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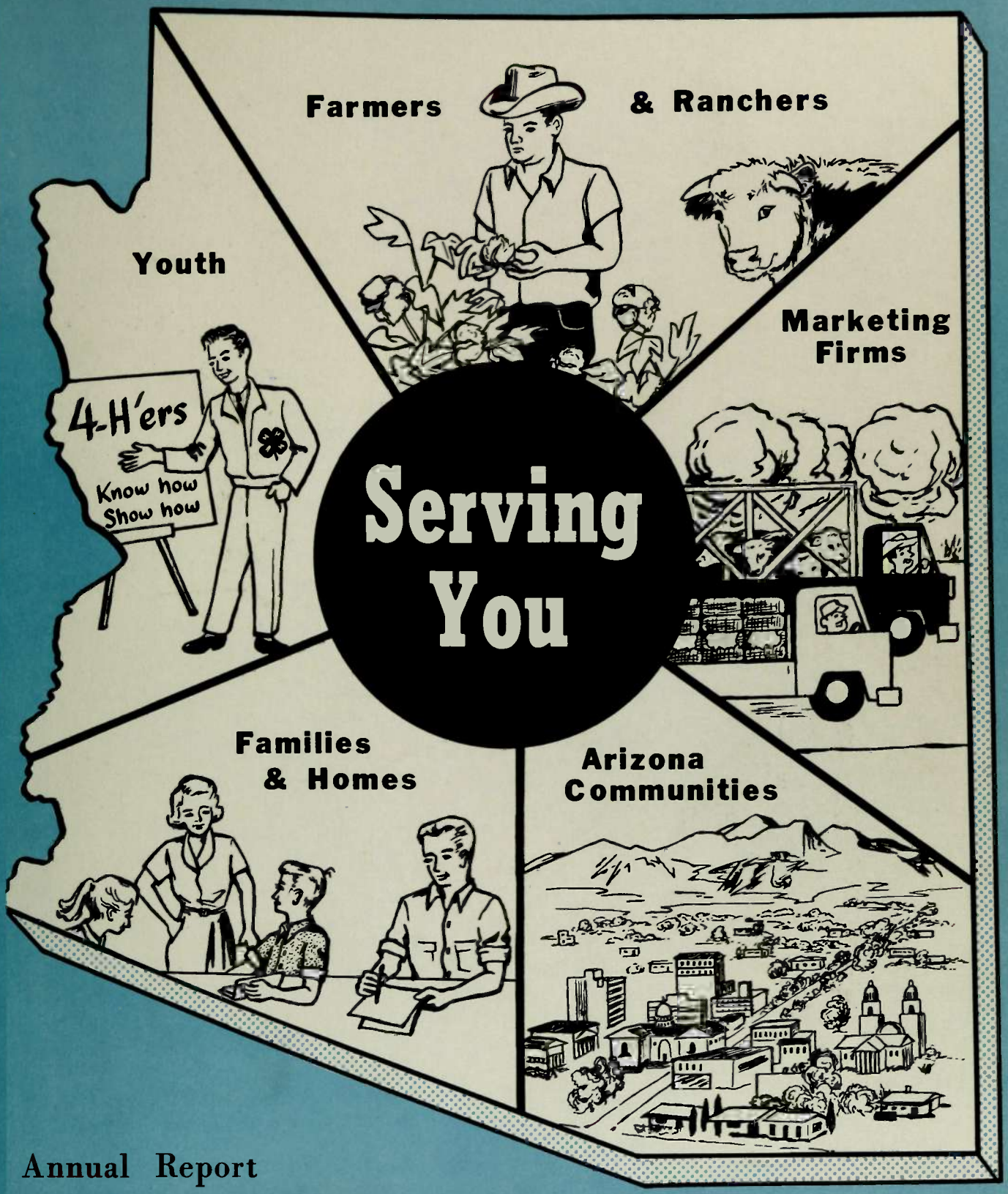

Annual Report
1966

Navajo

Cooperative Extension Service

The University of Arizona
Tucson

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS

The University of Arizona
College of Agriculture
U.S. Department of Agriculture
and Navajo County Cooperating

State of Arizona
Box 190
Holbrook - 86025
Phone: 524-6271

Agricultural Extension Service
Agriculture
Home Economics
4-H Clubs

Dear Friend:

It's a pleasure to share some of the highlights of Navajo County's 1966 Extension Program with you. We hope you will find time to read this Annual Report of our educational activities.

You may have been involved in helping plan and carry out the various Extension activities. We are grateful for this participation because personal interest and voluntary cooperation are essential to meaningful Extension programs.

In order that the Extension Service can justify continued support and program participation, we hope you will share with us any suggestions or recommendations for improvement.

It has been a pleasure to serve Navajo County this past year and we sincerely appreciate your support and cooperation.

Sincerely,

Anna M. Underwood — County Agent In Charge

Ina B. Ward — Extension Home Economist

Dwain A. Gale (January - June) — Assistant Agricultural Agent

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Extension Organization Programming & Evaluation

The Director of the Cooperative Extension Service . . .

--Strives to administer the Extension Service in the most efficient and effective manner possible to ensure that its educational capabilities continue to be readily available to local groups in assisting them to search out and work on pockets of opportunity for raising individual, family, and community well being.

I. EXTENSION ORGANIZATION, PROGRAMMING AND EVALUATION

A. County Staff and Their Major Areas of Responsibility

The Navajo County Extension Office consists of three Agents, one Extension Stenographer and a part-time Secretary.

The County Agent in Charge, Amos H. Underwood is responsible for the overall Extension program with major responsibilities in Agriculture, with the exception of Poultry, one of eight areas in 4-H, and with Resource Development.

The Extension Home Economist, Mrs. Ina B. Ward, is responsible for the Home Economics program in adult work, 4-H and Family Living in resource development and organization and training for two of eight areas in 4-H.

Assistant Agricultural Agent position is open at present. We expect this to be filled January 1st. Dwain A. Gale had major responsibilities for the 4-H Club Program; the youth phase of resource development, and Poultry in adult work. Also organization and training for five of eight areas in 4-H. Three of these areas are on Reservations. Our present staff assumed his duties the last six months.

The staff works very closely together in a coordinated overall Extension Program. Each Staff Member may be involved in each of the phases of work at any time.

Extension Stenographer, Mrs. Margie Timbush, is in charge of the office secretarial responsibilities.

Mrs. Patricia Hutzel works half-time as stenographer and secretary.

B. Staff Changes

Dwain Gale, Assistant County Agent for three years, resigned June 30th to continue his education.

Mrs. Margie Timbush was employed as Extension Stenographer July 1st, after Mrs. Helen Ovitt resigned.

Mrs. Patricia Hutzel was employed on October 1st.

Miss Rosemary Jacques was employed September 1st.

C. How Extension Program is Developed

The program in Navajo County is developed by a combination of several methods. The Agents work closely with several advisory groups. The Agents meet with committees of agriculture, family living, and youth and outline projects for Extension Service work. Priorities are established by the committees and the Agents. From this the program and plan of work is developed.

The Extension Board will play an important role in helping to develop the program in an advisory role.

D. Advisory Groups - Their Purpose and Membership

Navajo County Extension Board was appointed by the Board of Supervisors November 2, 1964. This was a result of recent Arizona legislation authorizing a board to be the sponsoring group for Extension in each County. The Board is as follows:

Chairman - John Heward, Holbrook, farmer, 4-H, Farm Bureau; Vice-Chairman - Jack Carlisle, Show Low, dry-land farmer, rancher, Farm Bureau; Secretary - Virgil Bushman, Joseph City, dairy, beef, vegetable, and field crops, Farm Bureau; Mike O'Haco, Winslow, cattleman, farmer, cattle breeder, 4-H, Farm Bureau; Irving Gibson, Heber, rancher, President of Cattlemen's Association; Dean Flake, Snowflake, rancher, farmer, Farm Bureau; Lowel R. Pearce, Linden, rancher, 4-H, Farm Bureau.

The Navajo County Development Council consists of representatives from the communities and organizations in Navajo County. Its purpose is to improve economic and living conditions in the County. The Extension Service works closely with this council in an advisory capacity. They, in turn, sponsor many of the Extension Programs. President is Earl Crofford of Woodruff.

The Homemakers Club Council consists of representatives from each of the Five Clubs in the County. Its purpose is to improve living conditions and homemaking techniques for its specific membership. President is Mrs. Gertrude Smith of Winslow.

4-H Club Leaders Council consists of all the 4-H Leaders in the County. Its purpose is to work with the Extension Agents in conducting the 4-H Club program. President is Frank Malone of Lakeside.

The Navajo County Farm Bureau membership consists of farmers and ranchers in the County. Its purpose is to improve agricultural conditions. President is Leroy Palmer, Taylor.

Northern Arizona Cattlemen's Association consists of ranchers in the three Counties of Navajo, Apache and Coconino, with the purpose of promoting the livestock industry.

Northern Arizona Cowbelles consists primarily of ranchers wives. Purpose is to help promote cattle industry. President is Mrs. King Pearce of Holbrook.

E. Assistance of Individuals, Groups, Organizations and Agencies

The Rural Development Council has sponsored the following agricultural programs: Chemical Weed Control Program; a Windbreak Program, a series of fertilizer test demonstrations, and water studies, and the Community Action Program.

The 4-H Club Leaders Council and Junior Leaders Council have helped to plan and execute the 4-H Club Program in the County.

The First Navajo National Bank and Valley National Bank sponsored the 4-H Achievement Banquet.

The Navajo County Fair Commission has made premiums available for the youth and adults.

The Extension Board has reviewed the Extension Program and made suggestions to be incorporated into the plan. They serve as an advisory group and represent the Extension Service in their community and the group they represent. They also approve the budget.

Western States Telephone Company supplies medals for 43 4-H winners in addition to the National Awards Program.

Mr. and Mrs. H. A. Soehner supply trophies for County Champion 4-H Boy and Girl.

The newspaper editors of the five local papers give excellent cooperation in publishing Extension information.

The three radio stations give good coverage to the program. KDJI and KINO have a 15 minute program by the Extension Agents weekly.

Thirty-five farmers, ranchers and organizations cooperated in conducting result demonstrations.

