations were carried over and completed from the previous year. Two variety tests were carried on with Verticillium Wilt resistant varieties. Seed stock of the leading variety from past years variety test was increased.

A progress report on past demonstration work results was prepared for growers information from the 1953 crop. This was mimeographed and furnished to all growers. Field meetings and other meetings were held to review results of these demonstrations.

Insect control recommendations for 1953 were furnished to all growers. Field meetings to study cotton insects and control measures were held. Cotton insect control problems and control measures were topics of discussion at other meetings. The fertilization recommendations, varietal recommendations and insect control recommendations were adopted in some measure, by better than 90 percent of the growers in the county.

Deciduous fruit plantings were guided to a great extent by Extension Service recommendations. Many home orchard growers and gardeners received helpful information on fruit and vegetable growing through meetings, demonstrations, personal contact and bulletins. Several hundred rural, urban and city residents were assisted with horticultural problems.

The satisfactory use of soil correctives and green manure cropping was stressed this year. There was an increased use and interest in gypsum. Work on green manure cropping demonstrations was emphasized so that many farmers are interested.

Farmers in general did a better job of pre-irrigation, did some acreage adjustment in relation to water supply, and in some instances saved water by deferring irrigation when plants were young. These practices were stressed by the Extension Service.

The county agent's office cooperated with the Dairy Herd Improvement Association in carrying on another successful year of their program. Information letters were prepared in connection with their monthly letter containing herd testing results.

In an attempt to find a cash crop suitable to replace cotton, eleven trial plantings of castor beans were made.

Two new home demonstration clubs were organized in 1953. One of the most interesting characteristics of both of these new groups is that the membership is made up of "displaced" farm women. Many of them are former members of extension groups, Farm Bureau clubs, and other groups closely allied with farm activities. The "Mission Maids" started with a nucleus of 7 former club members from Oklahoma, Arkansas and Mississippi. At Silverbell there were ex-members from Silver City, New Mexico, Texas, Oklahoma, Arkansas, and Illinois.

Regular project work included food preservation and preparation, family economics and home management, clothing and textiles, and recreation and community service.

Completions in 4-H increased 7 percent over 1952 to average 81 percent this year. There were 238 members with 392 projects served by 27 leaders and 11 junior leaders in 21 clubs.

Pinal

Final average cotton yield in Pinal County for 1952 on approximately 265,000 acres of short staple cotton was 669 pounds per acre. On approximately 12,000 acres of long staple cotton, the average yield was 329 pounds per acre. It is estimated that on approximately 250,000 acres of short staple cotton the yield will be 735 pounds per acre.

Acreage of long staple cotton has dropped in 1953 to 7,000 acres and yield is expected to run about 350 pounds of lint per acre. There are several reasons for the increase in yield over the 1952 average, but the main reasons are: usually low infestations of harmful insects, increase in land leveling and better land preparation, more efficient use of fertilizers, and favorable weather conditions for cotton production and harvesting.

Assistance was given growers in providing technical information and field surveys in regard to insect problems. Information was made available to

growers through newspaper articles, radio programs, bulletins, and insect meetings. Insect problems during this past season never became severe because of large numbers of predatory insects and other conditions unfavorable to the build-up of harmful cotton insects.

Cotton diseases received considerable attention during the past season and particularly late in the season. A cool spring resulted in an increase in the incidence of damping off, which necessitated replanting on quite a large acreage. Probably also due to the cool spring and lower temperatures during the year, incidence of verticillium wilt on a particular type of soil increased seriously.

A survey of several thousand acres was conducted to determine extent of the disease and resultant decrease in yield. It is estimated that approximately 15,000 acres of some of the most productive land is infected by the disease organism, with some 30,000 additional acres of the same soil type that could possibly become infected under continued cropping in cotton. Growers estimate a loss of up to 50 percent in yield on heavily infected land.

Small grain production is of minor importance in the cropping set-up in Pinal County. Sorghum production this past year was estimated at 3,000 acres. Barley acreage was approximately 30,000 acres. Acreages of small grains will unquestionably increase during the next crop year due to the cut in cotton acreages and the increased interest in livestock feeding operations.

Dairy Herd Improvement work in Pinal County is incorporated with Pima County and is handled through the Specialist and the Dairy Herd Improvement Association Supervisor. Membership of Pinal dairymen in the Association now totals 8 with 578 cows on test.

The home demonstration program was limited during the year because of lack of personnel.

Better dressmaking was the major project. The classes were conducted by the clothing specialist. A study was made of man-made fabrics and the selection and care of such fabrics.

Lamp shades were made under the leadership of the Home Management Specialist. An ironing demonstration gave new methods of making ironing easy with the use of a well-padded wide ironing board and the proper method of dampening and folding clothes.

Emphasis was placed on the food value of meat, the amount to be consumed per day, and the proper method of preparation to secure the maximum result from protein served to members of the family.

The 4-H club program included a membership of 185 boys and girls with 254 projects in 22 clubs, aided by 34 leaders and 5 junior leaders. The overall sponsoring group of 4-H club work in the county is the Pinal County 4-H Club Council. Its members are the club leaders of the County. The group elects their officers each year and meets not less than three times a year in order to plan their work and assist the Agents in charge of 4-H club work.

Santa Cruz

Information on deciduous fruit growing was given to all interested residents in the county. The Extension Service cooperated with the Patagonia Garden Club in their home grounds improvement project.

