

A N N U A L   N A R R A T I V E   R E P O R T  
O F

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GREENLEE COUNTY  
ARIZONA

From December 1, 1954 to November 30, 1955

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## SUMMARY

### Extension Aims

The program of the county extension agent in Greenlee County during 1955 was determined by the requests and obvious needs of the rural farm people. Plans were made with the help of local commodity groups and by consulting with the state extension staff.

The goal of the county agricultural agent is to keep farmers and ranchers informed on proven farming and ranching practices, thus aiding them to do a better job. The county agricultural agent is responsible to keep up to date on new findings by the agricultural research and pass such information on to the farmers. He is also responsible to help solve farm problems as they may arise in his county. A higher standard of living and greater family income is the ultimate goal.

### Cotton Fertilizer Tests

It has now been proven once and for all that commercial fertilizer is not practical to use under cotton. Four slight test demonstrations using nitrogen and phosphorus gave results in only one demonstration. The lone response was on light sandy soil. Here, it was not great enough to warrant an all-out fertilizer campaign. Similar tests have been conducted over the past three years with each season being entirely different.

### Cotton Insect Control

1955 was one of the worst years in history for cotton boll worm. Prompt planning and application of insecticides cut losses to a minimum. Insects of other kinds were less prevalent than in 1954.

### Cotton Diseases

Verticillium wilt and Texas root rot were severe in 1955. A poor season for cotton growth resulted in greater disease damage to the cotton crop. Losses from disease were severe in many fields. Three verticillium control demonstrations using 2976-16 wilt resistant variety were established on the Clyde Wilkin's farm near Franklin and the Roy Gardner farm near Duncan. The 2976-16 showed a high wilt resistance but was late in maturing.

### Cotton Production

Cotton acreage was reduced to 1711 acres in Greenlee County in 1955. It has slightly raised for next year, 1956. Yields this year were below average with most growers harvesting about one and one half bales per acre. The valley yield was down by 3,000 bales under 1954.

New Mexico 1517 is the lone variety produced in Greenlee County. The 1517 C Pure Seed Association produces the seed for local farmers. 2976-16, showing much wilt resistance, may gain favor; however, it is dangerously late in maturing.

#### Alfalfa Phosphate Use

Past tests have proven that phosphate is effective. This year it was recommended. Over 90% of the farmers used it with satisfactory results.

#### Forage Crop Production

Forage crops acreage was increased again in 1955. This came about due to reduction in cotton acreage. Most corns and sorghum grains were cut for silage. About 80% is being fed on the farms.

#### Livestock Feeding

Livestock feeding is gaining in popularity among Greenlee County farmers. "Green-chop" feeding was introduced to the county in 1954. Approximately 700 head of cattle were fed out in 1954. Approximately 1,000 head were fed in 1955. With the cost of controlling alfalfa spotted aphid, many green chop enthusiasts are becoming discouraged. Year around silage feeding may replace green chop. The majority of feed cattle are still being marketed through Safford Pack.

#### Swine Production

Hog production has more than doubled in the past year. It has been found that cheap pork can be grown by making use of alfalfa pasture and farm produced grain. The sudden decline in hog prices may prove detrimental to this program however.

## I. SITUATION

### General County Information

In order to better understand the people and problems of Greenlee County, one needs to know something of its background and present situation. It is a long, narrow county, lying in southeast Arizona next to New Mexico. The extreme southern portion is favorable for agriculture because the Gila River flows through that section. There is about 6,000 acres of irrigated land along this river. Irrigation systems for the watering of crops thread through all the farming area. Cotton and vegetable truck are the main crops. Phelps Dodge Corporation has the second largest open pit copper mine in the world located in Morenci. Naturally the population of towns in this area is made up predominantly of miners. However, many town families have cattle raising interests as well. The northern portion of Greenlee County is mountainous and suited only for cattle grazing. Some fruit is raised in one high valley. The Apache Indian Reservation joins the northern end of the county. Whites, Mexican, and Italians make up the population.

Eight of the ten communities in the county are fairly close together, being within a radius of thirty miles. Four of these communities are in the farming section; four are mining towns. The other two communities are isolated in the mountains of cattle raising country, one about 85 miles from the county seat, the other well over 150 miles distant. This last settlement is closer to Apache County and New Mexico towns which provide outlets.

Entirely rural in its atmosphere, Greenlee County has no large trading center. Highways connect its communities with New Mexico towns and Safford in Graham County, the largest trading center in this part of the state. Clifton is the county seat while Duncan houses the office of the Extension Service. U. S. Highway #70, a main east-west route, passes through Duncan.

## I. SITUATION (Cont.)

### Poultry

Poultry production has not changed too much in recent years. Greenlee County offers a market that is independent from outside trends. This is due to the heavy industrial population in the Morenci-Clifton area. The Phelps Dodge mine works purchase approximately 90% of all poultry products produced in Greenlee County.

The personal preference for farm fresh eggs and fryers is the stabilizing factor for our local market. Limitation of the local demand is the controlling factor in poultry production.

The greatest need for Greenlee County's poultry industry is an organized marketing system to replace the direct competition between poultrymen. There is an absence of a natural leader to promote group action.

### Dairy

Dairying in Greenlee County is still faced with a major marketing problem. The local markets do not provide for an expanded industry. If it were not for outside competition in the sale of dairy products in this county, the local industry could expand on the strength of the local demands. Limited operating capital by the processors greatly handicaps the industry.

At present there are three producers and one processing plant. Two of the producers are combining operations as of now. The third producer is starting an expansion program.

### Fertilizers

Use of commercial fertilizers has been a subject of discussion for several years in Greenlee County. The records show that county extension agents have worked with farmers on this project for a number of years. To date the only fertilizer program that has paid dividends is the use of phosphates on alfalfa. Nitrogen has given insignificant response in every field trial. The use of phosphates on alfalfa has become a general farm practice among Greenlee County's farmers. Fertilizer tests on cotton have shown very insignificant response. On the other hand, barnyard fertilizer showed outstanding results on at least three farms in 1955.

### Feed Crops

Feed crops are becoming more important in the farmers cropping program. The increased interest started when cotton allotments were established. In three years



this county's cotton acreage has been reduced by two-thirds. That controlled acreage has gone into feed grain and alfalfa. This year, 1955, approximately 80% of the total acreage went into feed crops. Most of the feed is being fed on the farm.

As a cash crop, grains and hay have given a fair return of profit to the farmer. Of more value has been the soil improvement through the rotation program. This year farm feeding has proven to be an excellent market for feed.

Local farmers are now establishing feed production as a stable part of a farm rotational program. More of the feed is being used on the farm, thus playing a major role in soil rebuilding program. Hay crops may decrease in favor of greater silage production.

The principal grains being produced are:

- |                |           |
|----------------|-----------|
| a. Hegari      | d. Barley |
| b. Dwarf maize | e. Oats   |
| c. Hybrid corn |           |

Hay production is limited to alfalfa and oats. Alfalfa spotted aphid is threatening to reduce alfalfa production.