Coordination with Indian Agencies

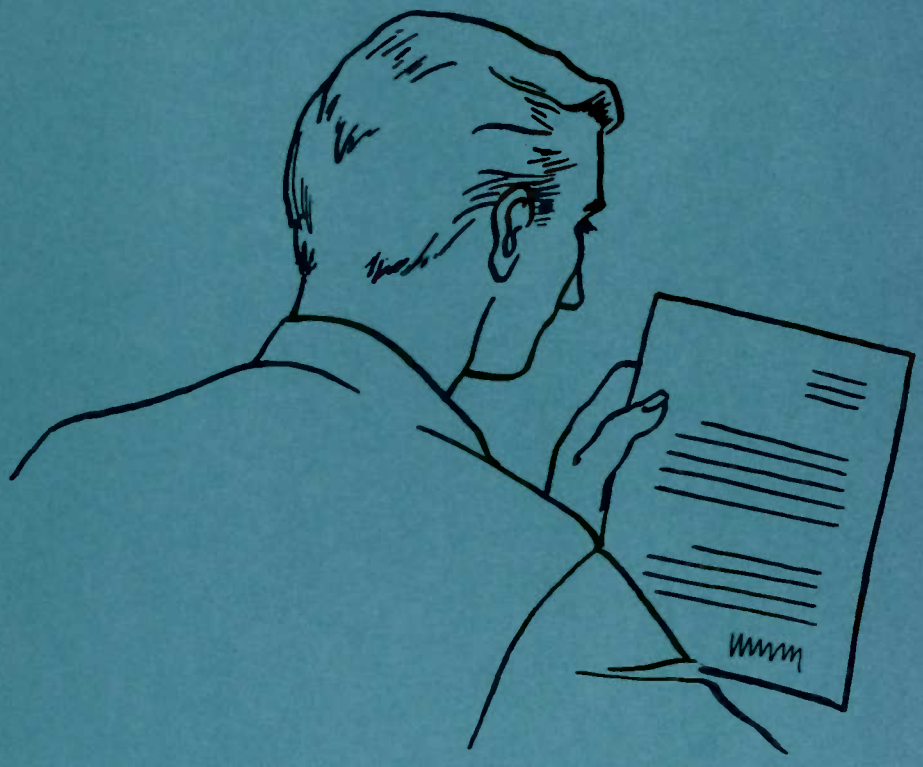
Most of the work done on the reservations with the Indians is done through the Bureau of Indian Affairs Extension Personnel. This includes both the adult and the 4-H Club work.

Positive interest has been expressed by the White Mountain Apache Tribe in doing more work during the coming year. As a result of this, two conferences with Tribal officials, BIA officials, and the County Extension personnel. We believe this will result in a more effective Extension Program during the coming year.

1966 EXTENSION EDUCATION PROGRAM BY COMMUNITIES
An Overview

Extension Program	Winslow	Joseph City	Holbrook	Woodruff	Snowflake	Taylor	Show Low	Lakeside	Pinetop	Clay Springs	Heber	Linden	Pinedale	Reservation
Agricultural Production														
Corn Insect Control					2									
Fertilizer Demonstrations on Alfalfa		5	3		3									
Fertilizer Demonstration Tests on Corn		3 3			1									
Fertilizer Test on Sweet Corn		1												
Corn Variety			1											
Puncture Vine Control			2	1										
Cattle Grub Control	1												1	
Cattle Improvement													1	
Sugar Beet Seed Demonstration		1		1	2									
Weed Control	1	3	3	1	2								3	
Soil Amendments				1										
Range Studies						1	1						2	
Alfalfa Varieties			1		1									
Agricultural Marketing														
Cattle Marketing Program	1	1	1	1	1	1	1	1	1	1	1	1	1	
Family Living														
Homemaker Groups (6)	3		1						1					1
Other Org. Groups (12)	1	1	2		2	1	1	2---		1				1
Special Interest Ed. Program (7)	2		2		1			2---						
4-H														
4-H Clubs (108)	13	3	8	3	9	9	5	2		7		1		48
4-H Leadership in Depth Training	1		2		1		1							
Career Days			1		1			1						1
Community Improvement														
Landscaping Cemetery					1									
Operation Windbreak	1	1	1	1	1	1	1	1			1			
Home Grounds Demonstration			1	1	1									
Landscaping Schools	1				3									

Extension Information



The Extension Information Service . . .

--Reinforces and supports all five Extension program areas. News releases, bulletins, circulars, radio and television programs, exhibits, visual aids and films disseminate state wide the latest developments and information from the University of Arizona, College of Agriculture, the School of Home Economics and the U. S. Department of Agriculture.

Farm & Home Visits
2406

Press Articles
Prepared & Published
311

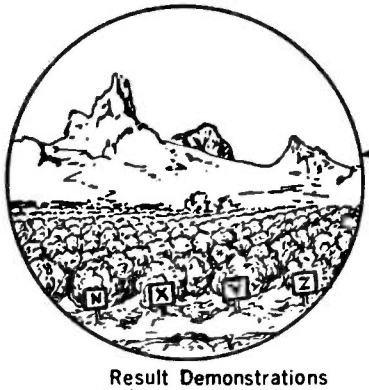
Telephone Calls
2557

Methods Used & people Reached with Agricultural & Home Economics Information

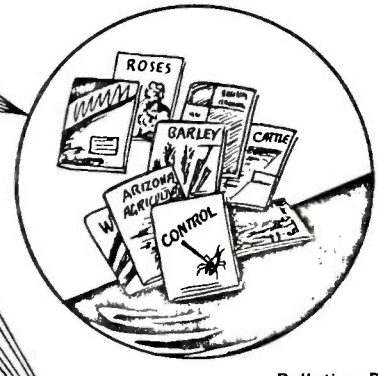
1966

The University of Arizona
Cooperative Extension
Service

Office Calls
2222

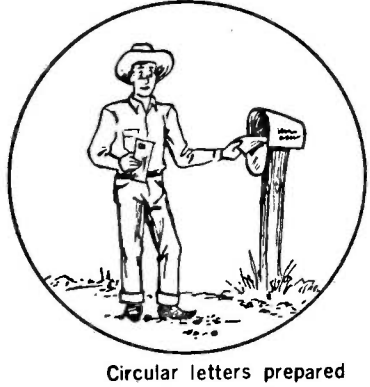


Result Demonstrations
& Tests Established
33

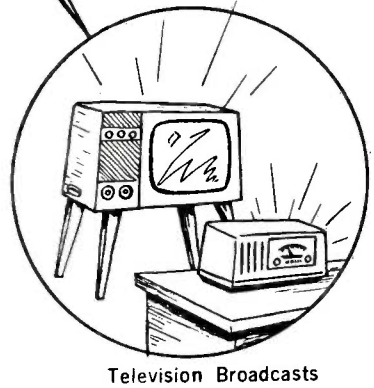


Bulletins Distributed
13,758

Meetings, Tours, Field Days
Attendance
12,659



Circular letters prepared
13,538



Television Broadcasts
Radio Broadcasts
125

II. EXTENSION INFORMATION

A. Methods Used and People Reached with Agricultural and Home Economics Information

Communications methods include Farm and Home Visits; Telephone; Personal Letters; Circular Letters; News Stories; Radio Programs; Public Meetings and Programs with organizations. Each of these methods of communication play a definite part in the Extension Program in Navajo County. It is important to determine which method will be the most effective for the specific job that needs to be done. In most cases a combination of many or all of these methods may be included before a program is completed.

(See Summary - on preceding page)

B. Special Extension Information Projects

Extension Program Reviewed with Extension Board

A summary of the highlights of the Agricultural Extension Program was presented to the seven-man Extension Board at the December annual meeting. At the same time a brief outline of the annual plan of work was also presented. Their suggestions have been included in the Plan of Work.

Radios and Newspapers Serve as Excellent Medium for Extension Information

Radios and newspapers play an important role in presenting the Extension information to the people of Navajo County. Fifteen minute radio programs have been broadcast, at noon, weekly over KDJI, Holbrook and KINO, Winslow, for about three years. KVWM at Show Low has informal programs from time to time. A half page Extension weekly column was started last year in the following papers: HOLBROOK TRIBUNE; WINSLOW MAIL; SNOWFLAKE HERALD; and SHOW LOW PIONEER. The SHOW LOW MOUNTAIN EAGLE also uses all the news stories we send them. People from unexpected sources are continually referring to the information received over the radio or in the news column. The heading of the column is "Around the County with the University of Arizona Extension Agents".

Cattlemen's Newsletter

A periodic newsletter is sent to the cattlemen in Navajo County informing them of the new developments in livestock production, management practice, and marketing information. Also lists of new bulletins affecting cattlemen are included in this newsletter.

Junior Leaders Newsletter Informs and Trains

The Junior Leaders of Navajo County are serving a twofold purpose with the quarterly newsletter. Under the supervision of R. S. Hunt, 4-H leader of Winslow, Mrs. Penny Brewer, Leader of Snowflake, and the Extension Office, news reporters and junior leaders from clubs over the county supply news. This enables club members throughout the county to keep informed of events and activities from other clubs. The letter is mimeographed in the County Extension Office. Copies are sent to Leaders and Junior Leaders who distribute them to the club members.

Monthly Newsletter is Helpful

Homemakers from throughout this county have responded to the Extension Home Economist's Newsletter by complimentary letters and ordering bulletins. They have shown appreciation for the "Helpful Hints".

This is a two-page newsletter which has one page of general information and one page of specific information on one subject.

Agricultural Production, Management & Resource Use

The Extension Service strives to . . .

- --Assist farmers and ranchers to use research and technology
- --Create awareness of change in the farm scene
- --Increase farm income and living standards
- --Help farmers' and ranchers' produce products to meet market requirements
- --Update management procedures and product quality standards

III. AGRICULTURAL PRODUCTION, MANAGEMENT AND NATURAL RESOURCES

A. Serving Field Crops Growers

Snowflake Experiment Farm Basis for Variety Recommendations

The experiment farm results at Snowflake have shown that the following corn varieties have been well adapted for the past three years: Pfister 485, Texas 30, NK-KW5, Asgrow 300, Funks G711AA and Pioneer 309B. In sorghum varieties Lindsey 92F was the leader with NK 145 a close second. Sixteen varieties of alfalfa are being tested at the University of Arizona Experiment Farm. This is the third full year for the test, and the results are still being studied. Some interesting information is developing in this experiment and new recommendations may result from the tests. Results to date are shown on Page 12 of this report.

Seventy-Eight farmers and ranchers attended the Snowflake Experiment Farm Field Day, held September 7. The results of the yield data were presented to the farmers and ranchers by the specialists and research people from the U of A.

Dr. Tom Stubblefield, Assistant Director of Experiment Farms and Research for the U of A, outlined the over-all research program. Dr. Martin Massengale, Head of the Department of Agronomy, expressed his desire in cooperating with the farmers and ranchers in Navajo County.

Puncture Vine May Be Controlled With Weevil

The puncture vine weevil was placed in three locations in Navajo County in the fall of 1963 to determine whether or not it would effectively control the puncture vine and also to determine whether or not the weevil would over-winter. In 1964 there were no puncture vines in the areas where the weevil was placed. In 1965 in two of the locations there were still no puncture vines, but in the third location the dirt was moved to an adjacent area for landscaping purposes, and puncture vines came up all over the place. Seeds and stems from the vines were sent to Dr. Butler at the University of Arizona, Entomology Department, to determine presence of the weevil. They were observed in about 50% of this seed, and the stems as well. During 1966, vines came up in this area, but the weevil is doing a very effective job on them, both in the seed and the stem.