Further demonstrations on red harvester ant control were conducted. Aldrin water emulsion was used with some success. New methods of fly control around corrals and barns were demonstrated, with some adoption of the practice resulting. Grasshopper control work was carried on successfully where outbreaks occurred.

Information on cattle loans was furnished to all cattlemen. Cattlemen were furnished pertinent information on external parasite control, harvester ant control, supplemental feeding and growing of supplemental feeds for range cattle.

All cotton growers received Extension Service publications outlining the latest information on insect control. County growers attended field demonstrations on cotton insect control. All growers carried on an efficient insect control program.

Results of cotton fertilization demonstrations were included in the information program for growers. All growers adopted the practice of cotton fertilization.

Variety recommendations were based on variety test work carried on at the higher elevations in Pima County. These recommendations were followed by Santa Cruz County growers.

Seed was increased of the leading wilt resistant strain of cotton. The new variety of long staple cotton was tried out in the county. One soil amendment demonstration was successfully completed.

Santa Cruz County shares a home demonstration agent with Pima County. The same projects are carried in the two counties with few exceptions. Great distances, no telephones and irregular mail service are a handicap.

Seventeen women came together to discuss and plan projects for the two fall months and for 1954. This was a step forward because definite action was taken by homemakers to further the extension program. One-half of the county was represented.

Work included clothing and textiles, home management, home furnishings, food preservation, and food selection and preparation.

Though the 4-H program in the county has only 45 members, these enthusiastic workers completed 91 percent of their projects. An active 4-H council made up of leaders, parents, and interested friends gives much direction to the program.

Yavapai

Production of feeder calves on native ranges is Yavapai County's important single agricultural industry. Both purebred and range cattle breeders make up the industry. The County Agent has worked with the cattle growers in their cooperation with 4-H clubs and in setting up a Farm Market Service in cooperation with the Farm Bureau of Yavapai County. Projects covered were grasshopper control on ranges, range plant identification, livestock financing, control of pests, permanent (irrigated) pastures, and marketing.

Eight dairies serve Yavapai County at present. A surplus of Grade A milk in 1953 caused marketing problems. The Dairy Herd Improvement Association program was initiated in the Verde Valley in 1953 by the agent and the Extension Specialist in Poultry and Dairying, with 125 cows on test.

Yavapai County is well suited to poultry laying plants. The industry is making progress both in numbers of layers and in methods. Cage-laying plants are on the increase. The cooperation of lending agencies in financing experienced poultrymen for expansion to more efficient size of operation is badly needed. Poultry work included marketing, poultry management, disease control and poultry financing.

The County Agent completed two small-grain variety tests, one corn fertilizer test, one bean fertilizer test, one oats fertilizer test, two weed control demonstration projects, and began one alfalfa variety test planting. Other projects were potato certification, gopher control, bean insect control, bean disease control, bean varieties, alfalfa diseases, alfalfa varieties, program planning and soil fertility.

The Home Demonstration program for 1953 was well planned by the women and well participated in by them. Probably the most interesting problem worked on this year was how to remain "calm, cool and collected" when unexpected company arrives. This problem was broken down into two phases for project work; (1) Home Management and (2) Food Service. Each homemaker had her own experiences to contribute to the meetings. Other projects worked on this year were home management, clothing, nutrition, health, and recreation.

There were 13 4-H clubs in the county during the year with 24 leaders and 8 junior leaders. Total enrollment was 151 boys and girls with 219 projects. Interest in the program throughout the county continues to improve with good local support.

Yuma

The Yuma County Agricultural Extension program included several new phases of work in 1953. An all-day cotton conference was held in February where the results of 1952 Yuma County cotton tests were reported. There were 17 items on the program and 190 people were in attendance.

The Extension cooperative cotton tests were expanded in 1953 until there

were 16 tests with 9 farmer cooperators on 53 acres of land. One cooperator furnished 40 acres of land where an irrigation test with 4 treatments had 10 fertilizer treatments superimposed on each irrigation treatment. Six other tests were conducted on the same 40 acres.

A series of three insect-control schools for farmers were conducted in cooperation with the Extension Entomologist and members of the Entomology Department. For the first time an all-day poultry clinic was conducted in cooperation with the Extension Specialist in Poultry and Dairying.

National Dairy Week was used to promote the local dairy industry with the hope of increasing the consumption of locally produced milk.

In view of the restricted cotton acreage for 1954, the County Agent superimposed 1954 support prices on 3 years of University of Arizona, Yuma Valley Farm Variety and Date of Planting test work conducted on flax and small grain. This information was mimeographed and distributed to farmers. It also appeared in the local farm paper with a cost of production story the following week. The County crops bulletin "Crops for Yuma County" was prepared to include field crops and vegetables for the first time.

For the first full year, a five-minute radio program was conducted 5 days a week. In further development of the County Extension information program, a 15-minute television program was initiated in late October.

An extensive capped cantaloup fertilizer test was conducted in cooperation with a grower and the Experiment Station. This test had 31 treatments and was picked 31 times.

Nine Home Demonstration Clubs and four associate clubs have held 182 meetings during the year with an attendance of 2,743. Yuma County home demonstration work is organized as follows:

Work with adults through regularly organized clubs; through clubs other than those primarily organized for Home Demonstration work; through home visits, office and telephone calls; through individual and circular letters; through newspaper articles and radio broadcasts.

Yuma County had 384 4-H Club members enrolled in 721 agriculture and home economics projects this year. Two hundred and twenty-one girls and 163 boys enrolled in 21 4-H Clubs, of which 13 were mixed clubs in which members carried both agricultural and home economics projects; 6 clubs in which only home economics projects were carried; and 2 were clubs in which only agricultural projects were carried. Forty-nine leaders led these clubs.

