

ANNUAL NARRATIVE REPORT
OF
JOHN L. SEARS
COUNTY AGRICULTURAL AGENT
Graham County
Arizona

From August 1, 1953 to December 1, 1953

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HIGHLIGHTS OF 1953

Cotton Variety Tests

Three variety tests were conducted to determine whether or not the new variety of long staple cotton Pima S-1 was superior to the Pima-32 variety of long staple grown in Graham County for a number of years.

The most outstanding test was the one conducted on the Arch Montierth Farm at Solomon. The S-1 variety out picked the Pima - 32 by over 1,000 pounds. Grades received on the two cottons were the same. Further tests will be made to determine strength and so forth before S-1 is finally recommended for the county.

Cotton Field Day

Graham County's first cotton field day was a huge success. A total of 60 farmers and other interested people visited the variety tests and fertilizer tests on cotton at Solomon, Lebanon, and Eden. The agent was assisted by Mr. Howard Ray, Soils Specialist, Mr. Charles C. Ellwood, Agronomist, and Mr. James Middleton, Irrigation Specialist, all of the Extension Service, University of Arizona.

Fire Prevention

During National Fire Prevention Week - October 4-10, 1953 - 1,000 circular letters were sent to the farmers and homemakers of Graham County on the Prevention of fire.

Alfalfa Fertilizer Test

A field experiment on the Ned Daley Farm, Thatcher, Arizona this year using 250 pounds of treble superphosphate showed some promising results. The first cutting the fertilized borders each produced five (5) more bales of hay per acre than the unfertilized border. Treble superphosphate may increase alfalfa production on some farms in the Safford Valley. It must be tried however, on each farm. It is difficult to make a blanket recommendation for it.

Fairs

Graham County held its first county fair in several years this year. Over 10,000 persons saw the exhibits, over 200 persons entered exhibits in livestock, poultry, horticulture, apiary, and home economics. The new \$10,000 all steel exhibit building was completed just before the fair opened. The agent served in an advisory capacity on the fair board.

After several years of not participating, Graham County was once again represented at the State Fair with a booth. The

booth took second place. All agricultural products produced in Graham County were represented with emphasis on cotton.

Fly Control The new product Malathon proved to be the answer to the fly problem in dairies and cage-system poultry houses. An experiment in a cage system put on by Dr. Roney, Extension Entomologist, and the agent, proved that flies could be controlled in a poultry house with one application of Malathon for as long as three weeks.

4-H Club Work A tractor maintenance project for 4-H club members was started for the first time in Graham County November 5, 1953, when 40 of the 4-H club members met at the Lines Implement Store in Safford for their first meeting. Tractor maintenance will be carried in every 4-H club in Graham County this year.

Weed Control Tests on the Morris Brother's Farm with C.M.U. weed killer proved that C.M.U. was very effective against wild morning glory in cotton. As a result of this test the Morris Brothers applied C.M.U. to 80 acres of cotton. This material may become more popular as a weed killer when more tests are run.

I. SITUATION

Livestock

Graham County agriculture is divided between livestock and irrigated farm crops. The livestock industry is comprised of approximately 30,000 head of cattle most of which are of the Hereford breed. These Hereford cattle are practically all on the range. There are, however, getting to be quite a number of Aberdeen Angus cattle being raised on irrigated farms. Irrigated pasture grass mixtures are being used for the grazing of these beef cattle. During the winter months many farmers with irrigated land ship in feeder cattle to graze off cotton stubble and alfalfa fields.

There are approximately 37,000 acres of irrigated land, and this farm land extends up and down the Gila River for approximately 45 miles. Twenty-six-thousand acres of this land was planted to cotton on the first planting in 1953. This compares with 24,000 acres planted last year. Also, for the most part, varieties differed this year as explained in the body of this report - approximately 14,000 acres in upland of four varieties, and 12,000 of American Egyptian Pima 32.

Hogs and sheep have never been very extensively raised in this county. However, there are a few large producers of hogs who have been in the business for several years, and who expect to continue. There is only one large sheep outfit.

The drouth condition on the range for several years has been one of the main livestock problems. This has been partly met by the building of water tanks and reservoirs so that cattle can be scattered over a wider range. This condition has also been partly offset by the use of supplemental feed, especially the meal and salt mixture. This is usually fed at the rate of two parts meal to one part salt, according to local conditions.

The control of livestock diseases and external parasites has also been a problem confronting the livestock industry. The Extension Service, in the past several years, has given several demonstrations on the control of the cattle grubs and lice through spraying. However, it is felt that the cattlemen have not paid as much attention to the control of parasites as they should. Some have bought power sprayers and have not used them.

The high cost of grain feeds and low price of hogs in 1952 discouraged many Graham County farmers from feed-

ing swine. However, the rise in hog prices in 1953 brought some farmers back into the picture, but they were unable to purchase hogs. Cotton farmers are not very good hog producers.

Other problems in the raising of hogs include the control of worms and cholera. Demonstrations have been given on how to control these. All of our large hog producers now vaccinate for cholera and yet there is still some loss each year. Worms are being controlled by the use of sodium fluoride.

Dairying

The number of dairy cows in the county has increased about two-fold during the past five or six years. This is due to high prices being received for raw milk. Graham County farmers ship raw milk to Globe, Miami, Phoenix, Tucson, Clifton, and Morenci. Because they sell whole milk the dairies have been inspected oftener by the health officer and there has been a large increase in the construction of more up-to-date dairy barns and more improvement in the facilities for the handling of milk.

All of our dairy cows have been tested for T. B. and Bang's disease during the past three years. Very few reactors to the diseases have been found.

A dairy herd improvement association has been organized and in operation for the past six years. This has resulted in an increased production of milk and butter fat due to the fact that it has been possible to cull the herds more closely based on the production records. It is now believed that the most important problem to be considered with reference to dairying is improvement in feeding practices and in caring for young calves. There is still too much loss of young calves from scours and pneumonia. Some of our dairymen also do not pay enough attention to the raising of dairy heifers so that they make the greatest amount of growth before coming into production. There still could be much improvement in the feeding of dairy cows.

Eleven dairy herds testing in the Graham County D.H.I.A. report 771 cows on test November 1, 1953. Herds on test are making real progress. The number of cows producing 40 to 50 pounds of butterfat has increased from 89 in 1952 to 145 in 1953.

With the increased production of Grade A milk there is a need for a wider market for the quality milk. One important development in the local dairies is the increased interest in better dairy sires evidenced by the purchase of a number of high quality animals with high production records behind them.

Poultry

Poultry Production in Graham County has changed in the last two years from small family flocks to large commercial cage system operators. This does not mean that all of the small family flocks have disappeared. There are still a number, but they are not paying operations. Most of these flocks are kept for family use and limited sales.

The market for eggs in Graham County has improved in the last year. The Arizona Egg Company will buy eggs in this area. They have a regular route three times weekly between this area and Tucson. The poultry business is not a paying proposition unless the operator can handle at least 1500 birds by himself. Twice this many can be handled by one man with the cage system.

There are a few people who have been and are yet producing fryers for market but the price is low and there is competition by those which are shipped in in large quantities for cold storage in our locker plants. Graham County farmers are still not particular enough regarding where they buy baby chicks, especially with reference to whether or not they are free from pullorum. For that reason a considerable number of chicks die.

For a number of years the county has needed a good commercial hatchery. For about two years now one has been operating, and the practices followed have been kept up to standard.

A considerable number of eggs are shipped into Graham County, many by truck, especially during early spring, making a big glut on the market. There are no cold storage facilities for handling eggs in the county. It is believed that if there were a cold storage plant and a commercial handler of eggs and poultry, an increase in poultry numbers would result.

Farm
Crops

Since the major crop in Graham County is cotton, with 26,000 acres planted in 1953, much attention must be given to the production of this crop. Graham County farmers need a short staple cotton which will withstand verticillium wilt. Wilt ordinarily causes loss of many thousands of dollars each year. Insect pests on cotton also cause many thousands of dollars in loss. Most prevalent are the lygus fly, aphid, stink bugs, and the 2-spotted mite. For a couple of years there has been some thrip damage early in the season. Root rot also reduces our cotton income every year. During the early part of 1953 due to cold weather, and too frequent and early irrigations, a good portion of the cotton was damaged by "sore shin".

Most of our farmers have been growing the Chilean or common alfalfa. The African has out-yielded any other variety on the Safford Experimental Farm. Our farmers should be encouraged to change to the higher yielding strains. Field tests should be made on Ranger alfalfa and Buffalo alfalfa. The price of common alfalfa seed has been very low, around 26 cents a pound, while the price of Ranger alfalfa seed has been a dollar a pound until this year.

Soils and
Irrigation

The application of commercial fertilizers on small grains should be tried out in some more field tests, as our yields have not been as high as they should be. We have also had considerable trouble with aphid on grains; possibly application of fertilizer would make the grain grow more thriftily and overcome some of the aphid damage.

All, or practically all, of our corn has been Mexican June. This is a good silage corn. However, it is believed that the yield on corn on the cob would be increased by the use of some of the newer hybrid corns. Some field tests have already been made which have shown this to be true.

For several years the soils of Graham County have been getting more alkaline, and many pump wells seem to be increasing in salt content. Work is going on at the Safford Experimental Farm in an attempt to find a remedy that is economical and efficient. Last year the water supply was limited. Work needs to be done to remedy damage done by alkali water to the soils over a period of several years. Extension Service has been acquainting farmers with the conditions of the soil, and sending samples of water and soil for analysis. Some tests have been made with the use of gypsum on alkaline soils. Work has been started to try to find remedies for hard spots in alfalfa fields. A number of experiments with various commercial fertilizers have been started in widely separated areas of the county in an attempt to find an answer. Records are being kept and check plots will serve to show results.

More and more farmers are realizing the value of manure. There is now a bigger demand for it than the supply. Some demonstrations have been given on the cement lining of irrigation ditches for the purpose of saving water and eliminating ditch cleaning. There is great loss of water in our irrigation systems, even in the canals. More emphasis has been given to ditch lining during 1953, and more are ridding ditches of weeds and brush.

Horticulture

Graham County has many pecan groves; possibly 200 acres. The problems for the past several years have been controlling aphids, supplying sufficient water and fertilizer, and the marketing of the product. One local problem has been lack of facilities to spray small orchards for pecan aphids; now however, there is a commercial firm that will do some custom spraying. Large orchards are successfully sprayed by plane.