Eleven Farmers Conduct Fertilizer Demonstration

Eleven farmers in Navajo County are conducting educational demonstrations on the use of fertilizer in cooperation with the Tennessee Valley Authority, University of Arizona and the Extension Service. This is the fifth year for the very popular program in Navajo County. The first year, six farmers participated in the program, and each year one or two have been added until our present eleven. Three farmers have chosen to withdraw from the program since it started. Recommendations have been made for the use of fertilizer on each crop, with each farmer, by Soil Specialist, Lyman Amburgey, and County Agent, Amos Underwood. Fifty tons of fertilizer were used by these farmers this year. The farmers apply the fertilizer as recommended and keep records of the yields of these crops. The records are made available to the County Extension Agent for use in recommendations to other farmers and for analytical data at the University. The following farmers are cooperating on the program: Eldred Edwards, Virgil Bushman, M. K. DeSpain, Raymond Randall, Norman Randall and Eugene Hansen, all of Joseph City; Whiting Brothers and John Heward of Holbrook; Leo Webb and Rex Hunt and John Hunt of Snowflake.

Farm Planning and Record Keeping Result From Fertilizer Program

Eleven farmers in Navajo County are finding that farm planning and record keeping are two of the most important results of a Fertilizer Program. They are cooperating on this with the Extension Service of the University of Arizona and the Tennessee Valley Authority. In order to do a good job of keeping records it was decided to make a farm plan on paper of the different fields, the amounts of fertilizer being used on each crop and show the yields of each of the crops. This has been a new experience for several of the farmers and has been valuable to the County Agent and other farmers in knowing what fertilizers and the amounts to use and recommend in the County. In several instances the farmers have been able to combine fields into larger, more practical units as a result of putting the farm plan down on paper and taking a look at it.

A new approach is being made to the record keeping to include an over-all Farm Management Plan in cooperation with the T.V.A. Program and the University of Arizona. Dr. Ramon Sammons, Farm Management Specialist of the U of A; Dave Brueck, Electronic Data Processing; Dr. Howard Ray and Dr. Lyman Amburgey will help in setting up and servicing this program for the coming year.

Sugar Beet Trials

Spreckle Sugar Company is cooperating with the Extension Service and the Navajo County Development Council for sugar beet tests in Navajo County. James Brickey, Agronomist for Spreckle Company; and Amos Underwood, County Agent, established these tests during May of this year to study further information that was obtained from the University of Arizona in 1964. The tests are conducted with the following farmers: Virgil Bushman, Joseph City; Earl Crofford, Woodruff; Rex Hunt, Hay Hollow; Lee McCray, Snowflake. The beets were harvested at three different dates, September, October, and November. Sugar content, chemical analysis, and yield was determined. This information is not available at this time. It is expected these tests will be continued over the next three or four years. The purpose of this study is to determine the feasibility of growing sugar beets commercially in this area.

Corn Root Borer Study

Farmers in Snowflake and Joseph City have been much concerned with an insect that has been eating off the roots of the sweet corn and causing it to fall over. A study was made of this problem with Leon Moore, Extension Entomologist; M.D. Bushman; and Ira Willis, both of Snowflake. The corn in some fields was reduced in yield by at least 50% as a result of the corn root worm. It was pointed out by Mr. Moore that even though some of the stocks did not fall over, the growth of these stocks was affected by the fact that the larva of the corn root borer pared off the ends of the roots and decreased the intake appreciably. Pollination was also poor as a result of the adult insect paring off the silk that is required for pollination. There has been a history of this insect over the past several years. Two years ago it was very severe; last year tests were applied at the Snowflake Experiment Farm with the use of chemicals; however, it was not effective because the insect did not occur in a sufficient amount that year. Continued tests were made on this in 1966 with Mr. Bushman and Mr. Ira Willis.

Leon Moore, Extension Entomologist, and Paul Gerhardt of the Entomology Department, U of A, established replicated tests using several different chemicals in the soil to determine the value of these. Again the tests were not conclusive because this was a light year for the insect.

Yield Data at Experiment Farm

Four important tests were conducted at the Snowflake Experiment Farm this year. They were, rate and date of planting for corn, variety tests oats, and alfalfa. The most effective planting rate appears to be 20 - 22,000 plants per acre.

The three planting dates were April 15th, May 1st, and May 10th. The April 15th date was unfavorable. The May 1st test produced about 80% of the yield observed on the May 10th test. The planting date of May 10th is normally observed by most of the farmers in Snowflake area.

Oat tests showed three varieties in the following rank: Mesa, Markton, and Palestine.

There are 16 alfalfa varieties being tested at the Experiment Farm in Snowflake. These have been checked for yield for the past three years. On the basis of these tests the ranking of the varieties is as follows:

1. Dupuits	9. Zia
2. Washoe	10. NK-919
3. Vernal	11. Ranger
4. Atlantic	12. Rambler
5. Resistor	13. Caliverde
6. Lahontan	14. Chilean
7. Culver	15. Moapa
8. Cody	16. Sonora

These tests will be conducted again next year for further verification of the data. The number one variety, Dupuits, is susceptible to wilt, and although we do not have wilt in this area, it might develop problems. The second in line is Washoe. This is a new variety that shows excellent promise in this area. It is not susceptible to any of the known diseases or insects which quite often create problems with alfalfa. Efforts will be made to obtain enough seed to set this out in field trials during the coming year.

B. Serving Vegetable Producers

Fertilizer Test On Sweet Corn

A fertilizer test was established on Virgil Bushman's farm in Joseph City in cooperation with Jack Stroehlein of the Chemistry and Soils Department, University of Arizona; Lyman Amburgey, Extension Soils Specialist; and Amos Underwood, County Agent. Several replications were made of four different rates of application of fertilizer, and two different types of fertilizer. The yield data is not available from the University to date.

Cucumber Growers

Mr. Barabe of Barabe Pickling Company in Phoenix, has been contracting the cucumbers with the farmers in the Snowflake area for the past two or three years. Normally they grow from 100 to 150 acres of cucumbers for the fresh market. The Extension Service was asked to cooperate in improving production, and controlling insects and disease. An educational meeting was held at Snowflake with the cooperation of Horticulture Specialist, Norman Oebker; Entomology Specialist, Leon Moore; Plant Pathologist, Arlen Davison; and Soil Specialist, Lyman Amburgey. Insect and disease problems were discussed with the growers before planting season. During the growing season a tour was made of the cucumber fields by Dr. Arlen Davison; Leon Moore; Paul Gerhardt, Entomologist with the University of Arizona; and Amos Underwood, County Agent. The following is the report which was given to the growers and to Mr. Barabe:

"In all of the fields, with the exception of the Sherwood fields, there were indications of need for application of Nitrogen; and there was from moderate to heavy infestation of Thrip. There was no disease found present in any of the fields.

"The thrip is a very small straw-colored insect that attacks the under surface of the leaf, rasping away at the tender cells so that the juices can be sucked from the leaf.

"In a short time this causes the leaf to form holes and causes it to take on a weather-beaten effect. This greatly reduces the vigor of the vines and can reduce the cucumber crop to an appreciable extent.

"We feel that an application of approximately 1 qt. per acre of 57% Malathion in a spray would be money well invested. This would cost from $2.50 to $3.00 per acre for the material. It is important to get the material on the under surface of the leaf. The effectiveness of this does not last more than 1 week, so 2 or 3 applications of this may be required about 1 week apart.

"20 to 25 lbs. of actual nitrogen would probably pay big dividends at this time. This would reduce the amount of tapered-end cucumbers. It would cause the vines to put on new leaves and could well increase the volumn of the cucumbers through the remainder of the season. This fertilizer could be applied in the form of ammonium nitrate 33%. It would require an 80 lb. bag per acre to supply the necessary nitrogen."

C. Serving Fruit Growers

Most of the deciduous fruit in Navajo County is grown in the back yard or in the home landscaping; however, there are commercial orchards at Joseph City, Shumway, Show Low, Lakeside, Pinetop, Whiteriver and Holbrook. All of these are of small acreage. The County Agent has worked with both the individual

home owners and the commercial orchards in pruning demonstrations and in supplying information on insect control, primarily with the spray schedule for apples. This information has been supplied in the form of newsletters, bulletins, and demonstrations at the orchard.

D. Serving Livestock Producers

Livestock Improvement Program

Conferences were held with Al Lane, Livestock Specialist; Roge Pearce and Jack Carlisle of Linden for the purpose of setting up a Livestock Improvement Program with each of them. Roge Pearce is interested in two or three phases on his ranch, one would include an artificial breeding program along with the use of a hormone to control the heat synchronization. He has also asked for a range recommendation for improving his range. Barry Freeman is working on this. Mr. Pearce expects to start in on the cattle improvement program next year. Jack Carlisle has started his program this year by weighing the replacement heifers and ear-tagging them following roundup. These will be observed further next year and important information is expected to be obtained from the records on this herd.

Livestock Meeting To Discuss Management Practices

A livestock meeting of the ranchers in Navajo County was held on May 8th to discuss management practices and marketing situations with the cattlemen. In this meeting information was used that was supplied to the County Agents at a training session at the University of Arizona during April. Al Lane, Livestock Specialist; and Clarence Edmond, Marketing Specialist, met with the twenty-two cattlemen.

Screwworm Campaign

Navajo County has been cooperating with the rest of the state in the Screwworm Campaign during the past year. During April the Screwworm Campaign committee asked the County Agent to write a letter to the cattlemen informing them of the status of the campaign. Following this letter, 16 ranchers responded to the appeal, and a total of $490.00 was turned in to the fund. Following this, another $900.00 was contributed by the Hopi Reservation.

The screwworm does not often occur to the cattlemen in Navajo County; however, the cattlemen want to cooperate in this program which will help the livestock industry.

Brucellosis Testing Goes Over The Top

The final push was made by the Livestock Committee, the County Agent, and the Federal Veternarian, in completing the Brucellosis testing before the deadline so that Navajo County could become a Brucellosis Free Area. This was accomplished during the month of July.

Cattlegrub Study

During 1965, an extensive cattlegrub study was made in cooperation with the University of Arizona and Mike O'Haco of Winslow. Three different groups of cattle were checked for cattlegrub, spraying at two different periods. One on May 1st, one on July 15th, and one was not sprayed for a check. It was determined that the early spraying was the most effective for control of cattlegrub, using Co-Ral as a spray. As a result of this information, the cattlemen in the County were informed and many of them have started a program of spraying during branding time. This is much more effective and easier than spraying in August as was previously recommended.