SUMMARY OF PROJECTS

Agronomy

Alfalfa production has been steadily decreasing in Arizona, and alfalfa seed production has not been keeping pace with some of the other states. With the restricted cotton acreage in 1954, it is expected that alfalfa productio will be increased. Planting of registered seed wherever possible has been recommended so that certified seed can be furnished for the midwest. Agrono mists in the midwest are urging alfalfa seed of Chilean and African for one-year stands of alfalfa for hay crops, then to be plowed under as a green manure crop. To be sure that they are getting the variety they want, and that it is relatively free of weed seed, the agronomists are insisting that certified seed be sowed.

A new variety of long-staple cotton, Pima S-1, was released for commercial planting in 1953. Most of the seed had low germination and was mixed with some short-staple cotton and hybrids between the two. This has given Pima S-1 a bad reputation with some farmers, but due to its outstanding performance, it probably will replace all of the Pima 32 in a few years' time.

Arizona is almost a one-variety short-staple cotton state. Yuma County, during 1953 was almost 100 percent Acala 44 with some Acala 4-42. Maricopa County had a mixture of Acala 44, Acala 4-42, Acala 33 and some Acala 28. Pima County was nearly 100 percent Acala 44, except in a section south of Tucson, which also had Acala 33, 29-46. Cochise County had mostly Acala 1517, with a few other varieties mixed in. Greenlee County was almost 100 percent 1517. Graham County is the real problem area, as a number of different varieties are still being produced.

The principal small-grain crop for Arizona is barley. Three small-grain tests were conducted by County Agricultural Agents in Yavapai and Coconino Counties during 1953 with the assistance of the Specialist.

Awned Onas wheat out-produces any other wheat variety in all sections of Arizona. It does not have as good a milling quality as other wheats, but its production is so superior that it is recommended in all counties. It is expected that barley production will be increased in Arizona more than in any other crop, to replace cotton.

Weed control is a major problem in Arizona. Tests during 1953 showed that disking alone is entirely inadequate for killing Johnson grass. Tests with flame cultivation have shown this method to be satisfactory in controlling wild morning glory in cotton. Chemical control of grass and weeds in cotton has proved effective.

No satisfactory control has been worked out for bind weed in the northern part of the state. Spraying of small grain crops with 2,4-D has held bind weed and nut grass under control enough to allow the production of satisfactory small-grain crops. California has reported that a vigorous stand of alfalfa will smother out bind weed, and this method is to be tested in 1954.

Animal Husbandry

Livestock improvement primarily denotes improvement in type, but it also includes improvement in pest and disease control, and better management and feeding practices. A Hereford tour in 1953 was the best demonstration of type improvement. On this tour the work of such outstanding ranches as Milky Way, Suncrest, K 4, Longmeadow, Ray Cowden's, and others were studied with type in mind. With selection of better breeding stock and more prolific cows, the improved type can be obtained. Premiums today are being paid for better classes of calves, and ranchers are learning it pays to market a typier calf and one that will put on more pounds of beef in a shorter period of time.

Along with improvement of type, the breeders are improving disease and pest control, thereby accomplishing the same end of more pounds of beef in a shorter period of time. Through the use of power sprayers and insecticides the bulk of Arizona ranchers today are reducing insect and disease losses.

Further type demonstrations and breeding program studies were made in southern Arizona herds during 1953. These included Marshall Hartman, Tom Griffin, the Green Cattle Company and Carlos Ronstadt. At field days at each ranch approximately 150 ranchers were told and shown how to improve type and the associated factors of management and feeding.

The Arizona section of the American Society of Range Management conducted tours and demonstrations on southern Arizona ranches, showing that better distribution of cattle, encouragement of more desirable species of plants, and elimination of undesirable species encroaching upon range areas each contributed to better range management. With extremely dry ranges there has been a great deal of interest in different phases of this project. Water has been extremely critical, not only rainfall but drinking water for livestock. In Coconino County some range reseeding work under fallen junipers shows promise.

Using all the Extension teaching aids, information regarding better watershed management, better stock distribution through watering places, increasing desirable species, and the control of encroaching mesquite and juniper on better range lands was presented to Arizona stockmen.

Increased interest in cattle feeding in irrigated sections is being shown because of restrictions on cotton. This might even project itself into 1954 to some sheep and hog feeding. With cattle feeding, the contacts were made with individual farmers and feeders and the importance of high roughage rations have been stressed.

Arizona has a variety of roughage not common to other areas of the United States, such as bermuda straw, alfalfa straw, cantaloup silage, dry cantaloup, numerous vegetables and citrus fruits. These all can be utilized in one method or another for feeding. A practice that has now become almost statewide in its use with cattle feeders in Arizona is soiling. With the type of operation that the state has in feeding it works out very well.

Clothing

Clothing project work remained a popular project in all counties of the state during the past year. All counties having a Home Demonstration Agent and one county without carried out two units of clothing work. The program was handicapped by intermittent work in several counties not served by an Agent for several months. This has an effect on work done in 4-H Club work as well as adult work.

Construction techniques still seem to be of the greatest interest to women. They are anxious to learn short cuts that will give professional finishes and yet take as little time as possible. There were eleven different units of work planned, prepared, and demonstrated. Six dealt with construction techniques, the others with new fabrics, grooming, and selection.