### Cotton

Cotton production is still the number one cash crop in Greenlee County. However, this position is not insured for the future due to many reasons. First, the climate of this high altitude places this county in the marginal production class among the cotton growing counties of Arizona. Next, the disease problem is rapidly building up. Verticillium wilt and Texas root rot is taking a heavy toll of cotton each year. The interest in a balanced farming program where feed and cattle feeding play a major role may greatly influence cotton acreage in the future, disregarding government acreage regulations. Government acreage allotments is the major restricting factor influencing production in the present and immediate future.

Cotton produces well in Greenlee County during the years that have warm early spring and late frost-free falls. The natural climatic pattern for this area subjects the cotton farmer to severe crop reductions approximately one year out of every three. 1955 proved to be a limited production year. An extremely late spring caused late growth and thus sharply reduced the yield. The valley dropped 3,000 bales behind last year. Yields have been approximately 65% of last year.

## I. SITUATION (Cont.)

### Livestock

The livestock position in this county continued to be favorable during 1955. Drought had played a disastrous role until rains came starting in 1954. Most ranchers had reduced their herds by 30% going into the spring of 1954. Supplemental feeding was being practiced in every part of the county. This situation changed when the rains came. Almost every rancher is now increasing the commercial herd. Most cattle ranchers are in fairly sound economic condition at present. 1955 brought continued rains to the county. Prices have been stable.

Range improvement is a necessity in this part of Arizona. Overgrazing during the drought years left many parts of the range nude of forage plants, even after the summer rains. Juniper is invading much of the range that has been overgrazed. Range demonstrations on Juniper control are now under way.

Poisonous plants have invaded the range area along the Blue River. This situation requires some fast planning and effective action. In 1953, approximately 150 head of Hereford cattle died from toxic plants. 1955 saw some effective spot treatment by ranchers using chemicals. Very few poison deaths were reported.

### Sheep

Sheep production is an excellent possibility on farms in Duncan Valley. At present there are about 450 ewes on farms throughout the valley. It has been discovered that sheep and alfalfa make a most satisfactory combination on the smaller farms. About 1,500 head of ewes will be on Greenlee County farms by January, 1956.

Suffolk and Suffolk-Rambouillet crosses are the predominant breeds in Greenlee County. At present there are eight farmers running farm flocks of sheep. The number probably will double now that adequate grain feeds and alfalfa are available. One rancher is planning a greenchop-silage program for 1956.

### Swine

Like sheep, swine promises to be a coming thing in Greenlee County. Hogs make excellent growth on alfalfa pasture. With additional land in alfalfa and more feed grains being produced, many farmers are turning to hogs for additional cash income. This program has been well accepted but falling prices of pork are having controlling effect here late in 1955.



## I. SITUATION (Cont.)

Marketing has never been a problem in this locality. Most hogs are marketed through the Safford and Globe Packing Companies. At present, low prices are of major concern.

Duroc Jersey is the principal breed of hogs in this locality. This breed makes more efficient use of pasture and appears to have a very rapid rate of maturity. A cross-breeding program using Hampshires, Duroc, and Tamworth is being tried by four farmers.

At present, twenty one farmers have approximately 1,300 head of hogs on hand.

### Horticulture

Vegetable and fruit production is of minor importance to Greenlee County's agriculture. All products are sold through local markets, most being sold direct from the farms.

There were approximately 175 acres of vegetables and melons produced in 1955. One grower produced 75 acres of the total.

The principal vegetables produced in Duncan Valley include chili, sweet corn, cucumbers, tomatoes, peas, and beans.

It is unlikely that vegetable production will increase due to lack of processing facilities. There is a possibility that strawberries may be grown on a limited acreage.

### Part Time Farming

Part time farming plays an important role in Greenlee County. The Phelps Dodge mine employs approximately 2800 men. Many of the mine workers live on small acreages in the agricultural valley. Most of these people have chosen their out-of-town location so part time farming can be practiced. Their acreages range from two to twenty-five acres. Many requests for assistance come from this group of part time operators. It is living proof that one person can not efficiently manage two jobs. Home food production by the family is the greatest value of this type of farming.

## II. ORGANIZATION

### Extension Organization

The office of the Agricultural Extension Service is located in Duncan, Arizona. Duncan is the trading center of the farm population of the county and is also easily reached by the ranchers. The office is staffed by a full time county agricultural agent, a home demonstration agent who is assigned to both Graham and Greenlee Counties, and a full time secretary. This office serves as a meeting place for every farm organization in the county and also serves as headquarters for the U. S. Employment Service, Social Security, and Farmers Home Administration offices. All of the extension work in the county is carried on from this office.

The county extension office was given a badly needed remodeling early in 1954. New lighting, bulletin rack, bulletin boards, and cabinets were installed. A 30' x 30' meeting room was added to the county extension office. Here-to-fore, all extension meetings had to be conducted in the local school. These major improvements have made a great difference in the comfort and efficiency of the county extension office during the current year. All farm group meetings are now conducted in the county extension meeting room. Two of the local 4-H Clubs are also making use of the meeting room.

### Farm and Ranch Groups

Greenlee County farmers are not as well organized as the cattle growers. The only farm organization in the county is the Duncan Pure Seed Association. The cattlemen have a very active organization. Their members know the value of organization. They meet twice yearly and always are represented at state meetings.

### Greenlee County Cattlemens' Association

The Greenlee County Cattlemens' Association consists of approximately sixty five members. They elect officers, hold directors meetings, and have two annual meetings and barbeques. They have many committees. The most outstanding committee group is the forest advisory group. They work closely with the Forest Service on problems concerning ranches on the forest. The agent cooperates in the education program and makes a point of regular contacts with the association's officers.

The "Cowbelles" are the women members of the Cattlemens' Association. They have a very active and worthwhile organization. Their organization meets every month, usually at a member's ranch home. The "Arizona Boys' Ranch" has been one of the projects of the "Cowbelles". They are taking a leading role in the "Eat Beef" promotion work.

## II. ORGANIZATION (Cont.)

### Duncan Valley Pure Seed Association

The Duncan Valley Pure Seed Association is the only organization in the county representing farmers. The association was organized to provide an organization for the handling of pure cotton seed and improving the quality of cotton produced in the county. It allows the local farmers to purchase good seed at home and at a reasonable price. A storage house was purchased in 1948, and growers who participate in the pure seed program store their seed there. This association handles the growing and sale of the seed. Growers must conform to the growing regulations set up by the New Mexico Crop Improvement Association to be eligible to save pure seed. The Duncan association belongs to the New Mexico Crop Improvement Association because the type of cotton raised in this area is not raised in the rest of Arizona. Therefore, the market for pure seed is in New Mexico. This year the group raised 2,000 pounds of seed; the price is yet to be determined.