Another problem of the home orchard grower has been chlorosis, particularly in peach trees. Root rot has been a factor in reducing a number of home orchards and it appears that it will continue to be a problem. Efforts have been made to control chlorosis by using iron. Some beneficial results have been obtained but more work needs to be done on this. It is believed that some of the chlorosis of our peach trees has been due to too much salt water and it is thought that the small nuts produced in some of our pecan groves may be due to excessive amounts of salt over a period of years.

Demonstrations have been given in budding and grafting peach trees and in pruning of peach trees, as well as of deciduous fruit trees. There is yet need for considerable training along these lines, and frequent calls come to the agent requesting it.

Weed Control

The big weed problem in Graham County in the irrigated areas for a number of years has been the control of Johnson grass, Bermuda grass, and bindweed. On the range the problem has been with Jimmy weed, milk weed, larkspur, and Russian thistle. During the past several years Russian thistle on the range has increased tremendously. In many instances from one to three miles of fences have been shoved down by tumbleweeds being pushed and piled against them. Besides this damage, range grasses are being crowded out by Russian thistle. A method to get rid of this noxious weed has not yet been developed.

On the irrigated farms Bermuda and Johnson grasses on the ditches are being partially killed by pasturing. In the cultivated fields these two weeds have required a great deal of hoeing. Oil sprays have also been tried on Johnson grass along ditches and they have given fair success where repeated sprayings have been made during the entire season. Bindweed has been sprayed with various 2-4-D mixtures with only partial success. Several are now experimenting with the amine form of 2-4-D. In the body of this report work done in the valley of a demonstrational nature by H. Fred Arler is described.

Rodents In previous years considerable work has been done in poisoning jack rabbits and gophers and in the trapping of gophers. This work has mostly been done by giving demonstrations, making surveys of the extent of infestation, and writing newspaper articles on control measures. The State Fish and Wildlife Service has always given good cooperation in assisting with demonstrations and in mixing the poison and providing it at local points for sale.

Some years jack rabbits cause considerable damage to irrigated fields near range land. Other years the damage is very slight. The need for work in this is sporadic. As related in the report of the former county agent, this work this year has been very necessary.

Insect Pests Insect pest control has been mostly with cotton insects which are principally the lygus and stink bug. Other insects which demand dusting are the grain aphid, melon aphid, and pecan aphid. There are also a number of garden insect pests which appear every year. Dusting has been the principal means of control. Farmers are kept acquainted with the extent of infestation and necessary control measures through press, farm visits, field trips and radio. Details of this work early in the year are carried in the report of the former county agent.

Rural Sociology Farm accidents and farm fires continue to occur. However, it is felt that the regular use of Extension Service circular letters concerning all phases of farm and home safety have helped to cut the toll. These are usually produced jointly by the county agent and the home demonstration agent.

4-H Club Work Where possible farm and home safety is stressed in 4-H club work. The first lesson on the new Tractor Maintenance Project the agent started this year was on "Safety".

One 4-H club of boys did not finish this year, and another club had only one boy that completed his work.

A county-wide Tractor Maintenance program started in November of 1953 may help to strengthen 4-H club work.

Fairs During 1952 there was no county fair. The old fairgrounds had been sold and facilities for showing livestock and displaying exhibits were inadequate.

II. ORGANIZATION

The County Agricultural agent, Mr. Steve Owens who served the farmers and ranchers of Graham County since 1931, retired effective September 1, 1953. His last active work ended July 30, 1953, and August was used for annual leave.

The present agent, who had been county agricultural agent in Greenlee County since June, 1948, was assigned to Graham County effective August 1, 1953.

The agricultural agent's plan of work is made in cooperation with the home demonstration agent where applicable. Radio programs were planned and given together. Some community meetings were worked out together.

Organizations of a rural nature in Graham County are the Farm Bureau and the Graham-Cochise County Cattle Association. The Farm Bureau continues to take an active part in the support of the 4-H club program, often providing funds for trips for 4-H boys and girls. The State Farm Bureau last year provided an award of \$200 toward the cost of the trip for a leader to attend the National 4-H Club Congress in Chicago. This was won by Lamar Kempton of Eden, who last year won his five-year silver clover leaf for continuous club leadership service. He has been quite as active this year.

This year the Gila Valley Soil Conservation District was not approached for assistance in financing the 4-H trips, since the Gila Valley Jr. Livestock Show fund at the Valley National Bank was released by its supervisors for use to send boys and girls to participate in livestock showmanship and judging activities at State Roundup.

The Extension Service is again, this year, assisting the Gila Valley Soil Conservation District to conduct the Soil Conservation Contest for agricultural students of high school age.

Churches and schools in the valley are very cooperative in providing facilities for extension service activities when requested. The Safford School has furnished the school bus for several successive years to take the boys and girls to State Round-up.

As stated elsewhere in this report, the Valley National Bank has cooperated with the extension service in furthering 4-H club work by making part payment up to \$100.00 a year on the purchase of registered animals for 4-H club or F.F.A. boys who have excelled in that work.

A Graham County Fair was held this October 16,17,18,1953. Over 200 persons entered exhibits. A new \$10,000 steel exhibit building was constructed for the fair. Temporary stalls were made for livestock and the poultry was housed in the old hangar building.

Next year it is hoped that a new livestock building will be constructed. It is very badly needed.

No charge for admission was made at the gate. It was Graham County's first free fair! - and a very successful one from all angles.

Graham County was also represented at the State Fair with a fine county exhibit.

III. PROGRAM PLANNING

No new communities have been organized in Graham County for several years.

The program planning the agent does is based on the past year's experience when outlining a Program of Work. The cooperation of extension specialists is asked in making any changes necessary, and in carrying out the program. The plan of work is flexible, so that it can be changed to meet any new conditions.

Each phase of work within the county is planned to include all specialist needs, requirements for demonstrations and field tests, and publicity work which may be necessary.

The Graham County Farm Bureau is trying to extend its assistance to farmers in the county in several phases. They are offering to farmers several kinds of insurance. Last year when approached the Bureau worked very nicely with agent in selecting a committee to work on a pure seed program during the early part of the year. This year there was no need for such a committee.

A county agent considers more each each year the developments taking place at the Safford Experimental Farm, and a number of field days and field conferences are planned, the county agent furnishing any educational or publicity material needed.

IV. INFORMATION PROGRAM

1. Newspaper

a. Weekly

Graham County Guardian - Located at Safford the county seat. This is the only weekly in the county and carries all news provided by the county agent relative to meetings, timely information on crops, gardens, insect pest control, livestock, dairying, and poultry. Pictures are used as often as possible to illustrate successful projects, or participants in 4-H events.

The agent furnishes to the editor each week a column entitled "Your County Agent", carrying his picture at the top of the column. In addition to new factual material about helps to farmers, the agent endeavors to pick up interesting bits about "Jim" or "Joe" and their experiences in farming, dairying, and such. Reference is made here to new bulletins which are available, and this device has shown the agent how many people follow the column regularly. Office and telephone calls can be readily traced to comments carried in this column. A sample of the regular column follows this report section.

The agent has been requested by the Director of the Agricultural Extension Service to talk 20 minutes at the Annual Conference of Extension agents on the subject: "County Agent Column".

b. Daily

There are no dailies published in the county. The "Arizona Republic" has fallen off in circulation this past year, due to increased cost. However, once in a while this paper does use Graham County extension service information.

2. Magazines

The agent is now and then interviewed by a representative of the "Arizona Farmer", the principal farm magazine of the state. At Graham County Fair time the editor, Ernie Douglas, spent quite a bit of time taking pictures of extension 4-H booths, and other pictures of public interest, furnishing the agent later with prints, and sufficient copies of the paper for use in reports.

Samples of representative newspaper and magazine articles are included at the close of this report section.

3. Radio and Television

As yet Graham County has no television. However, for four years now the agent has worked with the home demonstration agent, and various specialists as they are in the county, to prepare radio programs. This new agent is continuing the practice. These are planned, and usually made on tape recordings for the regular weekly program of Station K.G.L.U. This is called "Stepping Along with the Extension Service", accompanied by a lively marching theme song. The time is always on Saturday, but varies a little around the noon hour depending upon other radio station commitments.

In the past it has been the custom of the Graham County agent to invite the agent from Greenlee County to share in these broadcasts, and Mr. Jeter will be invited as soon as plans permit. This broadcast is heard in Greenlee County too.

This year the agent has used several outsiders on the program, including Mr. Hansen of the Farmers' Home Administration, and Mr. Albert Morris, a local beekeeper. Over 100 requests to see "the queen bee you talked about on the radio" reached Mr. Morris at the county fairgrounds where the queen bee was on display. Radio programs are heard and are effective.

Very recently the agent has been incorporating tape recordings furnished from the State Office of Information into the regular extension service program.

4. Circular Letters

Graham County relies somewhat more on newspaper and radio for informational service than on the circular letters. A few are used to inform farmers of new practices, or call attention to items in new bulletins which they have requested. But essentially the circular letter is used in the farm safety program. Since the figures nowhere else appear, the following represents the volume for the past four years:

1950	36 letters	6,761 copies
1951	42 "	4,588 "
1952	82 "	5,846 "
1953	56 "	4,717 "

During the year one or more of the circular letters is done in color; either one color with the black and white, or two-color. Representative samples of the mimeographed letters follow this report section, and also are included in sections pertaining to projects to which they apply.

5. County Circular

Graham County does not use circulars.

6. Circular Distribution

The county office distributes circulars published by the Department of Agriculture, the Experiment Stations, and the University of Arizona. The bulk of this distribution is to those who call at the office for information. At times, based on farmer requests in the office, a new pertinent bulletin is sent to all those on the special mailing list, such as those supplying information on cotton, or livestock, or poultry. This year there were three such mailings of 350 each during the month of March pertaining to cotton. During April there were mailings of new bulletins on soils and irrigation. In August approximately 350 bulletins were mailed on cotton insect control, and toward the close of this report period others were mailed on defoliation, and mechanization of cotton production.

When county-wide meetings are held, or large field meetings, bulletins are furnished to those who want them, covering the subjects under discussion.

Mention of new circulars in the weekly column of the agent in the local paper, increases the demand for any new bulletin.

7. Visual Aids

As often as possible in both adult and 4-H work the office film and slide projector is used to show colored slides. The state information specialist has been invited to help take colored pictures for this use whenever special events are being held. Toward the end of this reporting period the office acquired a camera which will enable the agent to supply colored pictures he can take himself, and thus increase the library of slides available for visual education.