Many rural people have an interest and are buying fabrics containing new fibers such as Orlon, Dacron, and Nylon. There has been an increased interest in new fabrics and their care. Advertising has created much interest and has been ahead of the production. Many have been impatient with the markets. Others have experienced difficulties with new finishes. This has been evident in cotton finishes since Arizona uses much cotton fabric for clothing.

Agents report a total of 234 voluntary local leaders who have been trained to carry on adult and 4-H Club clothing work. There was a total of 3764 persons contacted on clothing work either individually or through meetings. Two thousand seven hundred twenty-six adopted recommended practices.

Dairying

The past year brought many problems and changes in the dairy program throughout the State. Two price cuts to the producers made it necessary to make adjustments in dairy operations. Also, the increased production of "Grade A" milk reduced the shortage that required the shipping in of milk for a shorter period.

Along with these adjustments to economic situation, there were some outstanding results. The Dairy Herd Improvement Program continued to expand in 1953. There was an increase in the number of herds and cows on test per month. Herd averages for the association year increased 82 pounds of milk and decreased 4.9 pounds of butterfat per cow year. Apparently, the reasons for the lack of a greater increase in production averages was due to the high feed cost during the early part of the year and an effort on the part of the dairymen to increase the size of their herds in order to increase the total milk production. Also, there was a smaller percentage of cows culled out of the herds for the same reason, as well as a reduction in the price of dairy animals for beef.

Arizona ranks very high in many phases of the D. H. I. A. Program in the nation. On January 1, 1953, Arizona ranked first in the percentage of

dairy cows on test with 27.2 percent of an estimated total of 52,000 cows. Arizona ranked twentieth in the number of cows on test and forty-fourth in total number of dairy cows.

The average size of Arizona herds has been increasing each year for the past several years. In 1945 the average size of a D.H.I.A. herd was 42 cows. In 1953 the average was 69 cows per herd, based on the average number of herds and cows tested each month.

On January 1, 1953, Arizona had an average of 19 herds and 1,288 cows on test. The supervisory personnel was increased to 13 during the year. California is the only state that had a higher average number of cows per supervisor, with 1,673. The national average is 570 cows in 19.1 herds.

Four new Supervisors were trained by the Specialist and County Agents in Maricopa, Yavapai and Yuma counties. In the official Testing Program there were 29 herds with a total of 1,036 cows on test in Advanced Registry and Herd Improvement Registry. The specialist is Superintendent of the Official Testing Program, making monthly assignments of supervisors, checking the supervisor's reports, handling the collections from dairymen and paying the supervisors, with all transactions being conducted through the University of Arizona business office.

The breed organizations carried on many educational programs in cooperation with the Extension Service. Classification demonstrations, judging schools and field days were conducted with the Guernsey, Holstein, and Jersey organizations. The Guernsey, Holstein, and Jersey state organizations had State Consignment Sales with excellent results. All breed organizations cooperated with the Extension Service in providing dairy heifers for a 4-H Club Dairy Heifer Selection Program.

During the year a survey was made in six counties covering equipment and management practices being followed by members of the D.H.I.A. organizations. In comparison with the previous year, there was an increase in milking parlor barns, pipeline milkers, and farm storage tanks for the bulk handling of milk. There was also an increase in the use of green-chopped feed and grass silage, as well as an increase in the artificial breeding program.

During the year state and federal programs of Tuberculosis and Brucellosis were continued with greater participation. During the January session of the State Legislature a new Brucellosis program was adopted for complete elimination of the disease, beginning with a yearly testing program on January 1, 1954. Mastitis continued to be difficult to control. Management and sanitation programs were recommended.

Economics

The work of the Specialist in Agricultural Economics was divided into 5 projects: (1) county economic survey, (2) outlook and economic information, (3) dairy marketing information, (4) federal farm program, and (5) miscellaneous.

The economic survey of Navajo county was completed and data collected on Apache and Cochise counties.

The specialist published a report on "Agricultural Outlook for 1953". County agents distributed 500 copies of this report to leading farmers. The specialist talked to 13 different meetings of farmers in Arizona on the outlook for agricultural products. A monthly situation report on the crop and livestock enterprises in the state was mailed to County Agricultural Agents.

Arizona was a fluid milk deficit state in 1951 and 1952. In 1953 the situation changed, and at the present time the dairymen in the state are producing enough fluid milk to meet the demand. The specialist cooperated with Assistant County Agent Lough in Maricopa County in obtaining data on the amount of milk brought into the state.

With cotton acreage allotments going into effect in 1954 and support prices of barley and grain sorghum determining the price of these grains during the harvesting season, the federal farm programs became more important in Arizona in 1953. Cotton farmers were informed as to how marketing quotas will affect them in 1954. In addition, information was assimilated on alternative crops for diverted acres. Grain producers have been informed as to the need for grain storage and the government programs. They were also informed about the government programs that would assist the farmers in establishing such storage.

In order to be able to advise farmers as to the profit they might expect by planting barley, grain sorghums or alfalfa on diverted cotton acres, it was necessary for the specialist to make a survey of the cost of producing these crops. This was done by contacting custom operators, farmers, and water companies. This information will be supplied to the respective counties early in 1954.

The specialist also led a discussion on agricultural policy at two regional county agent meetings. This was done to prepare the county agents so that they would be ready to lead discussions on agricultural policy at farmer meetings. The specialist led a discussion on agricultural policy at two Farm Bureau meetings.