Tour of Bill Jeffers Ranch

Bill Jeffers asked the County Agent for assistance in a report to be used in his income tax return, justifying the liquidation of part of his range herd. This was necessitated by the fact that there is an extreme drought in the area of the County that Bill Jeffers ranch is located. This is true in spite of the fact that much of the County range is much more favorable than it has been for many years. Dr. George Campbell was very helpful in assisting with this report and going with the County Agent and Mr. Jeffers on a tour of his range. This report will be useful to about a half dozen ranchers in this part of the County.

Cattle Breeders

A letter was written to the Cattle Breeders informing them of a change in the proposed classes for the Navajo County Fair. A report-back was asked for by the purebred and commercial breeders in the County. From the basis of this report, several important changes were made in the County Fair Premium list which should increase the effectiveness of our County Fair.

Cattlemens' Newsletter

An information newsletter was mailed periodically to all of the cattlemen in Navajo County. This included a brief report on subjects of interest to the cattlemen including the different available bulletins that might be of interest to the cattlemen.

Cattle Meeting At Prescott

The County Agent with three of the leading ranchers of Navajo County attended the Arizona Ranch School which was a beef cattle reproduction clinic at Prescott on July 11th. This meeting was sponsored by the American Hereford Association and the Arizona Hereford Association. Dr. Bonsma of national fame from South Africa, was the principal man on the program. He gave a very interesting discussion on fertility evaluation of beef cattle and gave a demonstration on the actual practice of selection based on fertility factors. The cattlemen were impressed with the school.

E. Serving Arizona Dairymen

The dairymen of Navajo County have experienced a problem of competition from the dairymen in the valley. One of the biggest problems on this is the fact that the small producer has a real problem in competing with the larger producer, particularily in advertising. Information was sent to the dairymen by the Extension Service showing that 70 samples of milk were taken by the Health Department for the State of Arizona from Navajo County, and all of them were completely clean of residue. This is the only County in the state that had "zero" insecticide residue in the milk.

An educational newsletter has been sent periodically to the dairymen throughout the year, giving them latest information in management practices.

F. Serving Through Special Emphasis Projects

Farm Management

Plans are being worked out with farmers and cattlemen to develop a Farm Management School and a Record Keeping Program during the coming year. Dr. Ray Sammons will be in charge of this program.

Plans are being worked out to set up a farm management pilot project with Mrs. George Nagel on her farm and ranch in the Winslow area. This information should be very valuable to other ranchers and farmers in the County. Specialists will work with us on this in the fields of farm management, agronomy, soils, livestock and range. Dr. Sammons or Dr. Edmond will be coordinating specialists for this program.

Tordon Pays Off For Motel Owners

Two motel owners in Holbrook and Winslow reported a weed that was growing up through the concrete along the walls of the motel and pushing the carpet off the floor. This was found to be Camelthorn, which is a deep-rooted perennial very hard to control. The County Agent recommended the use of Tordon, which had been effective in weed control demonstrations on ditch banks in this area. Both motel owners reported excellent results.

Weed Specialist Proves Helpful

Our new Weed Specialist, Stan Heathman, made a tour of Navajo County with the Extension Agent, studying the weed problem in this area. Special demonstrations were established at Linden with Jack Carlisle to control field bindweed in dry land farming, blueweed, and juniper. Tordon was used on the juniper. Several chemicals were applied on the field bindweed and the blueweed, but the most effective to date appears to be 2,4-D.

A series of demonstrations were applied on new and old alfalfa on the Experiment Farm in cooperation with Dan Ragsdale of the Geigy Chemical Company. The weeds to be controlled were tansy mustard, field bindweed and dandylion. The chemicals did not prove very effective against these.

Two miles of ditch are receiving chemical weed control in four different locations. Two at Snowflake, one at Joseph City, and one in Winslow. These tests were established in cooperation with Dan Ragsdale of Geigy Chemical Company, Stan Heathman, and the irrigations districts, plus John Hunt of Snowflake. Different rates of simazine and atrazine were applied in November. Results will be checked in the spring.

Agricultural Marketing & Utilization

Extension Agents and Specialists . . .

--Promote efficiency in marketing systems to reflect change rapidly
--Assist firms dealing with farm products
--Help farmers and processors improve and maintain product quality
--Help producers establish convenient livestock marketing outlets.

IV. AGRICULTURAL MARKETING AND UTILIZATION

Cattle Market Service Appeals To Buyers and Ranchers

A cattle marketing committee, in cooperation with the County Extension Office, prepared and mailed to 500 prospective buyers a list of cattle to be sold in Navajo County. This includes a breakdown of calves, yearlings, two year olds, bulls, breed, expected weight at delivery date, and rancher's name, address and phone number.

The purpose of this list is for the convenience of buyers in locating cattle and to encourage more buyers to contact the ranchers. Special instructions informed buyers to deal directly with ranchers. The buyer may contact any one of the cattle committee or the Extension Office in order to find out whether or not any of the cattle have been sold since the list was compiled. During past years this program has been very popular with both buyers and ranchers.

Chairman of the Navajo County Cattle Listing Committee is Harvey Randall, Holbrook. The members are: Bill Jeffers, Lloyd Paulsell and Warren Hutcherson of Holbrook; Irving Gibson, Heber; Ammon Hunt, Clay Springs; Herman Thomas, Pinedale; Roge Pearce, Linden; Bill Bourdon and Jack Carlisle, Show Low; Laureld Bigler, L. B. Decker, Snowflake; and Mike J. O'Haco, Winslow.

Livestock Marketing Information

Twenty-two ranchers were presented information by Dr. Clarence Edmond on cattle cycle, marketing trends, and outlook for the next five years. This information was presented by a series of charts and printed information. The summary of this was given to the ranchers attending a meeting and mailed out by the County Agent to the cattlemen in Navajo County.

Consumer Education - Open House

An Open House was held at the Extension Office on October 19th for the purpose of supplying information to consumers on the use of agricultural products. This included a series of slides on consumer projects, agriculture, 4-H, and resource development. A film was shown on "Meat - From Range to Market". A demonstration was given on "Beef for the Freezer" by a 4-H Club member, Joy Sue Underwood. A Show and Tell demonstration was given by the 4-H Little Roses Club of Holbrook. Exhibits were presented in Consumer Education, Agriculture, Home Economics, 4-H, Range Plant Identification, Careers, and Resource Development. Refreshments were served by the Progressive Homemakers Club of Holbrook. Hostesses were Mrs. Nancy Jeffers and the Little Roses 4-H Club. Forty-five attended. The County Staff participated in the Open House. Those attending expressed a clearer understanding of Extension's part of Consumer Education.

Family Living

Extension Home Economists assist families develop . . .

- --An understanding of human growth and development, family life, and human relationships
- --An understanding for making family choices in the use of time, money, energies, abilities to analyze family needs and goals, and to balance these against the family resources
- --An understanding of the market place and the many goods and services offered to the consumers, and an analysis of family needs and facts for making buying decisions.
- --An ability to perform certain homemaking tasks and skills
- --An awareness of the need for people to assume leadership in the community and to understand good citizenship.

V. Family Living

A. Serving . . . . Homemaker Club Members and Their Program

1. Organization

Membership in Homemaker Clubs Is Increasing

Membership in homemaker clubs is increasing in spite of the large increase in number of women employed. There are now six groups with a total membership of 108. Four of these groups have changed to night meetings so as to accommodate the members who are employed. One other group is considering a change to night.

About 95% of the membership is in the 20-40 age bracket. The Pocahantas Club of Winslow has an all Indian membership. The newest group which is at Keams Canyon is for the most part composed of Public Health employees or the wives of employees.

2. Leadership Training

Leadership Training is "Catching On"

This year leaders conducted four of the eight educational programs held at their regular club meetings. The Extension Home Economist presented three of the lessons and a resource person presented one.

From the leaders point of view they feel that some lessons are especially adaptable for leaders to present. They can plan more closely with their membership on what to present, when and where to meet, and are able to involve their membership. It gives them an opportunity to emphasize points which may be of particular interest to their group. Last, but by no means least, the leaders themselves feel they profit most because they put out more effort, they have personal contact with leaders from other clubs, and they get the lesson first hand from the Extension Home Economist or Specialist.

From the Extension Home Economist's point of view, it increases her efficiency five fold. In the case of food demonstrations it is less costly. There is opportunity for closer personal contacts in a leader training session and perhaps a freer exchange of ideas.

3. Homemaker Club Educational Program

Navajo County Homemakers Select Varied Program

The program planning committee working with the Extension Home Economist selected a varied program for 1966. They had two lessons on food, three on clothing, and three in the field of Home Furnishings and Management. Their selections seem to indicate that the homemaker today is pressed for time and she wants to make her dollar go farther. She is especially baffled by the new fabrics and finishes --- how to care for them and how to handle in home construction.

HOMEMAKERS' CLUB EDUCATIONAL PROGRAM

	Participation in Program								
	Membership Enrollment	Handy Mixes and Their Uses	Planned Family Spending	First Aid to Furniture	Clothing Construction Techniques I	Clothing Construction Techniques II	What's New in Fabrics and Fabric Finishes	Easy Ways with Less Expensive Meat	When You Use Credit
1. Progressive Homemakers Holbrook	19	14	11*	14*	14	14	17*	18	11**
2. Pinetoppers Pinetop-Lakeside	22	28	13*	15*	16	15	21*	27	9**
3. Keams Canyon Homemakers	22						22*		22**
4. Desert Hens Winslow	18	16	16*	15*	16	15	16*	8	7**
5. Pocahantas Indian Colony Winslow	19	14	12*	12*	12	12	11*	13	12**
6. Happy Homemakers Southside Winslow	11	7		8*	7*	7*		7*	

** Taught by Resource person and Extension Home Economist.
* Taught by Extension Home Economist or Specialist.
Others by trained leaders.

Handy Mixes and Their Use is Popular Lesson

Ten leaders representing the five organized Homemakers Clubs attended a training session at the Extension Home Economist's home. She had two mixes prepared, one for light breads, etc; the other for pie crusts. Working in pairs the leaders prepared several recipes from the home-made mixes and from the commercial mixes. Then they compared cost, flavor, texture and the time involved.

Leaders reported good attendance and high interest in this lesson. They all concluded that there was a saving of money in the homemade mix, it is a little more time consuming, the flavor is better, texture on a par, and more satisfying to their families.

There were 79 who attended the club meetings but the leaders have given out over 200 bulletins indicating a spread of interest to non-members.

Planned Family Spending Is A Timely Lesson

During the month of February the clubs had a lesson on Planned Family Spending, given by the Extension Home Economist. Members had been asked to start keeping records as of January first.