The agent plans to make full use in both adult work and 4-H club work, of the new sound film projector. Young people really enjoy movies, and this should enliven interest in club meetings.

Graham County Guardian

GILA VALLEY FARMER

SECTION TWO

FRIDAY, NOVEMBER 20, 1953

PAGE SEVEN



YOUR COUNTY AGENT
JOHN L. SEARS

Barley: Arivat (Grain). This is a six rowed semi smoother awned variety with white kernels. It has erect heads, heads early, and has an average height of about 40 inches. It is fairly resistant to lodging and it does not produce much growth in the fall or early winter. It is the best variety for grain that we have.

Vaughn (Pasture). Vaughn is our leading pasture variety. It's a six rowed variety too. It's semi smoothed awned variety with white kernels. Its heads nod at maturity and it is not resistant to lodging as our Arivat is. It has an average height of about 40 inches. It's not nearly as heavy a producer as Arivat and thus should only be planted when you want to really pasture it.

Mariout (Grain) This is a six rowed variety but it has very rough awns and dark blue kernels. It has a very weak straw and is susceptible to excessive lodging. This variety is best as a late spring seeded crop when it's too late to plant the longer-growing Arivat barley. Plant from December until March 1.

Barley comes under the price support program for next year. It's being supported at 85% of parity. Contact your local PMA officer for particulars on storage, etc.

The Graham County D.H.I.A.: This dairy association, with one supervisor has reported eleven herds with 771 cows on test, including 112 dry cows or 14.5%. The average production of cow days on test is 812 pounds of milk and 31.2 pounds of butterfat per cow month. The average production of cow days in milk is 988 pounds of milk and 38.1 pounds of butterfat per cow per month. The average butterfat test is 3.86%.

Graham County dairymen who belong to the Dairy Herd Improvement Association and have their cows tested each month are making progress. According to the latest D.H.I.A. Summary from the University of Arizona the number of cows producing 40 lbs. to 50 lbs. of butterfat have increased from 89 in 1952 to 145 in 1953.

The number of cows producing over 50 lbs. of butterfat have increased from 54 in 1952 to 105 in 1953.

Do you dairymen who do not

belong to the D. H. I. A. testing Association know whether your herd is making progress or slipping backwards?

The efficient dairymen is the one who is making progress, and experienced dairymen know that you cannot tell what a cow is doing without testing her production.

Contact your local tester or a dairymen who is testing and make arrangements to test your herd this year!

Worm Control Measure Found: Internal parasites—roundworms—in sheep can be controlled by mixing phenothiazine with the regular salt supply. This method is effective and harmless to the animal.

In April 1942, an experimental sheep flock at the U. S. Department of Agriculture's research center at Beltsville, Md., was started on a program of parasite control. The flock was offered a mixture of one part phenothiazine and nine parts salt, to be taken at will. This mixture has been available to the sheep continuously since the beginning of the program, except for an experimental interruption lasting 15 days at the start of the sixth year.

Results have shown no discernible ill-effects from the drug in breeding, fertility, lambing, lamb growth and survival, wool production, or general condition of the flock. Absence of death and illness caused by parasites shows good control of worms. Periodic egg-county surveys indicate that the parasites have not been entirely eradicated.

Some losses from parasitism occurred when the treatment was interrupted after five years. Losses were checked when doses of vermifuge were given and the salt-phenothiazine combination was offered again on a free choice basis.

There appears to be no evidence of development of a strain of parasites resistant to the drug. On the other hand, the sheep did not develop an immunity to parasites which could protect them when the drug was removed.

V. PROJECTS

#3 - Horticulture

A. General

Orchard production in Graham County is limited to two commercial orchards for the production of fruit. Both of these orchards are on the Graham Mountain. Pecan orchards are more numerous. Pecan production could be quite profitable if the growers would market their products together.

There is no large producer of vegetable crops in Graham County.

Graham County, and particularly Safford, are noted for fine homes and shrubbery. Work with shrubbery and other yard problems takes considerable time and presents many problems. The agent is called on for this type of work constantly. Radio talks, newspaper articles and demonstrations help to lessen the burden of the work.

B. Diseases - Situation

Root rot is the disease that gives homeowners and orchard operators the most trouble. Sunburn has bothered some roses and ornamentals that cannot stand very much sun. Pecan "rosetting" and chlorosis in ornamentals and peach trees are quite prevalent.

History -- Considerable work by the University of Arizona on root rot shows results in some cases but it still is a real problem. Chlorosis can be controlled with iron sulphate, and "rosetting" of pecans can be controlled with zinc sulphate.

Dr. Ivan Shields, Extension Plant Pathologist, spent several days with the agent checking diseases of trees, shrubs, and cotton in the county. Sunburn of roses and other ornamentals was very prevalent this summer, especially on first year plants.

A trip to the Cluff Ranch on Mt. Graham in October revealed that Mr. Cluff had a great loss to his apple crop by hail. Mr. Cluff also has had trouble with some apples having a defect right around the stem. Some of these apples were sent to the apple laboratory at Washington State College. The report revealed it was not caused by a disease, but rather by insect damage. The insect damage was determined to be climbing cut worm. This damage can be avoided by spraying at the proper time.

C. Insect Pests

Situation: Insect pests are on the increase despite all of the new insecticides on the market. Warm winter weather and good environment for hibernation in the surrounding range land areas brings in many insects.

History: The peach twig borer causes considerable damage each year in the peach orchards in the Safford valley. One orchard in the Thatcher area visited by the agent and Dr. Roney was damaged quite heavily. It was recommended that the tree be sprayed with DDT in the spring, just as the buds begin to swell.

The grape leaf skeletonizer was again at work. The agent checked several vineyards and it was working in all of them. Rotenone was used as the control.

Aphids were very bad during August and September. They attacked the pecans, cotton, and gardens. Bulletins on aphid control were distributed to all persons reporting trouble.

D. Marketing

I. Pecans

The marketing of pecans has long been a major problem in Graham County. Mr. Steve Owens, former county agent, did considerable work along the line of finding suitable markets for the crops.

This year a request for pecans from this area came from the Desert Fruit Company of San Francisco, California. It looks as though all this work involved in finding suitable markets may start to pay dividends.

V. PROJECTS

#4 - Livestock

A. Beef Cattle

1. Feeding Beef Cattle

Situation - Most of our beef cattle are raised on the range by big operators. All the range land is occupied. In past years considerable work has been done by various government agencies in developing the range. Efforts have been made to prevent soil erosion, to develop watering places, to reseed the range, and to fence individual holdings. The Extension Service has given demonstrations on spraying for grub control, and fly control.

The Graham-Cochise County Cattlemen's Association does much to encourage the improvement of range conditions, and to sponsor legislation regarding the cattleman's interests. Extension Service has assisted this organization in securing speakers for their programs.

During recent years a trend has developed towards growing more range cattle on irrigated ground. This has brought more calls to the office for information regarding the growing of year-around irrigated pastures.

There has never been much beef cattle feeding done in this county, and during the past two years there has been even less than before.

Cotton acreage allotments in 1954 will mean more feed available for feeding, and cotton farmers will be looking for additional income from other sources. Feeding cattle could well become one of the leading enterprises of Graham County.

2. Dwarfism in Beef Cattle

Dwarfism in purebred beef herds and some commercial herds has been on the increase for several years. Some progress has been made in the detection of this problem by the use of the profilometer.

In 1953 14% of the purebred calves to be saved for bulls on the San Carlos Reservation were dwarfs. This presents a real problem to the reservation herd because all the bulls furnished the various associations come from the purebred herd.

Dr. C. B. Roubicek, Western Regional Coordinator, Beef Cattle Research, U.S.D.A., and Mr. Pahnish, from the University of Arizona Animal Husbandry Department, were doing experimental work with the pure bred herd. The agent observed the process of determining dwarfism by the use of the profilometer. This work is still in the experimental stage, but it was very interesting to note how closely the profiling of known carriers fell into certain categories noted on the profilometer.

B. Swine

Swine production in Graham County is not a large industry. Only one or two farmers raise many hogs. One or two hogs are usually kept in a small pen for family use. Very few people will even be bothered with keeping a registered boar.

The agent has encouraged swine production because of a ready market at the local packing plant and the fact that they can be raised at a profit if properly handled.

C. Range

1. Drouth

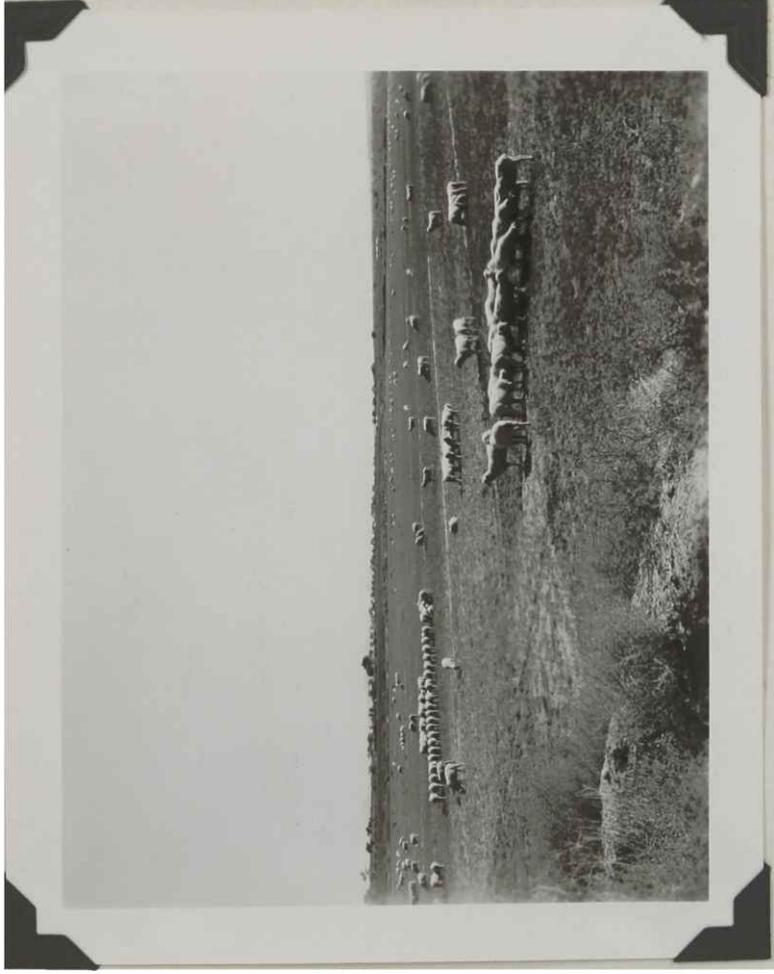
The lack of rainfall on the ranges of Graham County in the Fall of 1953 was the greatest threat to the cattle industry in Graham County.