Entomology

During the 1953 season, alfalfa seed growers got some of the lowest yields ever made in Arizona. In the spring crop, it was not the presence of insects or lack of pollinators. In one experimental plot in Yuma county, 50 or more beehives were placed in a 2-acre plot. The injurious insects were controlled when needed, with toxaphene. This required only one dusting for lygus. The seed yields were about 130 pounds of cleaned seed per acre. This showed that the use of honey bees and control of insects is not the answer at the present time to Arizona's alfalfa-seed problem.

The number one insect of alfalfa-seed crop in 1953 was the chalcid. This insect can be controlled early with practically any of the insecticides, yet on the second crop practically none of the insecticides give economical control. It appears that farmers will have to go back and almost enforce some cultural measures that were used in the Roll-Wellton area of Yuma County in the early 40's.

With a large acreage of cotton for 1953, a rather heavy insect infestation was expected. However, for some unknown reason, only spotted infestations of lygus and bollworms that had been so severe in the two previous years developed.

Past experiences have shown that control of insects in cotton is very necessary if high yields are to be maintained. Farmers were kept informed about the best control measures by issuing a circular each year that contains the latest and most economical insecticides to use. These recommendations are based on research done by workers of the Bureau of Entomology and Plant Quarantine, Division of Cotton Insects and the Arizona Agricultural Experiment Station. Several colored movies and slides were also used to illustrate the insect habits and controls.

Each week starting in late May or early June a "Cotton Insect and Disease Report" is issued. The disease phase was added to the report this year by the Specialist in Plant Pathology. This report is made possible by reports from County Agents and staffs, workers of the Bureau of Entomology and Plant Quarantine, and laymen.

During late 1952, the Pink Bollworm appeared in Greenlee, Graham, Cochise and Pima Counties. A quarantine was placed on these counties by the Arizona Agricultural and Horticultural Commission. The Agricultural Extension Service then attempted to help by informing growers of the importance of cultural practices in control of the dreaded pest, working with County Agricultural Agents.

Flies, which include houseflies, stable flies, horn flies, blue and green bottle flies, etc., continue to be a problem of livestock and dairy cattle in all parts of the state. The Extension Entomologist suggested that the rancher, cattle feeder and dairyman use any of the materials that gave results. Specific recommendations were made regarding new insecticides.

The housefly continued to be the number one pest around the home and ranch. It was also a pest in urban areas. During 1953, many homemaker clubs were interested in fly control.

Due to a late freeze in the spring of 1953, very few apples were found on trees in the apple-growing areas of the state. What few apples were left were rather hard hit by worms. Most of these failures probably were caused by improper application of DDT. The possibility of resistance is being studied. The woolly apple aphis seemed to be much worse in many orchards during 1953.

There have been several requests from County Agents and Home Demonstration Agents during the year for help on control of stored-grain pests. The

Office of Production Marketing Association has contacted the Extension Entomologist several times on control of stored government grains. With more grain being stored on the farms the problem is becoming worse each year. Several growers in the Salt River Valley have used Dow EB 5 with excellent results. About 75 percent of the trouble of grain or cereals stored on farms has been brought about by not cleaning up before storing.

The grasshopper problem was not too heavy in Arizona during 1953. The only control work conducted in Arizona on range land was in Graham County in the upper end of the Sulphur Springs Valley. About 23,000 acres were treated with 2 ounces of Aldrin in 1 gallon of fuel oil per acre. The project was paid for as follows: State one-third, Ranches one-third, and Bureau of Entomology, and Plant Quarantine, Division of Grasshopper Control one-third. The materials were applied with a fixed 2-wing type of plane. The work was under the direction of Mr. Tom Schmitt, State Supervisor. The program was well planned and presented. It cost about 25 cents per acre.

Home Management

Potential home-management project enrollment for 78 organized groups was 2,023 homemakers, who were members of Homemaker Clubs, a few church groups and a small number of civic organizations. Club enrollment for Room Improvement 4-H projects numbered 119 girls in 7 counties.

General figures for the State have an effect on overall coverage. The reports of 9 Agents show 8,358 "different" families reached through every type of contact. Assuming that the 2,023 enrolled homesmakers are duplicates, the total state coverage stands at 6,335 in home management and house furnishing.

The reported achievements of organized adult groups in 1953 altered a former picture of the two fields of activity. The emphasis for the current year was heavily in favor of home management. This indicates a desirable balance in interests.

In 1953 home management projects averaged a 70 percent acceptance, 50 percent for house furnishings and housing projects. An anticipated 282 leaders were to be trained. The final count for all projects showed 284 functioning as leaders with 59 additional ones in attendance at meetings, but not relaying work.

The two programs commanding greatest interest and acceptance by homemakers were "Laundering" and one called "Easier Housework." The latter was a combination of studies of better methods. Combined statistics for these two peaks of interest indicate that 209 leaders can be credited with carrying information to 1,818 families. They did this through 107 relay meetings.

Working with them, too, and often carrying a project by county-wide club contacts, the Home Demonstration Agents assisted 536 additional families. This brought the total to 2,331 families who received help with home management problems. Leaders of these projects received their training at 18 training meetings for which the Specialist assumed responsibility.

Horticulture

The most important problem in commercial vegetable production in Arizona during 1953 was the loss from Crown Blight of melons. This disease is very prevalent in Maricopa and Yuma counties, and was found in home gardens in two other counties.

Extensive experimental plots were established during the year, but no definite lead for control was found. The Extension Service, Research Department of the University, and U.S.D.A. vegetable men have worked cooperatively on this project. Two meetings of all workers, together with a field trip in the Yuma and Imperial Valleys, were held during the year. Extensive tests and demonstrations will be carried out in 1954.