### Greenlee County Fair Commission

The Greenlee County Fair Commission consists of five men and one woman. They are appointed by the County Board of Supervisors. They meet at such times as deemed necessary by the chairman to promote the business of the fair. The agent has met with this commission at each meeting in an advisory capacity during the 1955 year. A new Secretary-Treasurer was appointed this year and put on a part time salary. This should increase the efficiency of the commission.

### Other Groups

The Soil Conservation Service and the Agricultural Stabilization and Conservation maintain a combined office in Duncan for Greenlee County.

A representative of the Farmers Home Administration is in the county once each week. The county extension office is the headquarters in the county for this agency.

The extension service cooperates to the fullest extent with these agencies to help further the general agricultural program in the county. All agencies working together can be of the greatest benefit to the farmers with less conflict in programs.

### III. PROGRAM PLANNING

Program planning for 1955 in Greenlee County was done with the combined effort of agent, state extension specialists, and local commodity groups.

The agent first contacted the key farmers in the county communities to sound out their community problems. The other county agricultural groups and 4-H leaders in the county were also contacted. After county contacts had been made, each state specialist was consulted on his field of work and how to work with the agent in Greenlee County.

Work plans this year placed emphasis on field demonstration work. Considerable time and planning was given to making the county's 4-H program more effective. County sanitation and health was included in the extension program plans.

Plans for a community fly spray program was planned jointly with the Duncan City Council. This program was carried out in August during the worst part of the fly season. 1,500 pounds of malathion dust was applied by airplane. Results were very satisfactory. Health and sanitation program value was discussed and planned with local 4-H Clubs.

A continuation of the water testing program was included in this year's plan of work; however, few people made use of this service.

All future program plans will be made with the farmer and community interest in mind.

#### IV. INFORMATION PROGRAM

One of the primary purposes of the Agricultural Extension Service is to furnish agricultural information to farmers and ranchers. This object was accomplished in Greenlee County by using every means available to the extension service.

##### Newspapers

The "Copper Era" is Greenlee County's only newspaper. It is published in Clifton, Arizona once a week, coming out each Thursday. The editor of this county weekly has been most cooperative with the agent in publishing extension service news and pictures.

The agent has written a weekly column for the "Copper Era" plus other timely news articles concerning Greenlee County's agriculture. This has been most beneficial due to the wide circulation of the weekly paper among the farm families.

The agent always includes a schedule of future meetings, etc. in each week's column.

During 1955 the agent has released to the "Copper Era" 143 special news releases. The editor has given the county extension program several special write-ups.

##### Radio

KCLF Radio Station in Clifton is the only station located in Greenlee County. The county agricultural agent made regular weekly broadcasts each Saturday until October 1. The extension program was suspended until January 1, 1956 until after the fall sports broadcasts. Arrangements have been made to continue the regular broadcast starting the first of the new year.

The use of radio proved very satisfactory in reaching the farmers and ranchers in the county. The central location of the station made it popular throughout the county. A total of 38 radio broadcasts were made during 1955.

##### Circular Letters

Circular letters were used to a good advantage during 1955. A total of 38 circular letters were mailed to farmers during 1955. These letters were of considerable value in stimulating mass action during the course of the crop year. An example was the recommendations sent to cotton farmers to control the cotton insect infestation. An effort has been made to keep such letters short and to the point so farmers will be more inclined to read them.



#### IV. INFORMATION PROGRAM (Cont.)

4-H in Greenlee County has received considerable publicity through the use of circular letters. Leaders and junior leaders have been kept up to date on the 4-H program by letters.

This office has made an effort to make all circular letters attractive with illustrative drawings for eye appeal. Colored paper is used occasionally for circular letters.

##### Personal Correspondence

A considerable number of letters come to the county agent requesting specific information. These letters usually come from outlying part of the county. Prompt attention is given to such letters. The desired information is given when possible. A field visit is made to the farmer concerned at the earliest possible convenience when the problem warrants it. Questions on certain subjects often were discussed over radio and through the news column.

##### Circular Distribution

1,669 bulletins and circulars were distributed to farmers, ranchers, and 4-H members in Greenlee County during the year. All bulletins are on display in the county agent's office. Over 150 bulletins make up this educational display.

Bulletins with attractive colored covers take the eye of most observers. The extension service has made considerable progress in the improvement of their written material in the past few years.

##### Visual Aids

###### Slides

Colored slides have been used to illustrate better farm practices on numerous occasions during 1955. Slide or film strips were used in about 20 separate group meetings with a total audience of approximately 300 people attending. Slides and film strips have also been used to train 4-H judging teams. The county agent has started making a series of color slides on 4-H and farm demonstrations in the county. Over 125 colored slides were taken during 1955.

###### Movies

Excellent use has been made of educational films during 1955. Early in 1954 the University placed a new 16 mm RCA sound projector and a 35 mm slide camera in the county agent's office. A total of 15 educational films has been



#### IV. INFORMATION PROGRAM (Cont.)

used in group meetings this year. The films were always used to emphasize subject matter discussed and not used alone. Movies were always previewed before showing to a group. Movies were obtained from the University Visual Aids and from commercial sources. Movies have been well accepted by local farmers and have served to promote thinking by the individual.

Pictures play an important role in telling a farm story. The agent has made use of pictures where practical. The "Copper Era" weekly has been most cooperative in using pictures to supplement agricultural news releases. These are released at timely intervals.

Good news pictures are perhaps the most effective educational means to get the story of good farm practices told to the readers. Favorable farmer comments have proven this point.

##### Bulletin Board

A new bulletin board was installed when the County Extension Office was remodeled in 1954. It is seven feet long with a divider in the middle. One section is used exclusively for 4-H promotional work; the other side is used for general farm information. This practice has been continued with good educational value.

The agent is convinced that a bulletin board can be used as a valuable educational instrument. The effectiveness, of course, depends on the frequency of farmer office calls. Also, care should be exercised to keep current material displayed; particularly improved methods of farming. Black and white pictures are of value on display.

##### Field Visits

Field visits, perhaps, are the most valuable information tool in Greenlee County. Through tradition, local farmers have grown to expect more from field calls than from any other form of contact with their county agent. Farmers can most readily be contacted on their farms.

##### Office and Telephone Calls

Farmers in this county make more use of phone calls than office calls. This can be attributed to most farmers being too busy to take off for office calls. Office visits are made when there is specific material or advice they wish to get from the county agent.

#### IV. INFORMATION PROGRAM (Cont.)

##### Information Program's Importance in County

Getting agricultural information to the rural family is the most important role of extension work. Every method of teaching must be employed because every one will learn or act because of some different influence of a teaching device. Timeliness of lesson being taught is all important.

## V. PROJECTS

### 1. Agronomy

#### A. Cotton

##### 1. Cotton Production

Cotton acreage was reduced to 1,711 acres for Greenlee County in 1955. This placed severe stress on farmers for cash crop since they had grown 3,600 acres of cotton only three years before. Farmers were eager to make the greatest production on their limited allotment. Cotton land was selected very carefully, only the best land being planted to cotton. Most farmers chose land that has been in alfalfa within the past two years. Land was selected that had an advantage in irrigation. A very late spring reduced severely the cotton yields this year. The average yield is one and one fourth bales per acre as compared to two bales last year.