Ranchers who practiced some range management had the best grass in September when the agent and Mr. Safely, of the Animal Husbandry Department of the University of Arizona, made a survey of the ranches in the Bonita area. The supplemental feeding of the salt and meal mixture is all that kept some herds alive. Ranchers cut down their herds to just enough to keep going on.

2. Cattle Prices

Feeder cattle prices hit a low point in comparison to the prices of all other commodities in the Fall of 1953. Good Hereford steer calves weighing 400# sold for as low as 12¢ early in the Fall. Top sales were 15¢ and 16¢ at the San Carlos Indian sales. Ranchers who had made large investments and had paid top prices for cattle and ranches were hit hard by the market and drouth combined.

The agent in cooperation with the F.H.A. sent a circular letter to each livestock producer in the county telling them of the livestock loans and other assistance available.



The only commercial size flock of sheep in the Gila Valley
near Eden, Arizona, owned by the Lee Brothers of Thatcher,
Arizona.

1953

DIVERSIFY AND DON'T WORRY

Morris of Safford Produce Beef Cattle, Sheep, Honey, and Cotton Incidentally



ALBERT Morris and his son, George, are so little worried over next year's cotton reduction program that they couldn't even remember how many acres they're growing this year, when quizzed at the Graham County Fair.

They're diversified, and if they had to stop raising cotton altogether it wouldn't cramp their style a bit. They'd just raise more alfalfa and pasture, more beef cattle, more sheep, more bees.

Truth, is they already have plans laid for planting 30 acres of irrigated pasture in the fall of 1954, on land diverted from cotton. Probably the cotton stalks will be turned under right after the last picking, and then the ground will lie fallow until the time comes for seeding it to a grass-and-legume mixture thoroughly proven for that part of the State. The seed will be bought through the annual pool of the Gila Valley Soil Conservation District.

The Morris' have 150 irrigated acres, also an adjoining 1,000 acres of fenced mesquite-and-sage-brush range. It's an ideal setup for producing cheap beef under fence, hence their Angus herd of 30 grades and

five registered purebreds. One of the purebreds is the tropy young bull in the picture above, where he is showing Albert Morris how an Angus aristocrat ought to be posed. He was bought only a few weeks ago for \$725, from the Fowler McCormick herd near Scottsdale, and in a few weeks more will take his place as the No. 1 Morris herd sire. His own sire is the celebrated Prince Sunbeam.

There's also a small bunch of sheep on the Morris farm, and 200 colonies of bees. Primarily the Morris' are apiarists. They were joint superintendents of the apiary department at the Graham Fair, and provided most of the honey-and-bee display which attracted more attention than any other feature inside the main exhibit building.

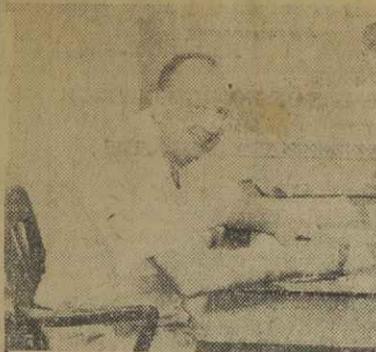
Graham County Guardian

GILA VALLEY-FARMER

SEC. TWO

FRIDAY, OCTOBER 9, 1953

PAGE SEVEN



YOUR COUNTY AGENT
JOHN L. SEARS

Graham County Fair, October 16, 17, 18.

Graham County Fair News — Judging for the county fair will begin on Friday, October 16, 1953, at 9:00 a.m. All entries must be in place at this time.

Poultry will be exhibited in the old hangar and livestock will be shown in a new shed attached to the concession buildings. A new steel building will house the farm crops, horticulture, floriculture, 4-H work, and domestic arts.

Visitor From Peru—I was very pleased to have Domingo Mendez from Lima, Peru on a visit to the county last week. Mr. Mendez is an employee of the department of agriculture in Peru. He is a cotton breeder. He was sent here under the Point-4 Program of the U.S. Department of Agriculture to study our methods of raising long staple cotton. They grow only long staple cotton in Peru.

While in Safford Mr. Mendez spoke to the Lion's Club and the Kiwanis Club at their regular meetings.

Thirteenth Annual Ranch Day — The following program may be of interest to some of our ranchers, and possibly some can plan to attend:

Program for the Thirteenth Annual Ranch Day to be held in New Mexico on October 12 beginning at the Dona Ana County Court House in Las Cruces, New Mexico at 8:00 a.m.

8:00 a.m. — Leave Dona Ana County Courthouse, Las Cruces, New Mexico.

8:35 a.m.—Pasture 6, Jornada Experimental Range.

The use of molasses on tobosa grass. H. A. Paulsen, Range Conservationist, Jornada Experimental Range.

9:20 a.m.—Pasture 10, Jornada Experimental Range. Better distribution by the use of meal-salt mixture, Fred N. Ares, superintendent, Jornada Experimental Range.

10:15 a.m. — Pasture 2, College Ranch. Mesquite invasion, J. J. Norris. Mesquite control, K. A. Valentine.

11:30 a.m.—Headquarters, College Ranch. Lunch.

12:45 p.m.—Welcome, President John W. Branson. Raymond Price, director, Southwestern Forest and Range Experiment Station. Introduction of guests.

1:00 p.m.—Address—Ed Heringa, president, New Mexico Cattle Growers' Association.

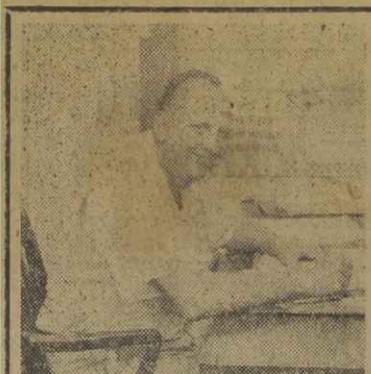
1:20 p.m.—Some Things I Have Learned About Ranching—Frank

S. Boice, Empire Ranch, Sonoita, Arizona.

1:40 p.m. — Urinary Calculi in Cattle — Dr. H. R. Crookshank, Nutritionist, Pan Tech Field Lab., Amarilla, Texas.

2:20 p.m. — Pasture 1, College Ranch. Supplemental feeding of Carotene for breeding cows during pre-calving and calving period, W. E. Watkins. Observations on salt and meal feeding, J. J. Norris.

3:20 p.m.—Camp Well, College Ranch. Inspection of experimental steers and replacement heifers. Robert L. Blackwell. Supplements for range cows, J. H. Knox.



YOUR COUNTY AGENT
JOHN L. SEARS

Thatcher 4-H Club Organized

On October 21, 1953, a group of Thatcher boys met at the home of Mr. Russell Lundell and formed a 4-H club. This will be a mixed livestock and poultry club. Mr. Lundell is the adult leader. Don Lundell was elected President of the club. The next meeting will be held at the home of Van and Keita Smith in Thatcher.

Cattle Prices at Calva Indian Cattle Sale On October 21, 1953

Just to give you some idea of how cattle prices are going I jotted down a few of the prices paid for cattle at the Indian sale. Most of the buyers were from California and Yuma.

Hereford steers weighing about 589, dehorned—good stock \$16.00 cwt.

Hereford steers dehorned weighing 650, dehorned \$16.15 cwt.

Hereford calves 625 lbs. \$15.60 cwt.

3-year old steers, weight about 720 lbs. \$12.30 cwt.

Good cows \$8.50 per cwt.; some poor order cows \$6.60 cwt.

Young cows with good 500 lb. calves at side, \$36.00 pair.

These figures are not all the sale made but they are some I jotted down and perhaps will give you some idea of how the cattle are going at the present time. Cattle sold at this sale usually sell a little higher than local cattle. There were a number of buyers at

the sale and the bidding moved right along.

Ft. Thomas 4-H Club re-organized

On October 25, 1953, the Fort Thomas "Hoof and Horn" 4-H Club met and organized for the 1954-55 club year. Mr. Earl Black, Gerónimo, is the local 4-H club leader.

Gerald Black and Melvin Herbert will be the junior leaders. Gerald Black was elected president, Lloyd Black is vice president, and Ross Tyler, secretary, and Ray Tyler, Recreational leader.

This club will meet the third Thursday of each month at the Ft. Thomas High School at 7:30 p. m.

V. PROJECTS

#5 Dairying

A. - Classification

Situation - For two years Graham County had a herd classified by field representatives of the Holstein-Freisian Association. This increased an interest in better dairy cattle because classification stresses the factors in type that are supposed to go hand in hand with long-lived, healthy, heavy-consuming and heavy-producing cows. It does not call for any special conditioning or showing of an animal as is common in the show ring. It also gives less emphasis to stage of lactation and proper fleshing, than is commonly stressed in our fairs and exhibits.

Certain definite standards are followed by a few specially trained judges who make the ratings. The judges are trained to compare each animal with an ideal scoring of 100 points, and then to place her in one of five groups - excellent, very good, good plus, good, or fair, depending upon the score. Type classification is more of a science than show ring judging.

There has been no classification demonstration since 1951, but it is believed that the previous work was at least partly responsible for the interest shown by our dairymen in building up the quality of their herds. Last year Carl Morris of Safford and Vance Marshall of Pima both shipped in registered Holstein cattle from midwestern states. Mr. Morris also shipped in a bull that had already been classified as a proven sire.

B. - Better Dairy Cattle

Situation - Eleven dairy herds in Graham County belonging to the Dairy Herd Improvement Association reported 771 cows on test November 1, 1953.

D.H.I.A. members are rapidly improving their herds. The number of cows producing 40-50# of butterfat has increased from 89 in 1952 to 145 in 1953.

There are about six or eight other dairies in Graham County that should belong to the D.H.I.A. The agent was unable to contact these members because of the short time in the county, but through newspaper articles has urged them to become members.

C. Dairy Equipment and Marketing

Close contact with the tester and the Extension office was made at all times. A survey to determine what type of barns, machinery, milking parlors were most popular was made by the Extension Service in cooperation with the local tester.

The dairy industry is changing fast. A survey of D.H.I.A. members in Graham County indicates most dairymen prefer to feed green chopped feed, like the two-level milking parlor, and most of them have a direct milk line system which runs into a tank. This is quite a change from the old stanchion type barns and hand milking.