A look at family goals both long and short term by means of visuals on a flannelgraph opened the discussion. Those who had kept records for some time were enthusiastic about telling how much it had helped settle family arguments, and how many times they had referred to these records for tax or other information. A few had the attitude - "My husband makes just so much money -- so what!" All agreed that some planning was necessary to take care of taxes, insurance and other large, once or twice a year, expenses.

The Extension Home Economist had a display of a number of different forms that one might use. These were obtained from the state office and locally. Eight of the women in the Pocahantas Club preferred the U.S. Farm Record because they have some farming interests in New Mexico.

First Aid to Furniture Proves Helpful

First Aid to Furniture, a lesson given by the Extension Home Economist, proved to be a very interesting and helpful lesson. It gave the Club members an insight as to what a refinishing furniture workshop would involve in time, patience and money. As a result they did not see fit to set-up furniture refinishing workshops for this year.

Members found that many of the scratches, mars, white spots, etc., could be removed by applying a home-made cleaner and restoration polish.

Interest in Clothing Construction Continues

Fifty leaders attended a day workshop held in each of three areas; Snowflake, Holbrook, Winslow. There were twenty-six 4-H leaders, eleven leaders from Homemaker groups (this includes one from the Hopi Reservation) seven different church groups, Winslow Indian Dorm, Madonna House, Adult education workers (OEO), home economics instructors, BIA Home Economist's aides were represented. Miss Helen Church, Extension Clothing Specialist conducted the training. She gave demonstrations on making a peter-pan collar, setting in sleeves, working with bonded fabrics, putting in linings (two types), putting in hems, and using lace and cording. There was not time for all to make samples of all these techniques so they paired off and each made some, and her partner the others.

These techniques were used as a basis for two lessons for the homemaker club membership.

Fabrics and Fabric Finishes Puzzle Today's Homemaker

Many of the fabrics and fabric finishes on the market today present real problems to the homemaker. She is concerned about the problems they present in home construction, altering the ready made garments and general care.

Homemakers had many of their questions answered when they attended the lessons presented by Miss Helen Church, Extension Clothing Specialist, and Mrs. Ward, Extension Home Economist.

They showed a short film giving the history of man-made fibers and their uses.

Miss Church gave several advantages and disadvantages of the different fibers, and the fabric finishes. She pointed out what to look for in buying permanent-pressed garments; how to handle permanent-pressed fabric and bonded fabric in home construction.

The eighty-seven who attended should be better informed consumers.

Specialist Presents "Easy Ways With Less Expensive Meat"

Miss June Gibbs, Extension Nutritionist, University of Arizona, assisted by Mrs. Ward, Extension Home Economist, presented a lesson on "Easy Ways with Less Expensive Meat." This meeting, which was for the public, was held at the Masonic Dining Room in Holbrook on February 24th.

Miss Gibbs discussed the need for protein in the body, amounts needed by different age groups and how our bodies use protein. She explained that the cheaper cuts are just as nutritious as the more expensive, also that poultry, fish and sea food can be used as good sources of protein.

She then prepared six dishes using beef, poultry and sea food. These were ready for sampling by 12:30 P.M. thus proving that there are "easy ways."

During the afternoon Miss Gibbs discussed meat from the consumer angle, dwelling on beef in particular, since beef is one of the major products for this county.

In March the food project leaders presented this information and prepared several of the dishes for their club membership.

Homemakers Learn About Credit

Homemakers, who attended the club meetings when a lesson on "Credit" was given, were amazed at some of the "angles." Mr. James Case, Manager of Inland Western Finance, and Mrs. Ward, Extension Home Economist, presented the lessons to the six organized groups. Charge accounts, revolving charge accounts, simple interest, time payments and other forms of credit came in for a fair share of the discussion.

Some were amazed when they figured just how much interest they were paying for appliances purchased on a monthly payment basis.

The instructors brought out the importance of establishing a credit rating, shopping for credit, and learning how to figure interest using the Quick Reference Guide.

Judging from the number of questions asked and the confessions made it would seem that these 60-70 homemakers will not be easily sold on food plans, or other door to door salesmen. They will read all contracts carefully and do a little pencil pushing before signing.

Serving Special Interest Education Groups

Special Interest Groups and Topics are Varied

Two hundred-ninety-seven families were reached thru varied programs held by the Extension Home Economist throughout the year. Approximately two hundred forty of these are different families. Some are young married women, 18-25 Indian and Spanish American, and 5 negroes. The Indian, Spanish American and negroes are parents of Day Care children mainly. One negro and several Spanish American women are now volunteer 4-H leaders.

Special Audience And Specific Interest Education

Community	Participation in Special Interest Education Program							
	Pressure Cooker Clinic and Canning Dem.	Easy Ways with Less Expensive Meat	Care of Rugs and Upholstered Furniture	Clothing Construction Technique - W.S.	Nutrition and You	Wills - Why Make One	Getting a Better Understanding of Life Ins.	
Clay Springs				15				
Holbrook		24		13	23			
Joseph City					22			
Keams Canyon			15					
Lakeside	18)			11)		52)	21)	
Pinetop								
Show Low	8							
Snowflake	35			10				
Taylor				4				
Winslow				27				

Young Married Group Holds Special Interest Series

A group of young married women in the Show Low - Lakeside - Pinetop area held a series of special interest meetings. Members of the homemaker club in that area were the main organizers but others were included. "Wills - Why Make One" was the lesson given at the P.T.A. meeting in that area, and "Getting a Better Understanding of Life Insurance" was attended by husbands and wives in the community.

Clothing Construction Techniques Interest Many

See this topic under Section V. - 3. Homemaker Club Educational Program.

Canning Is Popular in Navajo County

Canning is still a popular method of preserving food in Navajo County. There are several reasons for this --- first, gardens produce well in most areas of the County; second, homemakers are urged to preserve food thru their churches; and third, the homemaker likes to have canned products on the shelf and she feels it is an economical way to feed her family nutritious meals.

During the summer months Mrs. Ward held three pressure cooker clinics in three areas. She tested 37 pressure gauges at these meetings and approximately 20 others which were brought to her office. Mrs. Ward gave demonstrations on how to use and care for pressure cookers and gave each one present the revised edition of "Home Canning of Fruits and Vegetables" and "Home Canning of Meat and Poultry."

Of the number tested only two gauges were found to be completely unreliable. These two could have caused a serious accident or a large loss of food.

Care of Rugs and Upholstered Furniture
is a Repeat from '65 Program

Mrs. Ward presented a lesson on Care of Rugs and Upholstered Furniture to members of the Hospital Auxiliary at Keams Canyon.

This lesson was especially helpful for the homemakers in the Keams Canyon area as they are 65-75 miles from the nearest cleaning establishment.

As a result of this meeting they organized a homemaker group at Keams Canyon.

"Nutrition and You" Presented to Three Groups

The Extension Home Economist presented a lesson on nutrition to the L.D.S. Relief Societies of Holbrook, and of Joseph City and the Tops Club in Holbrook. Surprisingly enough some are still thinking in terms of the basic seven, others have a very vague idea what our bodies need each day.

The leaflet on "Food for Fittness" makes a handy reference for people of all ages. About one-half of the 57 people attending these sessions were overweight. They were especially interested in the federal bulletin "Food and Your Weight."

5. Serving . . . . Families Through Other Programs

Homemakers Newsletter Gains in Popularity

The Homemakers Newsletter, which is usually sent out monthly by the Extension Home Economist, has been gaining in popularity. There are over 625 receiving the letter. The general format is for a two page letter. Page one contains general information about coming events, etc.; page two contains information on new products, research and occassionally a recipe or a poem. Twice a year the new bulletin list is enclosed. This year as a special bonus circular 266, "Nutritious Holiday Meals" was enclosed with the October letter. As a result 25 new names have been added to the mailing list. The agent is still receiving verbal and written thanks.

Letter to Parents of Pre-Schoolers is Increasing

Requests for the letter written on the state level and sent to the counties for mailing is on the increase. At the present time there are 300 receiving this letter. One mother said, "I sit right down and read that letter the minute I receive it."

Agent Writes Weekly Column

Mrs. Ina B. Ward, Extension Home Economist, is writing a weekly column for the Holbrook Tribune News. Each month she reports on the plentifoods for that month. The articles are mostly on what is new or reports on research. Many women and men, too, remark that they read the column with interest.

Much of the same information is used on her radio programs over KDJI and KINO.

Youth Development

4-H Helps Members . . .

--Acquire knowledge, skills and attitudes for useful living and a satisfactory home and family life

--Learn through real life experiences a sense of responsibility and pride of ownership

--Develop an ability to make decisions, solve problems and manage time, energy, and money

--Explore career opportunities and recognize the need for a continuing education

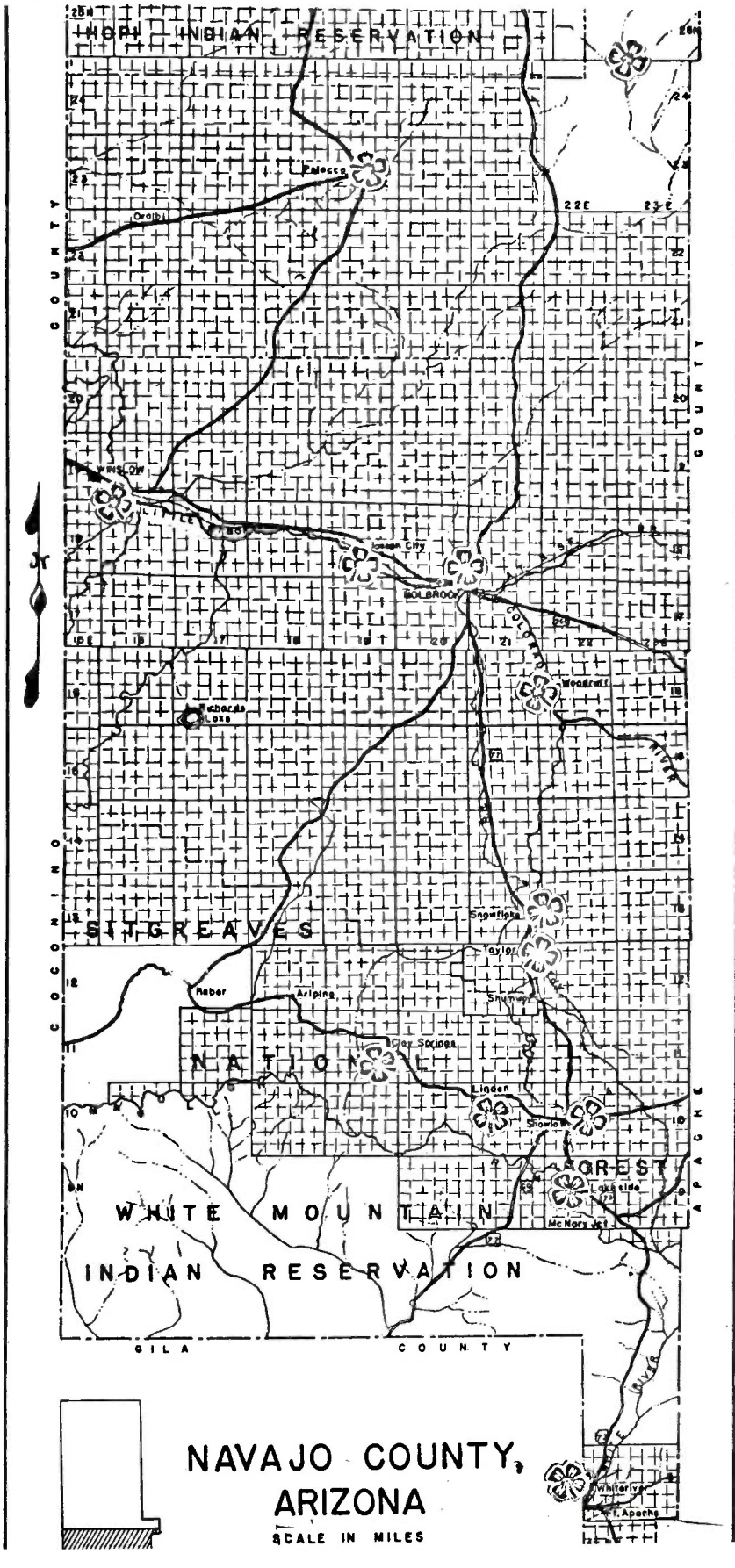
--Appreciate the heritage and culture of self and others