The only variety grown in Greenlee County is New Mexico 1517 C, an upland short-stapled cotton. 2976-16 wilt resistant was tried as a demonstration. It appears to be much too late for practical use in Greenlee County.

##### 2. Cotton Insect Control

1955 was one of the worst years in history for cotton boll worms. The entire cotton area was infested with this pest. The worm moved into the county in June and continued until early September. Rapid plant bug also caused considerable damages as did thripes early in the season.

The county agent made daily checks for insect infestation and damage in cotton growing communities. Checks were made according to the recommendations of Dr. J. N. Roney, State Extension Entomologist.

Circular letters were sent out to all cotton growers giving the necessary information for insect control. A copy of Extension Circular No. 223, "Insects and Diseases of Cotton" was given to all growers. A weekly radio broadcast was made each Saturday over KCLF, Clifton after having checked the cotton fields during the week. This farmer service was well received.

Dr. J. N. Roney, State Extension Entomologist, visited Greenlee County five times to check on the insect control program. The weekly insect reports sent from Dr. Roney's office were of great help in formulating dust and spray programs.

About 50% of the local cotton farmers used airplane applications; the remainder used ground rigs. Cost ran on an average of about \$2.75 per acre. Most farmers were compelled to use two applications of insecticides during the season. Losses due to insects were held to a minimum due to prompt and efficient application of approved insecticides. Losses were estimated to be one per cent.

## V. 1. A. (Cont.)

Two insect and disease control meetings were held during the season. Dr. J. N. Roney and Dr. Shields attended the meeting held in January. The 1955 control recommendations were reviewed. The county agent conducted an insect meeting in July to discuss the control problems current to the existing situation. Cotton insect control films were shown. Both meetings were well attended. Dr. Roney made a number of visits to the county during the year relative to insect problems.

### 3. Cotton Disease

Diseases accounted for approximately one half the total loss to cotton growers in 1955. Verticillium wilt was particularly severe on some of the heavy soils. Texas root rot showed up in many fields with light soil. Damage from this disease was quite severe this year.

Dr. Ivan Shields, State Extension Plant Pathologist, visited Greenlee County several times during the growing season to make field checks on the disease problems. Dr. Shield's weekly disease letters to the county agent has been most helpful in recognizing and making recommendations to farmers.

Demonstration control plots to combat verticillium wilt were established on the Clyde Wilkin's farm at Franklin and Roy Gardner's farm near Duncan. The field tests consisted of comparing 2976-16 wilt resistant variety to 1517-C. It was found to be very resistant but matures too late for practical use.

### 4. Cotton Fertilizer Trials

Four fertilizer tests were established in Greenlee County in 1955. The tests were located on the following farms: (a) Mr. Paul Elledge, Franklin; (b) Mr. Clyde Wilkins, Franklin; (c) Mr. Ed Edgar, Franklin; and (d) Mr. D. D. Barlow, Duncan.

The test included two plots with five replications in each plot. Total of four acres were in the whole demonstration. One demonstration was a field with NH<sub>3</sub> applied at four row spacing. The other test was a solid block treated at planting time with NH<sub>3</sub>.

Each two acre plots received the following applications of commercial fertilizer: Replication (a) check (no fertilizer); (b) 25 pounds of nitrogen; (c) 45 pounds of nitrogen; (d) 75 pounds of nitrogen; and (e) 45 pounds of nitrogen and 45 pounds of P<sub>2</sub>O<sub>5</sub>. The nitrogen carrier in all cases was ammonium nitrate. The phosphate carrier was treble-super-phosphate and AMMO-PHOS. The other two plots were treated with 75 pounds of N in form of NH<sub>3</sub>. Application was made with ground applicator.

V. 1. A. (Cont.)

All tests were closely observed during the growing season. Accurate weights were taken on two plots. There appears to be no correlation between the various fertilizer applications although the final analysis is not complete of the date of this report.

On the other two demonstration plots observed, there was no correlation between the various fertilizer levels. No visible change occurred in either plot.

5. Cotton Harvesting

Cotton harvest started the first week in October or about fifteen days later than usual. Yields have been down by 40% compared to 1954. Most cotton was picked with hand labor at a rate of \$3.00/cwt. Labor was plentiful all season.

Mechanical pickers were used on approximately 35% of the county's cotton acreage. Mechanical picking continues to meet opposition from buyers. Grades are lowered on machine harvested cotton.

6. Pure Seed Association

Greenlee County Pure Seed Producers are members of the New Mexico Crop Improvement Association. Six local growers are producing 1517-C pure seed. This year 2,000 pounds of seed were grown for the 1956 planting.

The Pure Seed Association has been very beneficial to local growers in providing good seed for planting. The agent is cooperating and encouraging this program. More farmers are being made conscious of the importance of planting pure seed. This is becoming more important with continued reduction of cotton acreage.

## V. PROJECTS

### 1. Agronomy

#### B. Corn

##### 1. General Production

Corn has in the past been of secondary importance to Greenlee County farmers. The principal reason for this being poorly adapted varieties and the high cost of irrigation. The variety problem has been overcome. New adapted hybrids were introduced into this county in 1953, and all have been very well accepted. County extension tests proved Texas 28 and Funk's 711 to be the outstanding grain varieties for this area. This year the corn acreage remained about the same as 1954. At present there is about 400 acres being grown for grain purposes and about 250 acres for silage.

If hog production should continue to show growth, the corn acreage should increase.

The only major problems remaining is high irrigation cost and corn ear worm control. The latter is not a problem but a practice to be adapted by farmers. There is little hope that irrigation cost can be changed.



## V. PROJECTS

### 1. Agronomy

#### C. Irrigated Pastures

##### 1. General

The points against permanent pastures are high land value and high cost of irrigation water. Adapted pasture mixtures also pose a problem.

The most satisfactory pastures to date tried have been annual pastures using barley in the fall and Sudan grass in the summer. Except for bloat problems, alfalfa is by far the best pasture. Alfalfa has proven to be a very desirable pasture for hogs.

## V. PROJECTS

### 1. Agronomy

#### D. Alfalfa Production

##### 1. Alfalfa Fertilizer Use

Alfalfa in recent years showed a decline in production in Greenlee County. Commercial fertilizer tests were started in 1947 with the cooperation of local farmers. In 1954 similar tests were conducted by the county agent and Mr. Howard Ray, State Extension Soils Scientist. These early tests proved the value of phosphate on alfalfa. Applications of 75 pounds of P<sub>2</sub>O<sub>5</sub> were applied to over 80% of the county's alfalfa fields. It has proven to be a sound practice.