Milk is hauled by tank trucks to Tucson, and in cans to Globe and Duncan. The greatest market for Grade "A" milk is in the Tucson area. Dairying in the Safford valley will increase as the Tucson area grows.

D. Fly Control

Malathon as a fly spray was used at the Vance Marshall Dairy at Pima, Arizona this summer. Results were ineffective because the spray was too fine. This case was investigated by the agent and Dr. Roney, Extension Entomologist. It was recommended that the spray be changed and results were good from that time on. Malathon is sprayed on the inside of the building, and not on the cows. Good control for three weeks was obtained. This material is mixed with water and white Karo syrup.

Mr. Payne of the Safford Fertilizer and Insecticide Company of Safford, at the suggestion of the county agent, agreed to put on a fly control demonstration at the county fair without charge to the commission. He took a power sprayer and used Malathon on the cattle barns. A picture of this operation follows this report section.



**Spraying Livestock Barns at the Graham
County Fair to Control Flies - 1953**

**One application of Malathion mixed with water
and white Karo syrup applied according to
manufacturer's directions gave 100% control
of flies during the entire fair.**

V. PROJECTS

#6 Poultry

1. Diseases

Situation - Graham County has variable amounts of most kinds of poultry diseases over any year. Some years one or two kinds seem to predominate. In 1950 we had many cases of chicken pox and quite a number of outbreaks of Newcastle. Constant publicity in newspapers, on the radio, and during farm visits to rid premises of sparrows which carry chicken pox help to cut down the incidence of this disease. Also vaccination is being used by some operators. The last two years there has been no Newcastle disease in the county.

Some of the diseases which have developed from time to time are: range paralysis, bronchitis, chicken pox, coccidiosis, and pullorum.

In 1952 there was a new disease in the turkey flock of George Bigler of Central. Sick birds were taken to the animal pathologist at the University who pronounced the trouble "air sac". No recommendations on treatment or prevention were offered. Suggestions were given to Mr. Bigler for stricter sanitation as a precautionary measure. He lost approximately 400 young turkeys from this disease, which mostly affected the older birds.

Coccidiosis has been the chief disease among poultry flocks since the writing of the last agent's report. "Sulmet" or soluble aureomycin has given excellent results in controlling this disease.

Some persons reported dressing hens over a year old that were filled with water and very fat. These hens are egg-bound. This often occurs among the heavy breeds after the first year. The agent has repeatedly urged poultrymen not to keep their hens over one year.

2. Parasites

Situation - The parasite problem in poultry is a constant one. The public is always kept mindful of this through radio talks, newspaper articles and farm visits.

3. Fly Control

Situation - Many poultry farms in the Safford valley have turned over to the cage system in the past few years. The cage system presents a problem of fly control because the droppings are allowed to accumulate for a year at a time.

Dr. J. N. Roney, Extension Entomologist, and the agent set up a fly control demonstration at the McBride poultry farm on August 31, 1953. Malathon 50 mixed with white Karo syrup was sprayed on the droppings, and the inside of the building. Mr. McBride has a cage type poultry system. He had been using molasses in place of white Karo syrup to mix with the Malathon and his results were not satisfactory. Molasses contains sulphur and makes the insecticide ineffective. This experiment was checked in three weeks from the time of application of the Malathon and Mr. McBride was still getting very good fly control. Malathon is rapidly becoming our best material for the control flies in poultry houses and dairy buildings.

4. Housing and Care

Situation - Owners of small back yard poultry flocks do not make sufficient arrangements for differences in care during winter months and the months of excessive summer heat. Poultry houses are often of a make-shift variety. For two or three years the agent has had calls for bulletins or other information on poultry housing. Most of this information has to come from poultry magazines. There is a real need for a bulletin on the housing of poultry in Arizona.

5. Marketing

Situation - The poultry industry in Graham County has not developed as it has in other parts of the state. This is no doubt because our marketing facilities are inadequate. There is no egg storage plant, nor is there any dealer in live poultry. However, the Arizona Egg Company of Tucson is now buying eggs in the area. This may help stimulate a little more interest in poultry production. It will also help to take care of the surplus in the Spring.

The proper marketing of eggs can make or break a poultryman because the public is very critical of bad eggs. This matter has been continuously brought to the attention of poultrymen by the Extension Service through newspaper articles, radio talks, and personal interviews.

6. Culling

Situation - Our flocks are not culled as often as they should be. This may be because there is not a ready market for live poultry. With cage systems it is not very difficult to cull, an accurate count on eggs produced by each hen is kept on a recorder. Culling demonstrations are given each year to show poultrymen how to tell the layers from the non-layers.

A good poultryman culls his chickens every day and that is what the Extension Service has emphasized through its educational work. The poultry business operates on a small margin and a few non-layers soon eat up all the profit.

POULTRY AT GRAHAM CO. FAIR

Number and Quality of Entries Speaks Well For Chicken Breeders of Eastern Arizona

MOST SURPRISED and tickled individual at the Graham County Fair was Ralph Worden, superintendent of the poultry department.

Public word was given that entries in that department would close at 4 p.m., Oct. 8, day before the fair's opening. At 9 a.m. Worden had to hoist the "all filled up" sign. There just wasn't room for any more, even though the hard-working superintendent double-decked as many of the cages as he could.

Altogether there were 78 exhibits of big chickens, 33 of bantams, 31 of pigeons, 11 of geese, nine of turkeys, four of ducks, and 18 of rabbits. Extension Poultry Specialist Ralph VanSant, who judged, had many kind words to say about their quality.

It's unfair to mention only a few, among so many that deserve praise. But a certain trio of New Hampshires entered by a 4-H boy named Don Lundel, would have stopped the crowds at anybody's poultry show. By general agreement they were the best 4-H birds there, and VanSant found very little wrong with them



Supt. Ralph Worden and the best bird of the show, a Plymouth Rock cock bred and exhibited by Glen Holgerson.

when he judged them by the standard of perfection.

Premier exhibitor was Glen Holgerson of Thatcher, a highway patrolman by occupation but a poultry fancier by preference. He took eight blue ribbons out of a possible twelve, mostly on New Hampshires and Plymouth Rocks. Runner-up was H. T. Clothier of Duncan, also with eight blues. Here was a nice point for the officials to decide, but they awarded top honors to Holgerson because all his firsts were on utility breeds while some of Clothier's were on the more or less ornamental bantams.

Clothier's chickens had been winners only a week before at the Greenlee County Fair and he is under strong pressure to show the whole string at the State Fair in Phoenix.

Supt. Worden was very happy about the whole thing, except for one detail. He says he would like to see more poultry shown by farmers and commercial flock operators. The great majority of fowls at Safford were entered by fanciers like himself, who breed poultry as a hobby.

V. PROJECTS

#7 - Agronomy

A. - COTTON

1. Varieties

Situation - For many years Graham County Cotton Growers have not been decided upon one variety of short staple cotton. At a casual consideration of this problem it would appear that a one-variety community could be easily obtained. Things which have prevented this are the fact that we grow both long and short staple, very often on the same farm, and the prevalence of root rot, cotton wilt, and the scarcity of irrigation water.

For several years our farmers grew P 18, which had a poor quality of lint, just because they got a bigger yield than with other varieties, when their water was short. 1517 C and 1517 B have been and still are being grown, principally because additional "points on" have been given to the farmers for the lint of these varieties. The bolls are small, however, and these varieties are difficult to pick.

For the past six years quite extensive tests have been made on the Experimental Station in Safford and by our farmers to determine which cotton varieties were adapted to growing on land infested with verticillium wilt. As a result of these tests, W-29-4-6 and W-29-16 have been proved to be the most wilt resistant. They also have large bolls, which open well and are easy to pick.

For a long time Graham County farmers planted SXP as practically the only long staple cotton. Then about three or four years ago some of them started planting Amsac. Amsca seemed to give more yield than SXP. For the past few years farmers have planted mostly Pima-32, which is giving a higher yield than any other variety of long staple.

In June of 1953 acreages of long and short staple cottons were planted approximately as follows:

1517C	9,700 acres
29-4-6	2,000 "
Calif. 29-16	2,000 "
Mesilla Valley Acala	300 "

Pima 32	12,000 "
---------	----------

There will be some acreage of Pima S-1, a new variety of

long staple. The Producers' Gin shipped in a little over a ton of this seed, which was planted. The germination of this seed was not good. Some of it had to be replanted to another variety, so it is difficult to tell how many acres we will have.

Lonnie Pettit of Lebanon, Robert Montierth of Safford, and Herbert Skinner of Graham, and Bob Colvin of Eden, planted variety tests of long staple cotton to compare Pima 32 with Pima S-1.

On September 4, 1953, a cotton field day was held. Messrs. Ray, Middleton, and Ellwood, Extension Specialists, assisted the agent in arranging for the field day, and in giving talks on the various experimental plots. All of these plots were put out by the specialists and Mr. Owens, the former county agent. The first stop was at the Montierth Farm at Solomon where some 60 farmers and other people interested in cotton, saw the S-1 long staple variety tests and compared them with the Pima 32.

The S-1 variety was shorter than the Pima 32 in height and seemed to be loaded heavier. These plots will be harvested and weights recorded. Many farmers are waiting to see whether or not the staple length has been affected. In general the farmers were well pleased with what they saw on the Montierth place. In the afternoon, plots on the Bob Colvin farm at Eden were inspected.

1517 C. was the outstanding short staple cotton this year from the standpoint of yield and desirability. This cotton is not known to be wilt resistant but because of its record this year it will be very popular next year.

Picking on the Arch Montierth Farm at Solomon shows the following results of the variety test using four replications of S-1 and Pima 32 long staple:

S - 1	2,451	1st picking	
S - 1	2,888	2nd picking	
	<u>5,339</u>		
Pima 32	1,961	1st picking	
Pima 32	2,435	2nd picking	
	<u>4,396</u>		
			5,339 S-1
			<u>4,396</u>
			943 lbs. More S-1 Than Pima 32 in plots

Results of Long Staple Variety Test on Frank Skinner Farm

Graham, near Safford, 1953

Varieties tested S-1 and Pima 32

4 replications of each
1 acre of each variety

S-1 - total seed cotton picked on one acre 2200 pounds

1750 pounds of seed cotton made a 559 lb. bale of cotton
or 32% turnout

Pima 32 - total seed cotton picked on one acre 1900 pounds

S-1 produced 300 pounds more of seed cotton on one acre than Pima 32.

Reports from classing office graded both types of cotton the same:
Grade #2 - 1-1/2".