--Develop their leadership and citizenship potential

VI. YOUTH DEVELOPMENT (4-H CLUBS AND OTHER YOUTH)

A. Serving 4-H Club Members and Their Program

1. Organization



4-H CLUBS

1. Apache Reservation 6
2. Claysprings 7
3. Holbrook 8
4. Hopi Reservation 30
5. Joseph City 3
6. Lakeside (Blue Ridge 2
7. Linden (Juniper 1 Ridge)
8. Navajo Reservation 12
9. Show Low 5
10. Snowflake 9
11. Taylor-Shumway 9
12. Winslow 13
13. Woodruff 3

Club Membership

The Navajo County 4-H Club membership this year was 1334 Club members and 101 Clubs. Sixty percent of these members are on the three Reservations, Hopi, Navajo and Apache. The ratio of girls to boys is about 2 to 1. One-hundred and eleven leaders served this club enrollment. The ratio of women leaders to men leaders is just about 2 to 1. The big majority of club members are enrolled in the first and second year of club work. This indicates a need for more active involvement of the club members, either in project work or possibly in activities related and non-related to the project.

Community and Project Clubs

The communities of Snowflake, Taylor, Clay Springs and Lakeside-Pinetop, find that community clubs fit the 4-H club members' schedule, while communities like Winslow, Show Low, Holbrook, Joseph City and Woodruff find project clubs more suitable. The project clubs in communities where community clubs do not exist work with project work and other activities. Most of the agricultural clubs meet once a month and the crafts and home economics clubs meet twice a month.

Area Organization

The Navajo County organization has been divided into eight areas in order to more effectively service the leaders and the activities and events. These areas consist of (1) Winslow; (2) Holbrook, Joseph City and Woodruff; (3) Snowflake, Taylor; (4) Linden, Pinedale, Clay Springs, Heber-Overgaard; (5) Show Low, Lakeside, and Pinetop; (6) Apache Reservation; (7) Navajo Reservation; (8) Hopi Reservation. This facilitates leader training and communication, as well as giving each area an opportunity to hold contests in the different activities such as demonstrations, talent shows, and others.

4-H Leaders Council

The 4-H Leaders Council is composed of the leaders of Navajo County. The main function of this group is to advise and to plan activities, events and programs for the Navajo County 4-H. They meet once annually as a group for the election of officers, amending by-laws of the constitution. This meeting is held in the fall. The business and planning meetings are held quarterly and consist of the executive committee and the area leaders from each of the eight 4-H areas of Navajo County; as well as one Junior Leader from each area.

The eight area leaders and junior leaders make up a committee known as the Citizenship Committee, which conducts and plans all non-project related activities and events.

Officers of this year's Leaders Council consist of: President, Frank Malone, Lakeside; Vice-President, Penny Brewer, Snowflake; Secretary-Treasurer, Kathy Rowan, Lakeside; Home Economics Representative, Barbara Nasser, Winslow; Livestock Representative, Roge Pearce, Linden; and, Agricultural Representative, John Heward, Holbrook.

Junior Leaders Assist In Programs

This year there has been no active Junior Leaders Council. Individual Junior Leaders have been very active in assisting adult leaders and club members with different project work, Junior Roundup, and Fun Fest. These Junior Leaders have gained valuable experience in working with these different activities as well as helping to make the different activities and events more successful.

4-H Livestock Auction Committee

Rex Hunt, Chairman of the Navajo County 4-H Livestock Auction Committee, had complete charge of the 1966 auction held in conjunction with the Navajo County Fair. Other members of the committee were: Paul Seymore, Show Low; Johnnie Sanches, Winslow; Mitt DeSpain, Holbrook; Calvin Emerson, representing the Bureau of Indian Affairs. They did an excellent job in planning and implementing this event.

Public Support and Information

New 4-H Club Building

A new 4-H club building was built on the Fairgrounds this year for 4-H exhibits as the County Fair. This building was built by the Fair Commission and will be used in the future for other 4-H activities during the year. This new building greatly increased the attractiveness of the 4-H exhibits and will do much in improving the show window for 4-H.

Banks Join Hands In Sponsoring 4-H

The First Navajo National Bank of Holbrook, and the Valley National Bank, jointly sponsored the 4-H Achievement Banquet this year. This event has been sponsored by the First Navajo National Bank for the past 8 years, and because of the growth experienced in the 4-H program, the First Navajo National Bank invited the Valley National Bank to work with them in sponsoring the event this year.

Support Comes From Many Sources

See Extension Organization - Section I

Businessmen Support 4-H Livestock Program

The livestock auction held in conjunction with the Navajo County Fair was a big success for the 4-H club members. It was only

through the willing cooperation of the merchants and businessmen of Navajo County and other areas in the state, that the auction was termed a success. A total of sixteen beef animals and ten lambs was sold to businessmen. The net proceeds of the auction amounted to $7,700.53.

All of the steers and lambs were processed and delivered, free of charge, to the buyers by the Cudahy Packing Company of Phoenix, and the Snowflake Meat Packing Company of Snowflake.

4-H Newsletter

See Extension Information - Section II

Weekly News Column

See Extension Information - Section II

2. Leadership

Home Economics Leaders Receive
Project Training

Eighty-one home economics leaders received training in their respective projects during the year. This training was presented at eleven different sessions by the Home Economist, or by specialists. There were five sessions on Clothing, four on Food and Nutrition, and two on Home Furnishings and Management.

Horse Showmanship Clinic

A special training was given in the clubs during the summer in preparation for the County 4-H Horse Show, the State Quarter Horse Show, and the State 4-H Roundup. Frank Perkins, leader of Holbrook; Bill Walker of Joseph City; and Dick Hunt of Winslow, assisted the Agent and Assistant Agent with these events. Films were shown on judging, showmanship, and the horse in action. Proper techniques were demonstrated on clipping, showing and preparing the horse for show.

3. Education Through Projects and Project Related Activity

Livestock Judging Important
To 4-H'ers

The 4-H Livestock boys and girls participated in livestock judging events at the National Livestock Show, County Judging Day, the Arizona 4-H Roundup, the Hereford Family Day at the University, and Hereford Judging Day at John Wayne's Ranch in Springerville. These events helped to create a greater interest in livestock and in their own animals.

Knitting Is New Project

Ninety-six 4-H club members enrolled in the Knitting Project, which was new for this year. The lay leader, Mrs. Joan Cluff, Show Low, assisted two leaders in this project, giving them help in starting the project and in what to look for in judging the knitted articles. She judged the knitted articles at the Snowflake-Taylor Achievement Program and at the Navajo County Fair.

Mrs. Delores Palmer, Whiteriver, the other lay leader who received training in this project, had a large enrollment on the reservation, but not a good percentage of completions. There was a turnover in personnel which accounts for some of the failure to complete.

Extension Home Economist Assists Two Reservations

Mrs. Ina B. Ward, Extension Home Economist, assisted the Hopi and Navajo Reservations with their Tribal 4-H Achievement programs.

The Hopi 4-H Achievement Program was held at Polacca on May 6 and 7. The contests and activities were well planned in spite of the fact that they no longer have Extension workers. The quality of the exhibits was very good, which shows that the leaders are carrying on.

The Navajo Tribal 4-H Achievement Program was held at Tuba City. The attendance was down compared to former years. However, those who did attend were enthusiastic and seemed to be making progress in their ability to express themselves.

"Beauty, Charm, And Modeling" Interests Girls in County

Girls in Navajo County should be better informed on beauty, charm, and modeling after viewing the film strips by this name. The girls, 4-H, home economics students, and members of church groups are thrilled with the color, method of presenting the information, and information itself. Home economic instructors and church youth workers have asked to use the film after hearing about it from the 4-H girls. During March over 200 girls saw the films

Since that time, the film has been shown to two more high school home economics classes, 156 girls at the Holbrook Indian Dorm, 87 girls at the Winslow Indian Dorm, and the 23 contestants at the "Make It With Wool" District 4-H contest. Later it is to be used on the White Mountain Apache Reservation as an aid in teaching the girls good grooming.

Work Study Student Especially Helpful In Carrying Out a Summer Program

Miss Ellen Gardner, Work Study Student who worked with Mrs. Ward, Extension Home Economist, was especially helpful. With her assistance Mrs. Ward was able to give special help to the 4-H leaders and members in the Winslow Southside and Coopertown areas. These two areas are considered low-income, or poverty areas. We were able to get five local volunteer 4-H leaders. They have 30 to 33 club members from Mexican and Negro families.

Several of these girls did not have sewing machines in their homes, so we set up a workshop at the Catholic Mission. The girls came here and worked on their 4-H Clothing projects. Two little colored girls from one group were thrilled beyond words to have the opportunity to sit down to an electric machine and learn to operate it. All were pleased to be able to take home the little aprons which they stitched on a sewing machine.

Three older 4-H members from the Southside area who have had three years of club work came to the Mission and assisted Mrs. Ward and Ellen.