Vegetable variety demonstrations on lettuce, sweet corn, tomatoes, beans, cucumbers, watermelons, and onions were conducted in Maricopa, Yavapai, Greenlee, Cochise, Graham, and Navajo Counties. These variety demonstrations have established the use of many new and improved varieties for both home and commercial plantings.

Grape pruning, thinning, and girdling demonstrations were conducted in two commercial vineyards on Cardinal grapes this season. It was demonstrated that the two-bud cordon system of pruning, the thinning to 20-24 bunches per vine, and the trunk girdling of vines just as color was beginning to show on the berries gave the highest yield of marketable grapes. These practices are now being carried out in all commercial vineyards.

Eleven ornamental pruning demonstrations were held in seven counties with a total attendance of 486. Roses and trees were the ornamental plants receiving the most attention. Seven home beautification demonstrations were held in six different counties with an attendance of 239. Four of the demonstrations were of farm homes and two of public areas. Twelve home beautification meetings were held in nine different counties with an attendance of 652.

At each outside demonstration the Specialist used live plant material around the homes to show the proper use of the different kinds of plants. In all meetings, colored slides showed plant material and illustrated how the plant material should be used around homes and public areas.

Each year home beautification demonstrations are established in one community in two or three different counties. Result demonstrations are held each year in counties where method demonstrations were held the year before.

The commercial acreage of strawberries has increased in Arizona during the past year. Several growers are experimenting with varieties and plantings on the Yuma-Mesa with the idea of establishing several large plantings of strawberries in that area. The Arkansas strain of Klondyke is the variety that is now most widely planted and is receiving the most attention in plantings in new areas.

Information

Arizona extension workers did their best information job in 1953. Not only were more news stories supplied to the papers of the state - more of them were printed than ever before.

More Extension Service news was used in Arizona's newspapers during the year than at any other time. The total of 26,487 inches of such agricultural and home economics stories is a 36 percent increase over 1952. The amount of county news increased 25 percent, and the amount of press-release stories used increased 62 percent. The number of press releases sent to the state's newspapers increased 42 percent, and the number of "fill-in" stories for the exclusive use of county workers increased 40 percent.

Local extension radio programs were conducted by county agents and home demonstration agents in five counties during the year. Assistance was supplied to these programs from the extension information office in the form of tape recordings. Also, all of the 24 radio stations in Arizona received each week "Arizona Farm Flashes" for broadcast use, containing agriculture and home economics information. The latter service was increased by 10 percent this year.

The number of publications printed increased 28 percent in 1953, with 24 circulars or folders, with a total of 114,000 copies. Many of these were reprints or revisions to take care of needs throughout the state. The use of color, especially on the covers, has increased and assisted in more complete distribution.

More pictures were taken by extension information specialists, for a total of 971. Half of these were colored slides for use by county extension workers. More posters and exhibits were prepared in the information office. Three colored movies were made for use in the 4-H program.

The training of extension workers continued throughout the year through individual conferences, regular extension regional or state conferences, news tip suggestions and county agent "fill-in" stories. The increase in the use of news within the state shows that the training program over the years is bearing fruit. Of particular importance this year is a 60 percent increase in the use of county news stories.

Irrigation

The irrigation project includes as a sub-project all phases of water management from the source to the storage as soil moisture for plant use. This entails work on distribution systems, methods of water diversion to the field, methods of water application to the field and correlation with cultural practices including agronomic and soil technique.

Physical factor in soil management including land leveling and the leaching of salts from the soil with or without soil amendments is also a sub-project since it ties in with proper water management. Work on soil amendments and leaching are of necessity correlated very closely with the work by the soil Specialist.

Cooperation with other agencies on conservation and related subjects is a sub-project connected to the irrigation project by the technical phases of conservation since any efficient soil and water program promotes conservation of resources. The Specialist also is designated as liaison representative with other agencies concerned with conservation of natural resources.

Agricultural engineering is being carried under the project as necessity demands since the position of agricultural engineer is open at the present.

The cotton committee of the Agricultural College and Agricultural Extension Service met for two days in January and worked out cropping recommendations for cotton. These recommendations were then compiled by Mr. Ellwood, extension agronomist, printed and distributed to farmers through County Agents.

Eight farmer meetings were then held in four counties to explain these recommendations to farmers. County Agents conducted the meetings and specialists in the various subject matter fields stated the recommendations and explained them.

At the meeting in the Yuma Valley, Yuma County, the specialist made use of data from a demonstration conducted by the County Agricultural Extension Service in cooperation with the Experiment Station personnel of the University of Arizona Experiment Yuma farm, cotton growers, Mr. Les and Jim Barkley and the Specialist. This demonstration covered five levels of irrigation from very dry, five irrigations, to very wet, thirteen irrigations, with additional information obtained on bloom count, boll set and plant height under these five conditions.

The winter irrigation of alfalfa has been a recommended practice for maximum production for several years. There has been several areas of the state that has not followed this practice. The practice has been urged at several soil and water management meetings. This last spring the Sunset Dairy at Winslow and Mr. Rex Hunt of Hay Holler in Navajo County agreed to establish demonstrations in cooperation with Mr. William Gregory, County Agricultural Agent of Navajo County. Although a late season snow and rain made the demonstrations inoperative, several farmers in the area have voiced their approval and intention of irrigating their alfalfa during the winter. Their main objection in the past has been that irrigating during the winter would cause the alfalfa to be damaged by frost heave. There was no indication that this was true.