Graham County Guardian
GILA VALLEY FARMER

COTTON FIELD DAY FRIDAY

John L. Sears, county agent, announces a field day will be held for all cotton farmers on Friday, Sept. 4.

At 9 a. m. cotton variety tests of long staple S-1 and Pima 32 will be made at the Arch Montherth farm adjacent to the Safford Experimental Farm, and at 10:30 a. m. at the Ernest Geer farm at Lebanon.

Howard Ray, soils specialist, 'Pat' Middleton, irrigation specialist, and Charles C. Ellwood, extension agronomist, will be on hand to explain these tests and their results.

FRIDAY, SEPTEMBER 4, 1953

TO DISCUSS COTTON INSECTS

County Agent John L. Sears and Dr. J. N. Roney, Extension Entomologist will discuss cotton insects and their control on Radio station KGLU Safford, Saturday, Sept. 5, at 1:00 p. m. Don't miss this discussion.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF ARIZONA
Safford

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

Agricultural Extension Service
Home Demonstration Work
County Agent Work

August 28, 1953

COTTON FARMERS INVITED TO ATTEND FIELD DAY

John L. Sears, County Agent, invites all cotton farmers to attend a field day on Friday, September 4, 1953:

M O R N I N G

WHAT? Cotton variety tests - long staple S-1 and Pima 32
WHERE? Arch Montierth Farm adjacent to Safford Experimental Farm 9:00 A.M.
WHAT? Fertilizer test on long staple cotton
WHERE? Ernest Geer Farm at Lebanon 10:30 A.M.

A F T E R N O O N

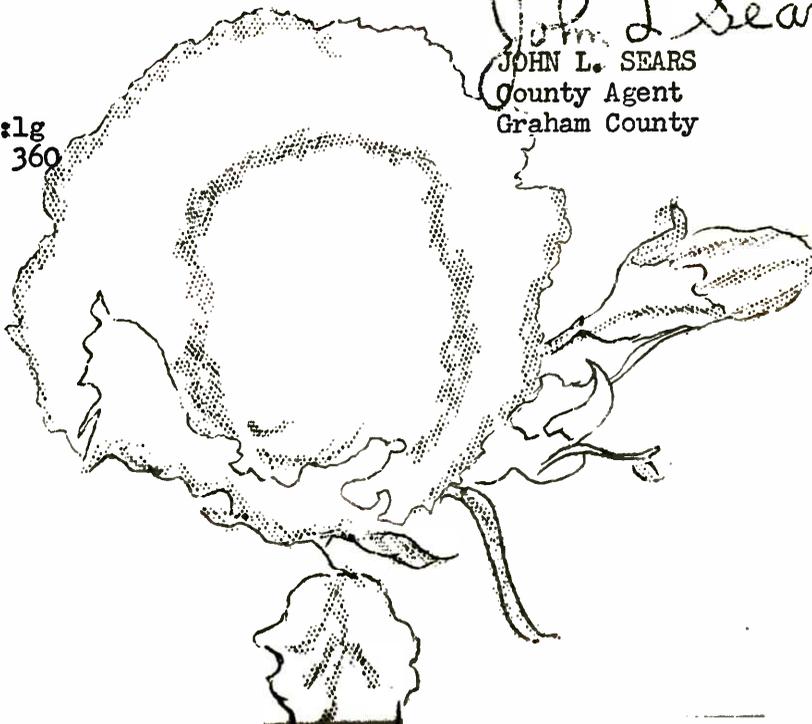
WHAT? Fertilizer test on short staple, and variety plots of S-1 and Pima 32
WHERE? Bob Colvin Farm at Eden 1:30 P.M.

Howard Ray, Soils Specialist, "Pat" Middleton Irrigation Specialist, and Charles C. Ellwood, Extension Agronomist, will be on hand to explain these tests and their results.

Sincerely yours,

John L. Sears
JOHN L. SEARS
County Agent
Graham County

JLS:lg
cc: 360



PIMA S-1 BEST IN GRAHAM

Farmers on Field Tour Compare It with Pima 32, Decide That New "Dwarf" Is Superior



These Graham County farmers listen intently to the "whys" and "wherefores" on their cotton field day trip.

By DAN RALSTON*

INDICATIONS are that Arizona long-staple cotton growers will have a new, superior variety for planting next year. On a field trip conducted by John Sears, Graham county agricultural agent, Sept. 4, a group of 30 farmers had a preview of what Pima S-1 will do.

Two different farms were visited during the day where Pima S-1 and Pima 32 are being grown for a comparison. During the morning the group went to the Arch Montierth farm, just south of the Safford Experiment Farm. Here, four rows of Pima S-1 were alternated with four rows of Pima 32. There were eight plots of each.

When speaking to the visiting farmers, Mr. Montierth spoke highly of the Pima S-1. It didn't grow as tall as the Pima 32 but the stand in each plot was uniform and solid. Twice as much acid-delinted P 32 seed was planted as P S-1 seed which was not acid-delinted. Yet, the P S-1 indicates a heavier yield than the P 32, and it has a greater boll set with larger bolls. Because of the size of the plants, Pima S-1 will lend itself to easier picking.

The afternoon group of ten farmers visited the R. J. Colvin farm one mile west of Eden. The test on this farm was identical to the Montierth test in growth, appearance, boll size, and indication of yield. The stand was a little poorer, however. Four plots of four rows of each variety were grown here.

At picking time, an accurate weight will be taken of each plot of cotton on both farms for a yield comparison.

Nitrogen Ups Yield

Two fertilizer tests were surveyed by the farmers on the field trip. The

* Assistant Information Specialist, Extension Service, University of Arizona.

morning group inspected five fertilizer treatments which were repeated four times on the Ernest Geer farm in the Lebanon area. Untreated plots by actual count had fewer bolls of cotton than those treated with nitrogen. Plots treated with nitrogen had plants of larger size with a healthier green color than the unfertilized plants even though the water supply had been limited during the growing season. Where phosphate was applied alone the plots were similar to those not treated in any way. In plots where phosphate was applied with nitrogen there was no apparent advantage over the plots treated with nitrogen alone. Each plot will be harvested separately and accurate weights taken of the yield.

After lunch the group stopped at the Colvin farm at Eden. Those present to view the four plots with four fertilizer treatments were treated to cold watermelon by John Sears.

Irrigation Trials

There were no plots for phosphate treatment alone on the Colvin farm. The tests were on 29-16, a short-staple cotton. The same responses were observed here that were seen on the Pima 32 at the Geer farm that morning. Plants treated with nitrogen were healthier and more vigorous than untreated plots. They were similar to the plots which received both nitrogen and phosphorous.

There was a comparison made of irrigation practices on cotton at this farm. Every row of the test plots was irrigated, while up until the middle of July every other row of the balance of the field received water. Yields on the check plots irrigated in each row will be compared to the yield of the rest of the field.



Charles Linwood, John Sears, and Arch Montierth take a good look at long-staple cotton on Montierth's farm near Safford.



Agricultural students and farmers discussing cotton varieties.

Field Day

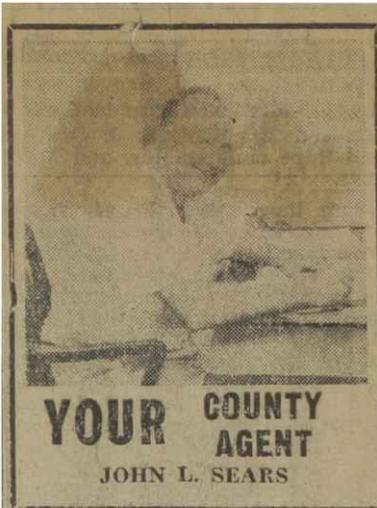
September 4, 1953



Checking Pima S-1 Cotton at
Field Day

September 4, 1953

Charles C. Ellwood, Extension Agronomist, John L. Sears,
Graham County Agricultural Agent, and A. H. Montierth,
Safford Farmer.



4-H'ers Judge at Arizona State Fair

On November 14 four 4-H'ers from Graham County judged livestock and dairy animals at the Arizona State Fair in Phoenix, Arizona. These boys were:

Wiley Kempton, Eden, livestock team; Gerald Black, Ft. Thomas, livestock and dairy; Ray Tyler, Ft. Thomas, livestock and dairy; Ross Tyler, Ft. Thomas, livestock and dairy.

Gerald Black was third high individual in the dairy contest, against approximately 24 senior boys. The team received a red ribbon.

Gerald Black was also high man against the same number on his team in livestock judging. The team received a white ribbon.

Looking for a Pecan Market: The Desert Sun Dry Fruit Co., 240 Drumm Street, San Francisco 11, California, would like to purchase a supply of pecans from this area. They would like Mahans or Bur-

ketts in-shell.

If you have any lots of the Mahan and Burketts, at this time, send a sample and price on both kinds to the above-named company.

Produce Top Cotton Lint: Top cotton lint quality can be produced in the final weeks of the harvesting season with close cooperation between the farmer and the ginner. Rapid strides in processing late-season, rough-harvested cotton have been made by the ginning industry, but the farmer's help is needed to produce ginned lint that will bring him maximum profit.

Here are some hints to help the farmer insure high quality:

1. Supervise the remaining phases of the harvesting operation as closely as possible. Keep the trash content at a minimum.

2. Don't harvest cotton after a rain or early in the morning after an unusually heavy dew.

3. Do not mix good and bad cottons. Grades are based on the "low side of the sample."

4. Don't mix wet and dry cottons. This can cause over-drying on cotton that is already dry or rough-preparation on cotton that is wet.

5. Take steps to protect the cotton after it is harvested. A tarpaulin will protect seed cotton from excess moisture, tractor sparks, and contamination from various sources. It is an investment that will pay off through improved cotton quality and better ginning. Don't tramp cotton.

#7 Agronomy

A. - COTTON

2. Pure Seed

Situation - It has always been difficult to get a pure seed association going well in this county. There have been several different varieties of short staple grown every year, and long staple has been scattered all over the valley. This has made it almost impossible to get the necessary isolation, for either long or short staple cottons. During some years when a few farmers have had the necessary isolation, and grew pure seed, there was not enough sale for it. Also there was not enough increase in price over ordinary seed, to justify the time and pains the farmer took to get his seed certified.

We have been able in the last four years to maintain the necessary isolation in the Artesia area for the production of Pima 32 (long staple) and keep it certified or registered.

Further details of the history of the pure seed program are given in the 1952 annual narrative report.