4-H Leads the Way in Community Landscaping

Pat Brewer of Snowflake was selected as a delegate to the National 4-H Club Congress in Chicago for her efforts in Community Landscaping of the Snowflake cemetery. She was later selected as a National winner in this field, and received a $500.00 scholarship.

The cemetery at Snowflake is becoming a show place for the community instead of a bleak, barren plot of reality.

This has resulted from community action that started three years ago from a dream of a Junior 4-H Leaders' group under the guidance of Mrs. Reece Brewer. She asked the County Agent, Amos Underwood, for assistance, who turned to Harvey Tate, Horticulture Specialist at the University of Arizona. The Agent and Specialist met with representatives of all twelve of the civic and community organizations whom Mrs. Brewer had invited to his meeting. A landscaping plan was outlined in the group. The President of the Chamber of Commerce stated that this is the most practical plan he had ever heard and one that we can develop.

Instead of rushing head-long into the program without sufficient planning, the community took the following year to organize its forces. They assigned definite responsibilities to each group and prepared the holes during the winter as recommended. Miss Augusta Flake was assigned the

job of coordinating the program and supervising and planting.

Last year, climber roses were planted on the front, every eight feet along the east fence by the road. A row of Sumac was planted eight feet west of the roses for a background and protection from wind for the roses. Evergreen trees of Blue Spruce, four feet tall, were planted in rows on north and south sides and a row of Lombardy Poplars ten feet tall were planted along the back fence on the west side. Caragana was planted between the spruce.

All of the roses lived and some bloomed profusely this year. 80% of the evergreens lived and all but two of the poplars. 95% of the sumac and all of the caragana lived.

The community is proud of the beauty as well as the part that each group had in making it that way. Excellent care has been given to caring for the plants this year and last year.

4. Other Club Activities

Little Roses 4-H Club Has
Busy Year

The Little Roses 4-H Club of Holbrook, under the leadership of Mrs. Nancy Jeffers, did many special things this year. They made gifts for their mothers and presented them at a Mother's Day Program. They managed and served the cookout for over 125, who attended Junior Roundup. The entire club had a three-day camping trip. They served refreshements for a 4-H Leaders Council, and were hostesses for the Extension Service Open House for Consumers.

These girls are receiving valuable training in planning meals, purchasing food, how to be a hostess, and how to meet the public.

Officers Given Training

Two-hundred and eight 4-H Club officers, leaders, parents, and club members attended the Navajo County 4-H Club Officer Training and Fun Fest.

"You and 4-H" was the theme for the day. Training sessions were held in the forenoon. A general program was held in the afternoon. Mr. Ray Weick, Assistant State 4-H Leader, spoke. There were campaign speeches and voting for King and Queen and the showing of films

This is an event older 4-H members look forward to each year.

5. Events

First Jr. 4-H District Roundup a Success

One hundred and twenty-eight 4-H members and leaders from Navajo and Gila Counties attended the first Jr. Roundup held June 28 and 29 in Holbrook. Eleven came from Gila County, and there were eighteen boys who attended from both Counties. This lack of boys made the recreation program more difficult to conduct.

From a number standpoint, this event may not seem to be successful, as 128 is a small number in comparison to the number who could attend based on enrollments. However, this event was a success in light of the objectives. It provided County-wide competition and fellowship for this age group; it greatly increased their enthusiasm for 4-H; and gave members and leaders a determination to "Make the Best Better".

The Holbrook Indian Dormitories were used for housing. The Little Roses 4-H Club and their leader, Mrs. Nancy Jeffers, arranged a cookout for the first evening meal, and the W.S.C.S. of the Community Methodist Church served the breakfast and lunch for the second day.

Mr. Graham Wright, State 4-H Leader, and Miss Sarah Harman, Assistant State 4-H Leader, attended and were a big help in making the event a success. Mrs. Darleen Kurtz, Extension Home Economist of Graham County assisted in the demonstrations and judging events.

Fifty-Seven Girls Take Part In Dress Revue

Fifty-seven girls took part in the 4-H District Roundup Dress Revue held in connection with Jr. Roundup. Mrs. Marie LaMar of Winslow served as Chairman of the Dress Revue.

Judges for the event were JoAnn Armstrong, Jr. Leader of Winslow; Mrs. Darleen Kurtz, Extension Home Economist from Safford; and Miss Sarah Harman, Assistant State 4-H Leader.

Thirty-Five Home Economics Demonstrations
Given at Jr. District Roundup

Thirty-five individual and team demonstrations were given in the Home Economics Division of the 4-H District Jr. Roundup, held in Holbrook on June 28 - 29. Navajo and Gila Counties participated in the events.

Demonstrations in food, clothing, and grooming were given by 4-H girls.

Pat Brewer, Snowflake and Linda Bannan, Show Low, were Co-Chairmen of the food demonstrations. Margie Williams, Holbrook, and Emma Malone, Lakeside, were Co-Chairmen of the clothing demonstrations.

Judges for the food demonstrations were Ellen Gardner, Snowflake, and Sarah Harman, Assistant State 4-H Leader. Clothing demonstrations were judged by Mrs. Darleen Kurtz, Extension Home Economist from Safford, and Betty Dal Molin, 4-H Leader from Globe.

Home Economist Judging Attracts Sixty-one Girls

Kim Soo Hoo, Winslow, had high score in the Home Economics Food Judging Contest at the 4-H District Junior Roundup held at Holbrook, June 28-29. Paula Moore, Miami, was second. There were 26 girls who took part in the contest.

In the Clothing judging, Elizabeth Cole, Taylor; and Mary Denton, Globe; tied for top honors. Twenty-five girls took part in this contest.

For some, it was their first experience in taking part in a judging contest.

Seven Girls Enter Public Speaking Contest

Seven girls entered the Public Speaking contest held in conjunction with the Jr. Roundup. The judges gave the girls helpful criticism which will be beneficial to them the rest of their lives.

State Citizenship Day Attended

Pam Brewer of Snowflake and Nick Pierson of Whiteriver were the two delegates from Navajo County to attend the Annual State Citizenship Day held at the State Capitol Building in Phoenix, February 25. The club members were accompanied by Mrs. Penny Brewer, Area 4-H Club Leader of Snowflake, and adult representative from Navajo County. The group traveled with the Assistant County Agent who also attended the activities. While at the State Citizenship Day, the group enjoyed meeting the Senators, Representatives (from Navajo County), the Secretary of State, Mr. Wesley Bolin and many other dignitaries of the State Legislature. The group also attended a luncheon as guests of the Phoenix Rotarian Club.

Sisters Attend National 4-H Club Congress

Pam and Pat Brewer, daughters of Mr. and Mrs. Reece Brewer of Snowflake, attended National 4-H Club Congress. Pam received her all-expense paid trip from the Kerr Glass Mfg. Corp. on her record in Food Preservation. Pat received her trip from Sears-Roebuck Foundation on Community Beautification.

Roundup Delegates Return With Honors

The Navajo County 4-H delegates returned from the 1966 State 4-H Roundup with high honors, new ideas, and state-wide friendships.

The highest state award, the coveted Shield and Clover Award, was won by two of Navajo County's 4-H'ers. Ellen Gardner, Snowflake, received hers for Clothing Judging, and Neil DeWitt Holbrook, received his for Dairy Showmanship. This resulted from a team effort by Neil and Ernest Heward.

Also highly honored were Ernest Heward, Holbrook, and JoAnn Armstrong, Winslow. At the Recognition Banquet on Thursday evening, they were presented with $300.00 Standard Oil Scholarships to be used at the college of their choice for furtherance of their education. JoAnn will attend Northern Arizona University and Ernest will attend the University of Arizona.

A total of 38 members, leaders, and Extension personnel attended from Navajo County. They took part in a variety of contests and programs.

B. Serving Other Youth

Overview

The Extension Home Economist has worked with the girls at the Holbrook Indian Dorm, the Winslow Dorm, Blueridge High School Home Economics classes, girls on Southside and Coopertown in Winslow, and two Youth Church groups.

Agents Assist With Career Days

The Extension Agents participated in 4 Career Day programs. They were at Whiteriver, Snowflake and Holbrook and Lakeside. Agriculture and Home Economics information was presented to the high school seniors on these days.

The Home Economist explained to the 92 girls all the careers open to four year college graduates with Home Economics majors. Also, how it would prepare them for married life and that it is the natural career to return to after raising a family.

Conservation Camp

Eleven boys attended a five-day camp at Point of Pines near Globe. This was a joint sponsorship between the Extension Service and Soil Conservation Districts.

Community Improvement & Public Affairs

Cooperative Extension Helps Citizens . . .

- --Develop community leadership
- --Develop understanding of public issues and policies
- --Improve community environment
- --Improve economic opportunities through the analysis and development of the communities human, natural, and economic resources.

VII. COMMUNITY IMPROVEMENT AND PUBLIC AFFAIRS

A. Serving Communities Adequately Developing Their Resources

Area Resource Development Specialist

One of the big steps in Navajo County in helping to develop natural and human resources was the employment by the Extension Service of Jim Williams as Area Specialist in Resource Development for Navajo and Apache Counties. Some of the approaches he has made are through getting the city officials, county officials, Chamber of Commerce, Tribal officers, BIA personnel, and other groups together to select areas of primary concern to work on. One of these has been the development of a place mat to go on the tables of restaurants, including the points of interest to tourists in the two county areas. Another has been a team approach using the Specialists from the University of Arizona to look at recreation facilities, industrial parks, and water development in the area. Two tours were made of the area with a half dozen Specialists from the U. of A. The first one included Winslow, Woodruff, and Sun Valley; the second one included the Kayenta area.

Navajo County Development Council Coordinates Planning

The Navajo County Development Council was organized in 1960 as a Rural Development program. It's purpose was to coordinate activities and be a sounding board for the different projects of both human and natural resources. The name was later changed to the Navajo County Development Council.

The Council consists of lay members in the County representing all phases of work and different organizations. The Council was reorganized as a corporation in 1965 in order to participate in the OEO programs. In early 1966, the following officers were elected: John Heward, Chairman; Earl Crofford, Vice-Chairman; Helen Crofford, Secretary-Treasurer.

When the Community Action program was approved by OEO, John Heward resigned as Chairman to accept the position of Director of CAP. Earl Crofford was elected as Chairman with Larry Lee as Vice-Chairman. The main activities of the Navajo County Development Council during the year has been centered around the Community Action program. This program has been in charge of Head Start, Grass Roots Survey, Day Care Center of Winslow, and several community recreation studies. The County Extension Service has worked closely with these organizations. The County Agent helped to work up the plan for the original application for a Community Action program and the Resource Development Specialist assisted in putting together the application for the other programs before the Director of CAP was employed.