Level land is one of the greatest assets any farmer can have. Therefore, promoting interest in land leveling was the object of this sub-project. This was done through the soil and water management farmer meetings using chalk talks, charts, and colored slides. The approach used was the increased yields and reduction in labor achieved through land leveling.

Nutrition

County Home Demonstration Agents assisted and advised 2,145 families with

food preservation and storage problems. They made use of mass media, radio, publications, newspaper stories and television, to supplement leader-training and method demonstrations. The greatest emphasis in food preservation is on the preparation of foods for freezer storage. Owners of home freezers are turning to the Extension Service for facts and findings in this field, as freezer storage becomes a stabilized program in Arizona.

A total of 281 homemakers assisted in the meal planning and nutrition projects, working with 3,264 families. One thousand two hundred and sixty families were reported assisted in 1953 with their home food supply, 2,321 with the selection of food, 5,852 with meal planning and preparation and 1,900 families improved their diets.

Two hundred forty-five trained leaders conducted 172 relay method demonstrations with an approximate attendance of 1,958 homemakers.

These figures bear witness to the fact that education can result in changing the food habits of individuals. The greatest acceptance from project work has been the increased use of dry skim milk powder to enrich baked foods and to supplement whole milk. The nation's number one nutritional problem, weight-control, is a recognized problem of many homemakers in Arizona who are continuing their interest in weight reduction projects over a period of two years.

The project "You'll Do Better With Breakfast" helped 350 families in Yuma County to improve their food habits. Projects in "Meat Cookery" showed homemakers how to prepare less tender cuts of meat, to roast meats at temperatures of 300° F. to 325° F., and to use the broilers of their gas and electric ranges.

Ninety-five leaders trained in various phases of meat cookery held 37 relay meetings with an approximate attendance of 350 homemakers. Results show that 113 homemakers are broiling meats, 111 are using recommended low oven temperatures for roasting beef and turkey.

One thousand eighty-six women who are members of organized Homemaker Clubs in the Extension Service were trained in first aid and home nursing. While this training is provided by teachers authorized by the Red Cross, the desire for training for community service stems from the Homemaker Clubs. Six hundred and twenty-seven members of Homemaker Clubs reported that they had a physical examination by their physician during the year.

Plant Pathology

Loss of alfalfa stands continues to be the main problem in growing this crop in Arizona. In some areas 50 percent of the stands are depleted by the end of the third year of cropping. Such cultural practices as frequent cuttings for green feed; summer hold-off of irrigation; lack of

insect control and renovation may reduce vigor of the stand. Also, a number of diseases are found in most of the fields, often several occurring in the same plant. Disease-resistant varieties are being tested of the southern non-hardy types.

In cooperation with the Extension Entomologist, a weekly cotton letter was sent to the cotton farmers during the cotton growing season. The intent of this letter was to give current information on insect and disease incidence during the season. Short descriptions of each disease and its control were given by the Extension Plant Pathologist when timely. Over 80 percent of the growers have already requested the letter for next year, many including names of their friends.

Verticillium wilt of cotton, usually not in much evidence in Arizona at elevations below 2,000 feet, was widespread in Eloy, Coolidge and Florence areas this season - elevation 1350 feet. The Extension Plant Pathologist in cooperation with the County Agricultural Agent and a research plant pathologist, Dr. Ross Allen of the Experiment Station, made a survey of this area noting that on several heavy silty soil types the cotton exhibited severe wilt symptoms while on the lighter soils no symptoms of Verticillium were expressed.

In the Eloy area the presence of Texas Root Rot in some of the fields complicated the picture. It becomes a question as to whether Verticillium wilt or Root Rot killed the plant. Some cultural practice demonstration plots are planned for next season to see if soil temperature variation may affect the yield of wilt infested cotton.

The promiscuous use of the ester forms of 2, 4-D in many areas showed its effects on neighboring cotton fields and in some cases was quite damaging. In most of the affected fields the damage was only slight.

Yellow Dwarf, a virus disease transmitted by at least five grain-infesting aphids according to California workers, did considerable damage to the later planted barley and oats during the past season. A late cool spring allowed a buildup of aphids which carried the disease from surrounding wild grasses which harbor the virus. Until varieties are developed that are resistant to this stunting disease, aphid control and early planting are recommended, as late infected plants are more tolerant and yields not so drastically reduced.

Crown Blight of cantaloups became a very serious problem inmany fields in June and July. Not unlike previous seasons, the crown leaves began dying rapidly about the time of the first picking. Melons were exposed to the sun making them unmarketable.

Two Crown Blight conferences were held in June and December. The Extension Plant Pathologist compiled and distributed accumulated information on this disease to all workers interested. Some means of living with the disease is necessary, or the cantaloup industry of Arizona and southern Californis is seriously threatened. The use of several fungicides, seed treatment, insecticides, fertility levels, irrigation levels, and tillage gave no control.

Poultry

The number of birds in laying flocks in Arizona during October, 1953 was 488,000. This is an increase of 15,000 over 1952. The output of baby chicks by Arizona hatcheries was 1,171,000 for the first eleven months of 1953 as compared to 1,270,000 for the same period of 1952. This decrease is probably due to a higher percentage of shipped-in baby chicks. The larger commercial poultryman and dealers have been increasing their orders to California hatcheries.

The Arizona Poultry Improvement Program was affected by the general poultry situation with less participation during the year. This program is handled by the Arizona Poultry Improvement Board, which is the Official State Agency administering the National Poultry and Turkey Improvement Plans in cooperation with the Bureau of Animal Industry and the Agricultural Extension Service of Arizona.