W-29-16 did so well in the Eden community last year that they became anxious for a source of pure seed supply for 1954. Melburn Palmer and his brother Alden Palmer who have an 80-acre farm well isolated not far from the Eden community in the Ashurst district decided to plant it all to W-29-16. The seed for planting was procured from the Arizona Cotton Planting Seed Distributors in Phoenix. Because of cold weather and much wind the entire field had to be planted over late in the season, and if we have an early frost in the fall, this field may not produce much good seed.

Charles Luster who is farming the Cluff Ranch four miles south of Pima has a well isolated 20 acres which he planted to W-29-16. This was pure seed which he obtained from the Safford Experimental Farm. This cotton did not come up to a very good stand, but it was planted early enough so that it should make a crop even though we should have an early frost in the Fall.

7 - Agronomy

A. - COTTON (Continued)

3. Cotton Fertilizer Demonstrations

Situation - For at least five years our cotton farmers have been spasmodically using various kinds of commercial fertilizers. For the most part they have not kept records of yields. Some have claimed beneficial results, while others claimed that the fertilizer did no good.

A more complete history of these fertilizer tests may be found in the 1952 annual narrative report. That report also gives charts showing kinds and amounts of fertilizers used, together with observations and yields.

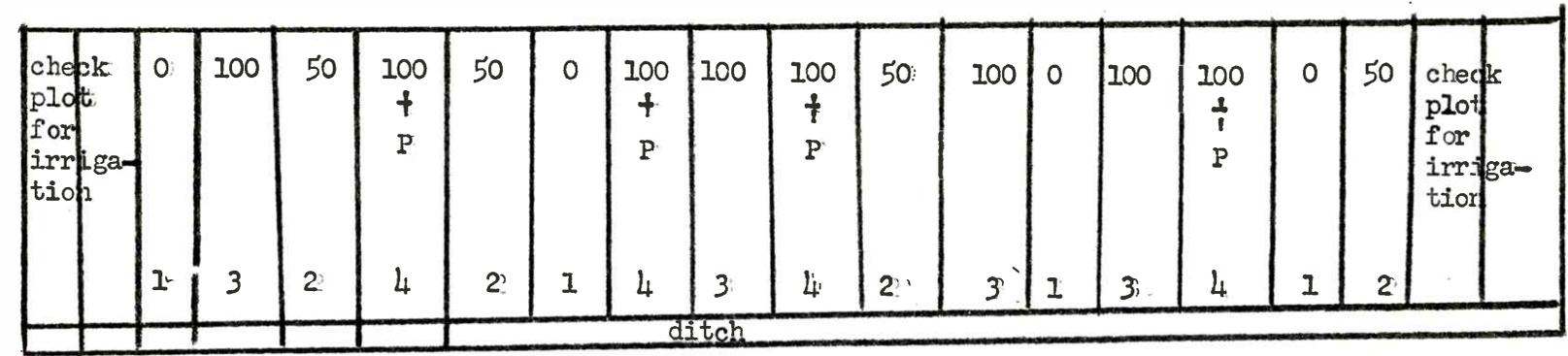
Two cotton fertilizer tests have been applied during 1953, on the farms of Ernest Geer of Lebanon and Bob Colvin of Eden. Soil samples have also been taken at the ends of each one of the check plots. These samples were sent to the University during June for an analysis. Howard Ray, Soils Specialist, and James Middleton, Irrigation Specialist, worked with the county agent in applying the fertilizer tests. The individual farmers paid for the fertilizer used. Charts showing the fertilizers used follow this section of the report.

CONCLUSIONS
COTTON FERTILIZER TESTS

Fertilizer tests conducted on cotton this year on the Ernest Geer Farm at Lebanon and on the Bob Colvin Farm at Eden indicate that 100 pounds of available nitrogen applied at chopping time as a side dressing does pay at least on these farms. This is the first time that commercial fertilizer on cotton has shown any results in Graham County.

BOB COLVIN: EDEN: COTTON FERTILIZER TEST: ② : JUNE 10, 1953

- Treatments: 1. 0 - 0 - 0
 2. 50 - 0 - 0 (Take soil sample from rear each end of each plot receiving NO fertilizer)
 3. 100 - 0 - 0
 4. 100 - 50 - 0



600' →



Stake in north row of each plot; plots are 4 rows wide

Picking Results on the Bob Colvin Farm
Cotton Fertilizer Test - 1953

	<u>1st Picking</u>	<u>2nd Picking</u>	
#1 - no treatment	91 78 79 68 <u>316</u>	95 75 109 111 <u>393</u>	709
#2 - 50 lbs. Nitrogen	100 75 82 86 <u>343</u>	115 107 90 110 <u>422</u>	765
#3 - 100 lbs. Nitrogen	104 92 87 76 <u>359</u>	115 79 115 153 <u>462</u>	821
#4 - 100 lbs. nitrogen and 50 lbs. phosphate	86 75 85 75 <u>321</u>	132 86 102 139 <u>459</u>	780

32

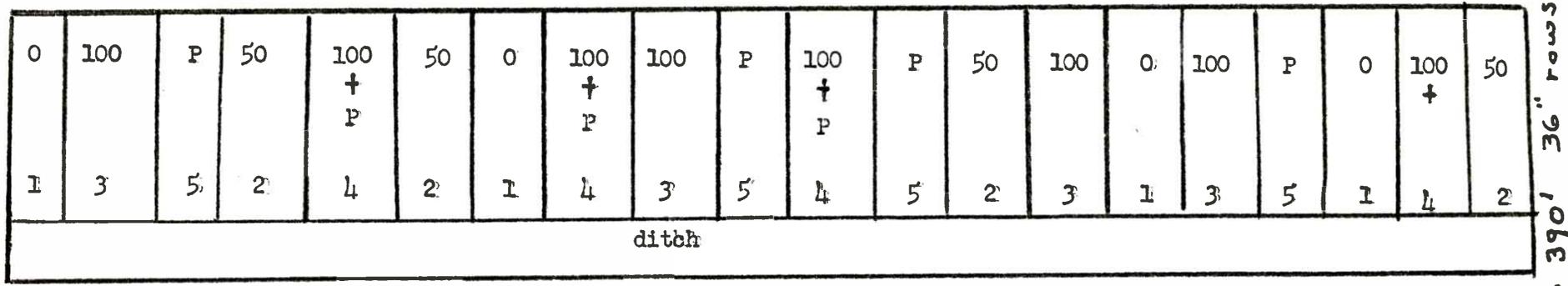
ERNEST GEER: SAFFORD: : : COTTON FERTILIZER TEST: JUNE 9, 1953

Treatments:

- 1. 0 - 0 - 0
- 2. 50 - 0 - 0
- 3. 100 - 0 - 0
- 4. 100 - 50 - 0
- 5. 0 - 50 - 0

1 soil sample from each end of each plot receiving NO fertilizer

Plots are 2 rows wide, stake is in South row of each plot



390' 36" rows

N ... ←

54 quad rows to south side of field

Picking Results on the Ernest Geer
Cotton Fertilizer Test - 1953

	<u>1st</u> <u>Picking</u>	<u>2nd</u> <u>Picking</u>	
#1 - no treatment	44 lbs 29 24 <hr/> 97	20 lbs. 17 9 <hr/> 46	143
#3 - 100 lbs. nitrogen	65 35 29 <hr/> 129	38 27 15 <hr/> 80	209
#5 - 50 lbs. phosphate	42 30 28 <hr/> 100	24 13 11 <hr/> 48	148
#2 - 50 lbs. nitrogen	47 55 28 <hr/> 130	23 29 9 <hr/> 61	191
#4 - 100 lbs. nitrogen, 50 lbs. phosphate	62 50 39 <hr/> 151	29 24 17 <hr/> 70	221

#7 - Agronomy

A. - COTTON (Continued)

4. Cotton Insect Control

Situation - Cotton insect control is a major project of the Agricultural Extension Service in Graham County because cotton is the principal cash crop, and the lack of proper cotton insect control can ruin a cotton crop in one season. For several years dusting with ground machinery was the principal means of application but in the last few years the airplane has been the chief means of application.

A close check of cotton insects was made by the agent at all times during the season when cotton insects do the most damage. A report was made each week by the agent to Dr. J.N. Roney, Extension Entomologist, describing the cotton insect situation in the county. Information for the checks was gathered by personal checks of certain fields in each area, interviews with commercial companies doing insecticide work, and with members of the Bureau of Entomology making regular cotton insect checks in this area.

Dr. Roney visited the county three times during the heavy cotton insect season to work with the agent in identifying insects and evaluating the results of certain insecticides applied.

The chief concern during the later part of the season was the control of the cotton aphid. Aphids were found in damaging numbers in about 90% of the long staple fields and to some extent in short staple fields. Dr. Roney and the agent made a radio broadcast at this time, warning farmers to dust their fields if "honey dew" from the aphids was damaging the growth of the plant or the cotton which was opening. Newspaper articles were also written on this same subject.

Some fields were sprayed with Systox for the control of the aphids for the first time this year. This material is a little higher priced than BHC but it gave almost a 100% kill. It is recommended for use as a spray by airplane application or ground machinery for the control of mites and aphids.

#7 - Agronomy (Continued)

A. - COTTON (Continued)

5. Classification and Market News Service

Situation - For many years cotton growers had to sell their cotton practically "in the dark" with reference to its quality. They had no way to ascertain whether or not they were getting market price, for the quality of cotton they were producing. Buyers in the valley bought on what was commonly called the "hog round" basis. That is, they paid everyone on the basis of the value which they placed the the poorest quality of cotton which the farmer had. For about ten years this office has assisted farmers in organizing the Graham County American Egyptian Cotton Improvement Association and the Graham County Upland Cotton Improvement Association. Some years this has taken considerable time because the organization papers required the names, addresses, and acreages of all growers of each different variety. As a result of this work farmers are now supplied free of charge with the classification of their cotton by the U.S.D.A. Market News Service. Classification of cotton cards are ordinarily left with the gins and buyers can and do purchase the cotton directly at the gin on the basis of these cards.

During 1953 this service is being continued, and the county agent's office has assisted in organizing the associations.

6. Cotton Plant Diseases

Situation - The major plant disease of the cotton in Graham County is root rot. Another major disease is cotton wilt - verticillium wilt - which was first noticed in 1938. Other disease which have appeared during some years are: Rhizoctonia, or "sore shin", "black arm", angular leaf spot (boll rot), root knot (nematodes), bacterial blight, and rust.