##### 2. Green Chop Alfalfa

Green chop is a new practice in this county. Six new choppers have been purchased by local farmers since 1954. The alfalfa is cut in the field and hauled directly to the feeding corrals. This operation was carried on from April to October. Gains have ranged from one and one half to two pounds per day.

The program is not expected to expand in 1956 because of the alfalfa spotted aphid. The choppers will be used to make more silage and chopped hay.

##### 3. Alfalfa For Hay

The hay acreage remained about the same as 1954. All hay produced was sold or fed or will be fed locally. Prices started at \$29.00/ton and is now selling for \$31.00 at the farm.

Most hay is still baled but more interest is being shown in windrow chopping. Three local farms chopped hay this year and liked the results.

##### 4. Alfalfa Varieties

Arizona common is still the best adapted variety for Greenlee County. The Arizona common showed more winter hardiness, quicker recovery after cutting, and greater production than Northrop King's Blend Variety.

##### 5. Alfalfa In Rotation

Greenlee County farmers have become convinced after several years of field trials that alfalfa has an important place in the rotational program. Crops, particularly cotton, have shown great response following alfalfa where commercial fertilizer had no effect.

V. 1. D. (Cont.)

Alfalfa normally is left in rotation three years. It supplies the much needed organic matter, aeration, and soil tilth - all very essential in Greenlee County's tight, adobe soil.

The recommended practice is to keep land in alfalfa three years then crop to small grains one year. The land is then ideal for cotton production. This practice has greatly increased irrigation efficiency, tilth, and yield.

## V. PROJECTS

### 2. Horticulture

#### A. Onions

##### 1. Onion Disease

Pink root rot has now become a severe problem with Greenlee County's onion growers. The disease showed up in 1950 on Heaton Lunt's farm near Duncan. Onions had been produced on the farm for twenty five years before the first outbreak of pink root rot. It has now become so severe that the future of onion production in this county is in question. This year's crop was greatly reduced because of pink root rot.

The agent contacted Dr. Ivan Shields, State Extension Plant Pathologist, regarding the severity of the problem. Dr. Shields located some resistant seeds and forwarded them to Mr. Lunt for trial plantings. Granex showed considerable resistance, but the quality was such that the onions could not be marketed.

##### 2. Onion Insects

The only insects harmful to the onion crop in 1955 were thrips. The agent discovered the infestation and warned growers of impending damage. Control recommendations were released to all growers. All growers did a fair job of thrip control by spraying.

U. S. D. A. Leaflet No. 372, "The Onion Thrip, How To Control It", was given to all local onion growers early in the season.

##### 3. General Onion Production

Onion acreage has been slowly diminishing in Greenlee County since 1950. The acreage was down to approximately 115 acres in 1955. The disease problem has been greatly responsible for this decline. Grano and Early Whites are the principal varieties grown in this county.

Onion market in 1955 was about the same as 1954. Top price was \$2.00 a sack; closing price was \$1.00. Yield was 60% of normal in 1955 except for one grower who harvested above normal yield on new land.

Outlook: Steady decline in acreage unless a way is found to successfully combat pink root rot disease.

## V. PROJECTS

### 2. Horticulture

#### B. Tomatoes

##### 1. General Production

Greenlee County is a marginal area for tomato production. Early falls are usually costly through frost damage. Distance to a large market is also a limiting factor.

There were sixty five acres of tomatoes grown in Greenlee County for commercial purposes in 1955. All were sold locally through farm stands except a limited trucking out program. The principal variety grown is Pearson.

An extensive tomato variety test was carried on this year. Ten varieties were tried on the Milton Jensen farm and Jim Sanders farm at York. The only variety that showed any promise at all was "J. Moran". It showed fairly high yield and excellent quality. However, it does not compare with the Improved Pearson that is being grown by local growers.

## V. PROJECTS

### 2. Horticulture

#### C. Landscaping and Home Beautification

##### 1. General Home Beautification Problems

The agent assisted approximately 150 home owners with specific home ground beautification problems. This work consisted of transplanting, pruning of roses and shrubs, insect and disease control, and selecting home ground plantings. Two rose pruning demonstrations were conducted by the agent last February.

Major problems are lawn care and adapted varieties of grasses; proper care of vines and rose bushes. Mr. Tate made a number of visits in the various communities with the agent on general and specific horticultural problems.



## V. PROJECTS

### 2. Horticulture

#### D. Home Orchard Management

##### 1. Training of Young Fruit Trees

Three demonstrations were held during February to show how and demonstrate the proper shaping of young fruit trees. Home orchardists were assisted with specific pruning problems.

Two orchards were selected for result pruning demonstrations. Both are located at Cherry Lodge. These demonstrations are to be carried over a three year period. Mr. Tate assisted with the pruning this year.

##### 2. Insect and Disease Control

The county agent released a number of news articles through the "Copper Era" weekly and KCLF Radio on this subject. A number of field calls were made to assist home orchardists with specific pest problems. A copy of Extension Circular No. 148, "Fruit Insect Control Hints", was given to all home orchardists in Greenlee County who did not receive a copy last year.

##### 3. General Orchard Management

General orchard care has received considerable attention during 1955. The agent devoted four radio programs and a number of news articles to the subject.

Fertilizer programs have been stressed. Poor tree growth has been a major problem. Home owners have been reminded of winter management practices to prevent freezing.

Home orchards are on the increase in Greenlee County. One orchard has reached the size that it can be considered a commercial orchard. It is on Eagle Creek, belonging to Mr. Tom Greenwade. 1955 saw an expansion of this orchard.

Mr. Harvey Tate, State Extension Horticulturist, spent several days in Greenlee County visiting home orchardists with the agent.

## V. PROJECTS--

### 3. Livestock

#### A. Beef Cattle

##### 1. Feeder Cattle Market and Sales

Markets have remained stable during 1955. Most ranchers averaged eighteen cents for fall contracted calves, some going for twenty cents. This compared to fourteen cents in 1953. Weights and conditions were very good. Spring calves averaged 475 during late October sales. They were all in excellent condition.

There is no certain market channel for Greenlee County's cattle. Most ranchers have steady buyers, many from out of state. This year, however, a fair percentage of the range cattle have been marketed through Safford Packing Company, Safford, Arizona. Many outside contracts were forfeited by buyers, and new sales became necessary.

##### 2. Livestock Disease

Disease has been a minor problem in Greenlee County. The only problem in 1954 and again this year was Hemeroghis Septicemia (shipping fever). Many cases occurred when cattle were brought into local feed lots.

##### 3. Poisonous Plants

1954 was one of the worst years for poisonous plants. Losses occurred throughout the county but was especially bad along the lower Blue River north of Clifton. Considerable spot spraying eliminated many known infestations this year. Heavy summer rains brought out grass growth and cattle did not feed on weeds so much. Losses were very light during 1955.

In 1954 cattle ranchers requested that the county agent appeal to the University of Arizona for help in determining the nature of the poisoning. Mr. Howard R. Baker, Assistant Director of the Extension Service, was contacted by the county agent and the problem explained. It was learned that the University will send W. J. Pistor, University of Arizona Veterinarian, to the infested range to make a study of the situation if the need should arise again.