B. Serving Homeowners and Communities In Planning and Conducting Their Improvement Projects

Pruning Demonstrations Are Popular

A pruning demonstration was held in Winslow as a community endeavor. The public was invited through newspapers, radio, individual letters, as well as circular letters. Thirty-four people observed the demonstration that was held at four different locations in the city of Winslow. One of the pictures taken by Mr. Marting was printed in the Sunday Farmers Section of the Arizona Republic with a brief story.

Another demonstration was held at Whiteriver with both the Indians and the white residents of Whiteriver observing the demonstration. All types of landscaping plants were pruned, as well as fruit trees.

Operation Windbreak

Five-thousand seedling trees were planted this year during the fourth year of Operation Windbreak, which had previously seen 40,000 seedling trees planted all over Navajo County. These have been made available by the Colorado State Nursery in cooperation with the University of Arizona and Agricultural Extension Service. They have been made available to the people of Navajo County as a rural development program for both Windbreak and Home Beautification. The program was sponsored by the Navajo County Extension Board, with John Heward as Chairman. The Russian Olive was by far the most popular of the trees planted. Others included: Chinese Elm, Cottonless Cottonwood, Golden Willow, Austrian Pine, Eastern Red Cedar, Juniper, Rocky Mountain Cedar, Colorado Blue Spruce, Caragana, Lilac, and Quailbush.

Landscaping is Popular at Snowflake

Techniques of landscaping and plant material were discussed at three different meetings in Snowflake with 40 women in the MIA of the LDS Church, and 27 men representing the different wards of the LDS Church in Navajo County. The first meeting was a two-hour session on landscaping techniques and showing different plant material that are adapted in this area. The second session with the men was a similar meeting covering a one-hour period, the third session was a film from the University of Arizona on the techniques of home landscaping.

In addition to these meetings, the County Extension Office is constantly answering questions on individual landscaping problems, and supplying material on landscaping to people through the mail. This is also one of the most popular subjects in the news columns and on the radio for Extension Agents.

Water Development for Irrigation and Recreation

After an eighty-year battle with the water problem for irrigation in Woodruff, the local citizens are taking a new approach on the problem. There has been enough water available in Silver Creek and Little Colorado River, but the economics of getting it on the land has proved very discouraging. This problem may be solved by combining agriculture and recreation.

The people of Woodruff had a series of five community development meetings to study the water situation in their community. They have asked assistance from the Agricultural Service, the Soil Conservation Service, ASCS, and Farmers Home Administration, in making surveys and studying the possibility of obtaining financing to develop a more efficient water system for irrigation and home use. The County Agent made one trip to Phoenix, with Earl Crofford, Chairman of the Water Irrigation District, to make further study at the State Land Department and the Bureau of Land Management Headquarters in Phoenix.

A new irrigation district has been formed with Earl Crofford, Chairman of the Board. A feasibility survey has been made by the S.C.S. showing that by use of modern engineering, the water can be placed on the land economically. The Board of Supervisors are willing to cooperate on this program in developing a park in the area that will use surplus water in a 360 acre lake. The Vice-Director of the State Parks and Recreation Board, Dennis McCarthy, toured the area with the group and expressed the belief that Parks and Recreation funds can be made available for this enterprise. By using the water for two enterprises, the cost will be less for each.

Pulp Mill Waste Water May Be Used For Irrigation

Waste water from the pulp mill could be used to irrigate several thousand acres of land if conditions were favorable. It is being used on a limited scale by ranchers in the dry lake area for corn and irrigated pasture.

Three ranchers, Barr Turley, Gene Flake, and Mr. Rogers have proposed a plan to divert this water into a dam site nearby, which would permit the development of two or three thousand more acres of fertile land. They have asked the Extension Service and the University of Arizona to coordinate activities of this study. Dr. Howard Ray of the U of A met with the County Agent, Amos Underwood, and the three ranchers in a conference with Mr. R. E. Betts, Superintendent of the pulp mill, and his staff. The proposed plan was discussed in detail. Mr. Betts expressed his interest in this and offered his cooperation in supplying a report of a feasibility study that had previously been made for his company, on the use of the water for irrigation purposes in the dry lake area. Dr. Ray is incorporating this study along with other information that is available into a feasibility study.

Fairs

The Navajo County Fair is always considered an excellent show-window for the Agriculture, 4-H, Home Economics, and other phases of development in Navajo County. The County Extension Agents worked closely with the Navajo County Fair Commission on this event. The public relations gained in this cooperation has paid off in many ways for the Extension Service. This year was one of the most successful County Fairs that we have seen in Navajo County. One of the highlights of the Fair was the completion of a 4-H Club building, 20 by 80 feet, that greatly added to the effectiveness of the 4-H show. The 4-H part of the Fair is always a big part of the Navajo County Fair.

The 4-H section of the Livestock, Poultry, and Home Economics departments were especially outstanding features of the Fair.

The Navajo County Booth with the adult division at the State Fair placed third under the supervision of Ralph Gardner. The 4-H Club Booth, prepared by the Cooking Delighters 4-H Club of Holbrook, placed second.

C. Serving To Help Keep People Informed On Public Issues

Tax Information

The Farm Bureau in cooperation with the Cooperative Extension Service of Navajo County, held a meeting of the leading farmers and ranchers in Navajo County to review the principals developed on the Land Evaluation Program. This meeting was directed by the State Land Department and headed by Dr. George Campbell of the University of Arizona, Agricultural Extension Service. Information was reviewed on the State Tax Evaluation program study. Roy Palmer, President of Navajo County Farm Bureau and other leaders who attended this meeting expressed their appreciation for the work that is being done on this study. They feel that this is a big step in having the farmers and ranchers represented.

Farm City Week

The Cowbelles of Northern Arizona, under the direction of Mrs. Bill Jeffers of Holbrook, gave a series of educational meetings to civic organizations in Navajo and Apache Counties. These were on the ranching industry, during Farm City Week. They expressed appreciation to the Extension Service for supplying material and films to be used during this week.

D. Serving Other Community Needs

Outdoor Recreation May Be Included With Ranching

The John McCauley family expressed interest in developing an outdoor recreations program on their ranch and also in obtaining refinancing through the Farmers Home Administration. As a result of the outdoor recreation clinic held in Phoenix, the County Agent contacted the ohter USDA agencies and asked them to make a joint

tour of the ranch to determine whether or not there might be possibilities of having an economical program through one of the new outdoor recreation programs. As a result of this, the tour was made with Cephas Perkins, ASCS Office Manager; Paul Ellsworth, SCS Unit Conservationist; Andy Mayberry, Farmers Home Administration Supervisor; Amos Underwood, County Agent; and three members of the McCauley family: Mrs. Dewey McCauley; John McCauley, and Mrs. O. McClain. There is a possibility of developing a hunting refuge on this ranch for deer and antelope, and also of developing a dam which would provide water for supplemental irrigation that could produce feed for a pheasant, and possibly a duck-hunting refuge. Plans are being considered more in detail for this.

USDA Activities

Some of the main activities through the U.S. Department of Agriculture this year included a seminar on Rural Civil Defense at Flagstaff, conducted by Walt Lamb, Extension Specialist for Rural Civil Defense. This was one of the most practical approaches to the Rural Civil Defense problem that we have held so far. I believe that this information can be used in an educational program in Navajo County.

The Conservation Needs Committee was revived at a meeting at Flagstaff, of the different U.S.D.A. agencies of Northern Arizona. A follow-up meeting was held in Holbrook of the U.S.D.A. agencies in Navajo County. A plan is being developed to up-date the information on Soils and Water Conservation Needs.

In the local U.S.D.A. Defense Board, a food profile of the amount and kinds of food needed by the people of Navajo County in case of an actual disaster, was prepared under the direction of the County Agent. The Defense Board also worked out a problem on the amount and timing of Fallout in time of danger in Navajo County.

VIII. SUMMARY, OUTLOOK AND RECOMMENDATIONS

The Extension Service works closely with the County Extension Board. This Board ably represents the farmers, ranchers, organizations and communities in the County. They serve in an advisory capacity to the Extension Service and serve as liaison between the Extension Service, the Board of Supervisors, and the people in Navajo County.

The Extension program can most effectively be brought before the people by using a variety of means of communication. These include a weekly news column in the Holbrook Tribune News and Snowflake Herald, "Around The County With The University of Arizona Extension Agents." Each agent has a section in this with a mug shot of himself at the beginning of the section. Further information is provided in a 15 minute radio program once a week at each of the stations at Holbrook and Winslow. Newsletters are also very effective.

Crops

New varieties of alfalfa and oats may be introduced as a result of tests at the Experiment Farm in Snowflake. Demonstrations proved that phosphate is essential to production of alfalfa, and that corn may not normally need fertilizer in Navajo County. Indications show that farmers may keep more accurate records in the future as a result of educational work in fertilizer programs. New chemicals may prove effective in weed control.

A weevil shows promise of eliminating the puncture vine in Navajo County. A test is being conducted to determine the feasability of growing sugar beets for seed production. Apples are being grown in Lakeside and Pinetop without spraying for coddling moth. A good sanitation practice should be followed.

Livestock

A test at Mike O'Haco's in Winslow for cattle grubs and internal parasites was a basis for changing recommendations on use of Co-Ral as a spray in June to control cattle grubs. A new pair of portable scales and chute may help inaugurate additional livestock improvement programs next year. Dairymen are not bothered with the residue problem in Navajo County; however, vertical integration is creating a real problem.

Marketing

Cattle listing in Navajo County has proved very popular with both producer and buyer. Dairymen are taking a close look at the market situation.

Family Living

The work load in the family living program is steadily increasing. Project leaders gave three lessons this year. The plan is to have more lessons given by leaders. The low-income groups are not ready to assume much leadership, so will require more of the Home Economist's time.

There is need for clothing workshops for the low-income families. Baby sitting is a big problem as it is the young mothers who want and need this help.

4-H --- Youth Work

4-H Club work has "caught on" in two low-income areas in Winslow. There is a rapid change-over of leaders. These leaders need constant help. Plans are underway to use Jr. Leaders from the other groups to give them part of the needed assistance.

Most of the work in the County is through project clubs. Two communities use the community approach effectively. Three use a combination of community and project.

Activities and events help to provide extra interest to club members.

The Jr. Roundup was very effective in providing an experience for the younger 4-H club members that fills a definite need.

Community Improvement

The Navajo County Development Council serves as a coordinating organization for communities, existing organizations, and U.S.D.A. agencies. Most of its work has been centered around the Community Action Program of OEO this year.

Jim Williams, Area Specialist in Resource Development, has filled a great need in coordinating this program. I feel that his efforts will be multiplied many fold next year. Operation Windbreak is checking the wind and beautifying the landscape.

Landscaping is one of the most popular subjects with homeowners.

Navajo County Fair serves as a show-window for agriculture, industry, and business in Navajo County.