The Poultry Specialist is the Contact Representative and Record of Performance (R.O.P.) Supervisor for the Board, and functions in the capacity of Executive Secretary. The total hatching capacity of Arizona hatcheries participating in the National Poultry and Turkey Improvement Plans was 204,000 - a decrease of 49.8 percent. There were 7 hatcheries participating - a decrease of 22.2 percent of the previous year. There was an increase of 21.4 percent in the number of flocks and a decrease of 41.4 percent in the number of birds per flock in comparison to the previous year.

The N.P.I.P. flocks produced 27 percent of the total hatching egg capacity of hatcheries. This means that the balance of hatching eggs had to be shipped in from outside of the state. Pullorum reactors in the breeding flocks decreased from 1.0 percent in 1952 to 0.4 percent in 1953.

Flock management continued to play an important part for the successful operation of a poultry enterprise, especially the proper culling to conserve feed and increase the percent daily egg production. With the increase in individual cage operation, the control of temperatures is important, particularly in the lower elevations during the summer by using sprinklers and fog systems.

Poultry diseases continued to be a problem for County Agents. They were called upon to diagnose and recommend practices for control. There were three virus diseases - Newcastle, fowl pox, and laryngotracheitis - for which vaccination was recommended for control. Chronic respiratory, or air sack disease, continued to cause trouble. The use of antibiotics, particularly aureomycin, in the feed gave some results. Recent research work indicates that the injection of aureomycin intra-muscularly will provide better results.

For other diseases, such as colds, cholera, organic toxins, and simple types of intestinal disorders, the sulphur drugs were recommended. Most of the disease troubles were traced to management, particularly sanitation. Pullorum disease, which is transmitted through the hatching egg,

is being controlled by the participants in the National Poultry and Turkey Improvement Plans by testing the breeding flocks.

The price of eggs maintained a relative high average throughout the year in comparison to the national average due to the fact that Arizona produces about 23 percent of the total eggs consumed in the state. Most commercial poultrymen producing eggs do their own processing and marketing, thus receiving a greater return on their investment.

Soils

Information concerning fertilizer response on Arizona soils is still limited. This is especially true for phosphate on small grains, corn and sorghum, for nitrogen and phosphate on pinto beans, etc. Therefore, the first problem in soil fertility was to obtain information through the use of field demonstration plots. These plots were designed to demonstrate good fertilizer practices as well as to obtain additional information. They were established in various counties on cotton, corn, alfalfa, small grains, pinto beans, and grain sorghum.

Demonstration plots must be seen if they are to be of maximum value. Field tours were conducted in several of the counties. The various demonstrations were inspected and explained. Also, yield data from the demonstrations of the previous year were summarized and analyzed. These results were then made available to the County Agents in an effort to keep them completely informed as to the latest available information.

In addition, the Soils Specialist discussed the use of commercial fertilizers at meetings in most of the counties in Arizona. In all such discussions, the importance of considering the entire crop rotation when planning a fertilizer program was stressed.

In the field of soil management, the importance of integrating various factors such as tillage, irrigation, fertilization, etc., into one overall program was emphasized. The role of organic matter in soil building also received attention.

The work in this field consisted primarily of supplying information to Arizona farmers. An extension circular entitled "Soil Management" was prepared and published to help in this regard. Also, radio programs, meetings, news releases, and mimeographed circulars were used to help present this program.

Two projects in 4-H Club work received attention. The first year project circular for the Soil, Water and Sunshine project was published early in the year. The second and third years of the project are now being organized. This project was discussed with the 4-H leaders who attended the annual leaders' conference at Flagstaff. The leaders received the project favorably, and new clubs are being organized at the present time.

The 4-H tractor maintenance program for Arizona was directed by the Soils Specialist during the latter part of the year. A two-day County Agent

and leader-training clinic for this project was held in Phoenix. In addition, circular letters, news releases, and radio programs were used to publicise the program. As a result, tractor maintenance clubs have been organized in several of the counties and are very active at present.

4-H

Enrollments continued downward in 1953 as a result of the change from school-centered to community-centered 4-H club work. Even though fewer boys and girls enrolled, there were more leaders and junior leaders and more active participation and interest in county and state 4-H events. The employment of County Extension Agents to fill the vacancies that occurred in 1953 should increase 4-H enrollments in 1954.

The 35th annual 4-H Roundup, June 2 - 6, on the University of Arizona campus was the most successful in a number of years. Three hundred ninety-one 4-H members, leaders, parents, and agents attended from the thirteen Extension counties. One hundred twenty-one teams or 363 boys and girls took part in agricultural and home economics judging. Participation in demonstrations increased also with 83 teams and individuals taking part compared to 72 in 1952.

Beef and dairy fitting and showmanship had very good competition with evenly matched contestants. Ten counties took part in beef and six in dairy contests. The poultry fitting and showmanship was very successful with seven junior and six senior contestants. In 1952 only seven senior contestants took part, a junior competition being added this year.

The state dress revue was particularly outstanding this year. Thirty-one girls representing eleven counties modeled their garments during a skit that was prepared and directed by the Clothing Specialist. The setting was a club member's home the night before the county 4-H fair and the older 4-H girl was doing last minute work on her 4-H dress.

4-H members have taken active part in the 4-H section at the Arizona State Fair, junior division at the Arizona National Livestock Show, state and national 4-H club contests and National 4-H Club Congress, Rural Life Sunday, and National 4-H Club Week.