This fall trouble was encountered in the farming areas with Prussic Acid poisoning. A number of farmers pastured Sudan grass with beef cattle. Poor management resulted in Prussic acid formation. The grass was pastured too early or permitted to be stunted.

V. 3. A. (Cont.)

The agent contacted all farmers known to have Sudan grass. The danger and management practices were discussed in detail. News releases were made through press and radio noting sound management practices. The local druggist stocked sodium thiosulfate for farmers to treat their own cattle. In no case was it necessary for a veterinarian to be brought into the county to treat effected cattle.

4. External Parasite Control

Screw worms were severe again this year. The heavy summer rains and hot days set up conditions for the heavy infestation. Every know treatment was used but still severe damage was reported. The best results were achieved with the use of a Lindane atomizer followed with a protective smear. This has been a practice over the past two years.

Stock flies were extremely bad in the farming area, particularly horn flies. Most farmers got fair control with malation sprays. Three corrals were sprayed as demonstrations in the Franklin, Luntville, and Duncan areas. The extremely wet summer made complete control almost impossible. Most farmers did make a desperate effort to control flies around their barns and corrals.

5. Supplemental Range Feeding

Supplemental feeding with meal-salt mix was started on some ranches this fall. Although feed is plentiful, it is believed that a protein supplement is very beneficial to brood cows.



Livestock feeding is fast gaining  
in popularity in Greenlee County

## V. PROJECTS

### 3. Livestock

#### B. Sheep

##### 1. General

Sheep production has been on the increase in Greenlee County in the past six years. The extension service has been responsible for promoting sheep production in this county. The farmers have found sheep to be a paying enterprise on farms.

The county agent has met with owners of farm flocks to discuss management programs. Farmers have been encouraged to plan the program to make use of farm roughage feeds and alfalfa pasture. A uniform production program is now being used by most farmers.

Sheep numbers will be doubled by early 1956.

Assistance has been given farmers on parasite control.

Quality breeding stock offers the greatest opportunity for improvement.

## V. PROJECTS--

### 3. Livestock

#### C. Swine Production

##### 1. Market

The hog market has hit the lowest prices since 1941. Spring prices were fair, some fat market barrows bringing eighteen cents. Late summer and fall has brought a sharp price drop, now selling for \$11.50.

The weaner pig demand and price has been good all year. Weaners average \$10.00 to \$12.00. Most fat hogs are sold through Safford Packing Company.

##### 2. Internal Parasite Control

Perhaps there is no other one factor that will deny a farmer profits quicker than to be guilty of feeding wormy pigs. The county agent has promoted the practice of worming pigs before placing them on a fattening ration. Treatment has been recommended at ten to twelve weeks of age. Sodium flouride has been recommended at a rate of 1 pound to 100 pounds of ground grain. Excellent results have been achieved. Most farmers are now doing a good job of parasite control.

##### 3. Swine Feeding Program

More farmers are starting to use pasture in growing out pigs. This practice with a very small amount of grain has produced some excellent feeder pigs. Pigs grown on alfalfa pasture have been placed on grain rations for thirty to forty five days prior to market. Excessively fat hogs are no longer in demand at the markets.

Farmers are being encouraged by the county agent to go to a pasture program, thus cutting feed costs. At present there are seven commercial hog feeders in Greenlee County. The severe price drop may greatly influence the continuation of this program.

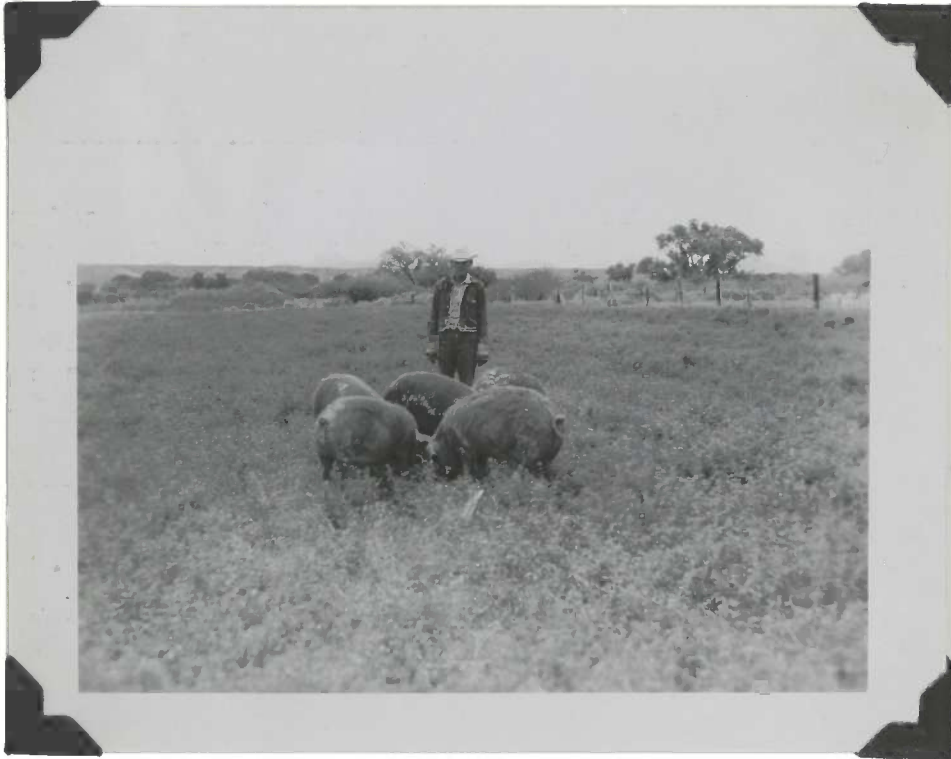
##### 4. General Swine Production

Swine production has been on the increase in Greenlee County. Reduction in cash crops, particularly cotton, has caused local farmers to turn to other means of income. A hog-alfalfa program promises a reasonable profit to local farmers if prices will recover by early summer.

There are now four purebred boars in Greenlee County. Duroc, Hampshire, and Tamworth are included.

Swine producers have been kept posted on the outlook for the future. More farmers are now trying to breed so hogs will be ready for peak summer prices. June to August 30 has always been the best marketing dates for local producers.





Mr. D. D. Barlow, Duncan, proves that cheap gains on pork can be made with the help of alfalfa pasture.



Mama Duroc and 12 babies - (Two are  
on the other side of the table.)

## V. PROJECTS

### 3. Livestock

#### D. Range Management

Range management is yet in its infancy in Greenlee County. The only work done to date is the creation of new water tanks and water diversion dams in the southern part of the county. Some ranchers are becoming more conscious of overgrazing. The county agent has visited all cattle ranchers in the county during the year. The subject of range management has been discussed at every opportunity. Most ranchers feel that the cost of approved controlled practices for Juniper and noxious weeds are too expensive using proven methods of eradication. The county agent has established a number of chemical test plots on Eagle Creek and the Wilkerson Ranch east of Clifton. A special injector gun was used to inject the chemical. To date, no spectacular results have come from these tests.

Arrangements are now being made to try a new portable chain saw. It may have some possibilities.



The County Agent tries a new chemical  
weed injector on range cedar.



Beargrass receives a chemical treatment by the county agent. This is fast becoming a range problem.

## V. PROJECTS

### 4. Dairy

#### A. Disease Control

##### 1. Brucellosis Control Program

The county agent called a meeting with Dr. W. W. Harkins, Bureau of Animal Disease, to discuss a more effective Brucellosis control program. It was agreed that the county agent would serve as the coordinator between the farmers and testing veterinarian. All owners of dairy cattle were contacted and a testing schedule drawn up. The same program was followed during 1955 as was used in 1954. However, The practicing veterinarian has practically ignored this county in the testing program. There is still hope that the testing program may be put back on an active basis.

The use of raw milk is being discouraged, especially if the cattle were not tested.

This program is to be continued.

##### 2. Milk Fever Control

This has always been a major problem among farmers who keep family cows. Generally speaking, it is a management problem. Heavy producers left on green pasture until they calve invariably come down with milk fever, which is sudden decline of the calcium content in the cow's system.

The county agent has provided almost all farmers owning milk cows with the "Milk Fever" leaflet written by Dr. W. J. Pistor, University of Arizona Veterinarian. Numerous news articles and radio releases have served to remind farmers of proper management of milk fever cases. The agent has on numerous occasions helped farmers administer treatment with calcium gluconate solution. There is some evidence that the educational program is having some effect. The incidence of milk fever cases has sharply declined in recent months. More farmers are now familiar with the use of intravenous injection due to the educational demonstrations.

##### 3. General Dairy Production

Adequate market and stiff competition are the limiting factors to dairy production in Greenlee County. There is great need for more DHIA testing and a strict culling program. All local dairymen have practiced culling their herds but more is needed. More improved replacements have been brought into local herds. Sanitation is no small item in the modern milk production. This could be improved upon.

All local dairymen have gone on improved feeding programs, using more home grown silage and improved quality hay.



## V. PROJECTS

### 5. Poultry

#### 1. Laying Flocks

The position of Greenlee County's poultrymen is good due to the heavy demand for eggs. Profit has been extremely small again in 1955. The principal reason has been inter-grower competition of under selling each other and generally poor management practices. Our poultry producers refuse to cull properly or to purchase Arizona produced chicks. Consequently, most laying flocks rarely average above sixty percent lay due to the large number of boarders kept in the flock.

The county agent conducted a winter meeting with the local poultrymen to discuss the problems pertinent to efficient production. Few have adopted the practices recommended by Mr. Ralph Van Sant, State Extension Poultry Specialist.

Three culling demonstrations were conducted during the year by the county agent. Some benefit was gained by this work.

At present egg production is in fair shape in Greenlee County. The greatest need at present is for a natural grower-leader among the producers. The individualist attitude among growers has withheld progress from what could be a flourishing agricultural enterprise. At present less than six growers are doing a satisfactory job. Two of the larger growers have practically folded up because of poor management.

#### 2. Turkey Production

Turkey production has been of minor importance in Greenlee County. There has never been large commercial flocks. Many farmers have kept a few birds to sell during the holiday seasons. Only one commercial grower is in business at present.

It has been discovered that turkeys make excellent growth on alfalfa pasture. A few farmers are beginning to try this practice. It may well prove the beginning of increased turkey production in Greenlee County on a commercial scale if the market holds firm. Any future operations would be restricted to the size of the market created by the mining population of the surrounding towns.

#### 3. Poultry Disease and Parasite Control

The principal diseases in past years have been respiratory diseases and coccidiosis. Some range paralysis has been

## V. 5. (Cont.)

observed in young birds. This fall a severe outbreak of Newcastle and coryza occurred. Many farm flocks have been eliminated by this disease. Recommendations for control and precaution were made by the county agent.

The county agent has made numerous field calls to observe and aid in correcting these conditions. Poultrymen have been advised on the use of sulphur drugs and antibiotics in combating disease. Heavy culling has also been advised.

Worms and blue bugs have been the principal parasites among poultry. All local poultrymen have been provided with a copy of Extension Circular No. 112, "Prevent and Control Poultry Diseases and Parasites", by Dr. W. J. Pistor.

### 4. Poultry Housing

This is one of the most needed improvements among our poultrymen. Most respiratory diseases have been promoted by poor, drafty houses. Modern poultry plans have been made available by the University. The county agent has ordered a number of housing plans for farmers planning to go into production. One local grower was assisted in building plans for a 1,200 layer capacity house.



County Agent discusses poultry problems  
with Mr. Bud Hall (blind).

## V. PROJECTS

### 6. Irrigation

#### A. Maintenance of Ditches

##### 1. Rodent Control

This remains a serious problem on most irrigation canals. Most farmers have done a fair job of controlling rodents during 1955. This is the results of past years demonstrations on control methods. The most common and most effective control has been by use of poison baits. Constant patrol of canals has aided in maintenance cost. In this way early damage is discovered in time to make repairs. Many irrigation ditches have been concrete lined during 1955.

##### 2. Weed Control

More ditch weed control was practiced during 1955 than any previous year. Over forty percent of all ditches received weed control. Most farmers used oil, 2,4-D (Amine) or 2,4-D and Dalapon.

The county agent established weed control demonstrations in four different communities. These were very successful and were observed by many local farmers.

##### 3. Concrete Ditch Lining

This practice is increasing each year. Approximately twelve miles of irrigation canal was lined with concrete during 1954. Many additional farmers lined all or part of their ditches during 1955. If farm prices improve, this program of improvement is to be continued.

Lining ditches gives perfect control of rodents and weeds and prevents loss of water. The initial cost is quite high (approximately \$2.00 per foot), but the ditch maintenance cost is cut to almost zero.

## V. PROJECTS

### 7. Engineering

All engineering work has been handled through the local Soil Conservation Office. It has consisted primarily of land levelling on crop lands and developing water storage tanks on ranches. There remains a considerable amount of this type of work to be done. The high cost of irrigation water is being felt more each year on farms where uneven land or steep lands increase water loss through improper irrigation. The county agent is cooperating with this program and encouraging more farmers to level their farm land. More farm land was limited during the winter of 1954-55 than in any previous year.

## V. PROJECTS

### 8. Entomology

- A. Cotton Insect Control  
(Refer to Cotton)
- B. External Parasite Control  
(Refer to Livestock and Poultry)
- C. Household Insects

#### 1. Fly Control

The county agent cooperated with the Duncan City Council in carrying out a local fly control program. Dr. J. N. Roney, State Extension Entomologist, was invited to local 4-H to speak on the subject. After the meeting the agent and club officers met with the city council to plan the control program. The Safford flying service applied 1500 pounds of malathion dust to the town of Duncan.

Before actual dusting was done, a clean-up campaign was put into action. Two radio broadcasts were devoted to the program, and a news article was run in the "Copper Era" weekly.

The dust program was put into effect early in August. It proved to be very successful even though it came a heavy rain the same day it was applied. Numerous heavy rains followed shortly after the dust was applied. Certain garbage disposal ordinances were never enforced, so the fly population built up again. It did serve to give temporary relief from the flies and perhaps made more people conscious of the serious threat to human health. It is anticipated that this program may be continued next year.



## V. PROJECTS

### 9. Soils

#### 1. Soil Testing

Soil testing has continued to receive considerable attention during 1955. Many farmers have requested that tests be made to determine phosphate and salt contents. However, in many cases soil tests have not proven of great benefit in actual farm practices.

#### 2. Soil Conditioning By Use of Crops and Barnyard Manure

The most needed improvement is Greenlee County soils "tilth". The over-cropping system, particularly cotton, has caused most of the adobe soil to become hard and difficult to work. A program of crop rotation was started through necessity in recent years, and results are astounding. Soil kept in alfalfa three years, followed one year with grain sorghums, is responsible for correcting a soil condition believed by some farmers to be irreparable. The alfalfa roots open up the soil to a depth of several feet. When it is plowed up a tremendous amount of organic material is left in the soil to decay. This is the source of lasting plant food and water holding capacity. The grain crop that follows has shallow roots, thus the top layer of soil is thoroughly perforated with fine roots left to turn into plant food in due time.

Soils that have received this treatment have been returned to full production in four short years without the benefit of any form of outside fertilizer.

This rotational program is now being used by most Greenlee County farmers.

Now that additional feeding operations are going into use, the use of barnyard manure is becoming more common. Perfect demonstrations of its value as a soil fertilizer and conditioner was conducted on the farms of Gene O'Dell and Charlie Spoon. In both cases a moderate application of corral manures raised the cotton yields far above the county's average. Commercial fertilizer on adjacent land gave no significant response in yield.

## V. PROJECTS

### 10. Rural Sociology

#### A. Farm Safety

##### 1. Farm Safety Program

Farm safety is a farm practice that is very often overlooked. During Rural Farm Safety Week posters were displayed to remind farmers of the need for their cooperation. The local 4-H Club cooperated in putting on a special radio program.

The county agent devoted a part of two radio broadcasts to farm safety week. Special news releases were made through the Copper Era, weekly news paper. Safety films were shown to three 4-H Clubs with adults as visitors.

##### 2. Fire Prevention Program

Throughout the year the county agent has stressed fire prevention around the farm. A film stressing safety on the farm was shown again this year to local 4-H Clubs.

National Fire Prevention Week was observed by putting up timely posters, releasing special news items to KCLF, Clifton Radio Station, and the Copper Era weekly.

## V. PROJECTS

### 11. Agricultural Economics

#### A. Commodity Prices

The extension service has been without the services of an economist during the last half of this year.

The county agent has attempted to keep up to date on farm outlook information and pass it along to the farmers. It appears that more farmers are making use of such information in making farm plans.

Farm commodities, particularly hogs and feed grains, declined in prices this year. This placing additional hardship on local farmers. It is fast becoming a "wait and see what happens" game with many local farmers. It is difficult to make sound farm plans with an unstable agriculture to deal with.



A Farm Garden Cuts Living Cost

## VI. OUTLOOK AND RECOMMENDATIONS

### National Outlook

1956 appears to be a difficult year for many local farmers. Prices of commodities are dropping but cost of operating the farm remains high. There still exists over-production, or perhaps a better term would be poor distribution, throughout the nation. High operational costs are expected to continue. Adequate supply of farm labor is expected in 1955.

### Cotton In Greenlee County

Cotton acreage is to be about the same in Greenlee County for 1956. The acreage this year was 1,711 acres. This means no change in plans for many farmers who had hoped for more acreage in 1955. No satisfactory cash crop replacement was found in 1955. The closest thing to a substitute is the marketing of farm grown feed through feeder cattle. Income was sharply reduced from previous years. Farmers do not expect much improvement in 1956. Most cotton farmers are planning to plant grains and hay and to make more use of silage. If conditions should remain stable through 1956, many will sell their feed through livestock. Recommendations are being made with this in mind.

### Livestock Production

If rains come again in 1956 as they did during 1954 and 1955, most ranchers are in a sound position; although some contracts were forfeited and new sales were necessary, most ranchers came out in good shape in 1955. Drought conditions are the determining factor in cattle production in Greenlee County. At present the future looks good for the local cattlemen. They are being advised to cull heavy and not over-stock ranges. More emphasis is being placed on range management.

More local feed lot operations are being encouraged. A number of farmers have expressed an interest in this type of operation for 1956. Farmers are being advised to avoid expensive feeding facilities. Most feed lots will be of a temporary type until cotton restrictions are lifted. This is a continuation of last year's program.

### Swine and Sheep

Production of swine and sheep appears to be a sound farm enterprise during the coming year if hay prices recover this spring. Both are capable of making excellent use of alfalfa, thus cutting feed cost. The market outlook is sound for the last half of 1956. At that time grain feeds would be plentiful. An excellent market exists through the Safford Packing Company in Safford, Arizona. Time has proven that short time production of either sheep or hogs is risky.

## VI. OUTLOOK AND RECOMMENDATIONS (Cont.)

Farmers are being advised to turn to production of these livestock as a cash crop replacement using careful breeding programs to market during high price months.

### Dairy and Poultry

The future for these agricultural enterprises is very risky. Over-production and inadequate marketing is yet a problem. The precautions for both run parallel - restrict expansion, cull heavy, and operate more efficiently to reduce cost of production. Little expansion is expected in Greenlee County. Of the two, poultry has the better opportunity for expansion.

### Greenlee County Fair

A good county fair is important to the agricultural progress of a county. Farmers, ranchers, 4-H member, and homemakers look forward to the time of the fair each year to display their exhibits. No one like to exhibit anything they can not be proud of. This fact will improve the quality of livestock and other agricultural commodities grown on the farm.

The Greenlee County Fair is something the people of the county can be proud of. It has been rated by extension people, judges, and people who observe all the fairs in the state as one of the best for its size in the state. The 1955 county fair was the largest to date. It had both numbers of entries and quality.

This year a junior livestock sale was added to the fair. It added both interest and quality to the livestock show.

The 4-H boys and girls exhibited at the fair almost one hundred percent. The county interest is high with excellent support for all communities. Entries came from extreme north end of the county this year.

Mr. and Mrs. M. E. Frazier were in charge of the arrangements of Greenlee County's booth at the Arizona State Fair. Much of the county exhibits went into the booth. It was awarded second place in quality and completeness. Greenlee County received a total of eighty four ribbons at the state fair.