This year root rot was the principal disease affecting yields of cotton in Graham County. It was estimated that 10% of the crop was lost because of root rot. Crop rotations forced on farmers because of the government cotton acreage allotment program may help cut down on the root rot infestations.

For the first time in several years there was very little damage from verticillium wilt.

Newspaper articles and radio programs were used to tell farmers about the diseases and what they could do to combat them.

7. Defoliation

The defoliation of cotton is becoming more popular each year. This is because machine cotton picking has become more popular and defoliation is partly the answer to preparing cotton plants for machine picking. In fact, as far as the experiments at the Sacaton Station are concerned, the only real advantage to defoliation is machine picking. Some farmers wanted to get their crop off in a hurry to plant barley and there is some advantage to this.

The bulletin entitled "Defoliating Cotton in Arizona, 1953" was sent to every large grower of cotton in Graham County.

#7 - Agronomy

C. - ALFALFA

1. Culture

Situation - The acreage in alfalfa seems to vary from year to year according to the price of cotton. If the price of cotton goes up alfalfa is plowed under and planted to cotton; if the price of cotton goes down, there is an increase in the acreage of alfalfa. With the price of cotton going up for the past five years we have very little acreage left in alfalfa. Even some of our dairymen with large herds plant and harvest cotton, and take money from its sale to buy alfalfa hay. Much alfalfa hay is shipped into this area from the Salt River Valley.

Our alfalfa stands do not last nearly as long as they did formerly. Some old time farmers tell of alfalfa stands lasting 20 years; now if the stand lasts from three to five years it is considered to have done very well.

Fertilizer tests were tried out last year, and are again being tried this year on the field of Ned Daley of Thatcher. A chart showing the applications of phosphate which is being used follows this section.

Below are shown the results of applying treble superphosphate to the alfalfa field of Ned Daley:

Cutting	Check (Bales more or less than fertilized border)
1st	- 5
2nd	0
3rd	- 3
4th	- 3

Mr. Daley is convinced that the application of treble superphosphate on alfalfa pays.

#7 - Agronomy

D. - GREEN MANURE CROPS

Situation - There have been sporadic attempts at growing green manure crops. The ones used have been sour clover and barley. Where sour clover has been grown in the Lebanon District it has always shown beneficial results in the succeeding crop. Where barley has been grown and plowed under it did not show results until the last few years. In recent years we have been adding at least one sack of ammonium nitrate to each acre of barley before it was plowed under. This has caused the following crop to start rapidly and make a good growth.

Because our farmers have thought that they had to get their cotton planted by the middle of April, they were not satisfied with clover as green manure. Clover makes its most rapid growth in April after having been planted in the Fall. Now that our farmers who planted cotton the first part of May can still make a good crop, they are beginning to think more of green manure.

The practice of sowing barley in cotton for a green manure crop has become quite prevalent in the last few years. It was first started by Dr. Lavelle Hoopes of Thatcher.

This spring farmers sowed barley in the cotton figuring on some moisture after the last irrigation to carry the barley along until the crop was off. This was a very dry year, and it did not rain in September or October, so that most of the fields dried up and the barley died. In normal years this practice has worked out very well.

#7 - Agronomy (Continued)

E. CORN

Situation - There has always been a small acreage of corn but it has never been a commercial crop. It has practically always been fed on the farm on which it was grown. The principal variety has been "Mexican June". A few years ago the former agent brought in some hybrid Texas strains which grew here with fair success. They matured earlier than "Mexican June", and have been quite successful and popular as roasting ears.

The Safford Experimental Station has conducted variety tests on corn for several years. They have found some hybrids which look very favorable for this locality. Ordinarily, however, the hybrids have smaller stalks and do not produce as much forage as "Mexican June". As practically all of our corn now goes into a silo, the old "Mexican June" is still our favorite.

Mr. L. A. Nelson and Mr. Nephi Williams of Safford, Arizona, each raised certified "Mexican June" corn this year. The Extension Service office assisted these two men in getting their fields certified. Certified "Mexican June" corn will be in demand next year because so many farmers will be planting crops in place of cotton.

#7 - Agronomy (Continued)

F. WEED CONTROL

Situation - The weeds which cause the most damage to crops in this county are Johnson grass, Bermuda grass, bindwee, horse-nettle, puncture vine, morning glories, and pigweed. In the west end of the valley there is also quite a heavy infestation of cockle burs. For many years the county agent has been using different kinds of chemicals in an effort to control these weeds. The puncture vine has been easily killed along the highways and fence rows and in lawns by oil sprays and by use of 2-4-D. Horsenettle has been killed in demonstrations with only two spraying of 2-4-D. Cockle burs have been killed by spraying with 2-4-D in demonstrations at the Eden and Ft. Thomas communities.

A few demonstrations have been given on the use of 2-4-D in controlling bindweed. The use of this material has almost been stopped because of the effect of its fumes on any neighboring cotton. Three-fourths of the Graham County acreage is in cotton.

Johnson grass has been sprayed along ditch banks with fortified oil sprays. This has been quite successful where at least six sprayings have been used during the season.

The CMU test put out on annual morning glory on the farms of Grant and Reed Morris, brothers, was quite successful. This was applied on farms near Solomon on cotton fields. As a result of these test plots the Morris Brothers treated 80 acres with this material.

This is the report on the test as given by Mr. Reed Morris and in turn reported to Mr. H. Fred Arle of the Bureau of Plant Industry by the agent:

Mr. Reed Morris said that he was very well satisfied with the CMU treatment, in fact he treated the rest of his acreage with it. He used 1-1/2 pounds of CMU to 30 gallons of water to the acre. Mr. Morris also stated that the CMU also killed the ground cherries. He is planning on putting it on all of his cotton acreage next spring before the morning glory emerges. He said some of the morning glory came up after the treatment with CMU, but it died in a short time. He also stated that wherever the machinery was plugged up and an extra amount of CMU was

applied, it killed the cotton. This would indicate that the material does not move very far in the soil.

Mr. Morris feels that even at the present cost, this early application in the Spring would be justified on his fields.

V. PROJECTS

#8 - Irrigation

A. - WATER SAMPLING

Situation - The big problem in irrigation is the conservation of water, and this has been the problem for the past ten years. There has not been near the water supply that our farmers need. Our farmers are not given an allotment of the water until after there is storage at the Coolidge Dam 65 miles west. The allotment is usually made in January and in one-half of the storage water. This the farmers can get provided it later comes down the river. Water stored 65 miles away with no means of getting it back is of little assistance. Because of this our farmers have had to rely mostly on pump water - there must be in the neighborhood of 400 pumps.

Some of these wells are very alkaline and injure the ground after they are used for a few years, leaving a heavy salt deposit. This year, and for several years past, the county agent has sent in lots of samples of water to the University to be tested for salt content. After the analyses have been returned an explanation of the meaning has been furnished to the farmers and discussed with them. Where the water has been high in salts the farmers have been encouraged to use it sparingly, and to use river water whenever possible to try to leach out the salts deposited by undesirable pump water.

B. - WATER CONSERVATION

Situation - The canals and ditches in the Gila Valley are a great source of water loss. There are approximately 117 miles of canals supplying water to our farms. None of these are lined to prevent water loss. Most of them have very heavy growths of cottonwood and willows which waste water. Besides the twelve canals, there are many miles of smaller irrigation ditches, all of them unlined until 1950.

Ditch lining started in a small way in 1951 as the result of a demonstration planned by the Extension Service and carried out on the farm of Dick Layton at Artesia.

During 1952 several individual farmers did small amounts of cement ditch lining. Even the Lebanon Ditch Company started

lining the ditch on Marajilda Canyon to their reservoirs 3½ miles away. This ditch for years lost all the way from 50% to 80% of the water.

During 1953 increased activity has been shown in ditch lining principally due to the fact that the Gila Valley Soil Conservation District purchased ditch lining machinery and did custom work.

V. PROJECTS

#10 - Entomology

A. Insect Control

Situation - When DDT and other insecticides came on the market about ten years ago we thought the insect problems were over, but on the contrary, it has increased with the years. It is true we have some very good insecticides and they certainly beat the old fly paper and Paris green days, but insects to continue to be a number one problem for Extension workers.

Dr. Roney, Extension Entomologist, has done a wonderful job of providing the agents with literature and in helping agents keep up-to-date on the latest insecticides and on insect identification.

For specific work done in the field of entomology the following sections of this report include the special phases:

1. Fly Control
 - Dairy Cattle
 - Poultry
2. Horticultural Insects
 - Horticulture
3. Cotton Insect Control
 - Agronomy
 - Cotton Insect Control

B. Apiculture

Situation - Our records show that there are in the neighborhood of 20 beekeepers in the county with over 3200 colonies. In the past bee men had some difficulty in working out plans with farmers regarding the dusting of cotton fields. The Extension agent helped to work out satisfactory arrangements for both.

Mr. Bert Morris and son set up an excellent honey display at the local county fair. The agent arranged to have Mr. Grant, the State Bee Inspector, judge the exhibits. Besides being very educational, this display was a good advertisement for the bee business in Graham County.

November 7, 1953

ARIZONA FARMER



▶ A major attraction inside the main exhibit building at the Graham County Fair was the apiary display set up by Albert and George Morris. Here George points out a queen cell to John Sears Jr.

V. PROJECTS

#11 - Soils

A. - SAMPLING AND TESTING

For many years this office has given information to farmers on how to take soil samples. These samples have been sent to the University for analysis. Copies of the analysis have been given to the farmer and to the county agent. The files contain many copies of soil analyses taken from all parts of the county. Good use has been made of Extension Circular No. 108 entitled "Interpretation of Soil Analyses", helping the farmers to understand what the soil analysis means.

No doubt many of these analyses have done much good by pointing out suggested changes in cropping systems to help the alkali condition. Some improvement has been brought about by change in the methods of irrigation and planting on alkali soils.

The agent was appointed Chairman of a committee to conduct a county-wide soil conservation contest for high school students. This contest is sponsored by the Gila Valley Soil Conservation District and the Valley National Bank of Safford. Among other things the contestants are required to take soil samples from their farm and send them in to be analyzed. When the reports came back, in each case the agent made a complete explanation of the analysis to the boy.

B. - SOIL MANAGEMENT

This subject has been included in several other projects in this report, including the discussion of fertilizers and green manure crops.

C. - SOIL AMENDMENTS -- GYPSUM

The use of gypsum has been the standard recommendation on soils which show a high alkali content. Our farmers have intermittently over the past six years, used gypsum in considerable quantities. Very few of them have praised the results they have secured from its use. It might be that we have not secured the desirable results due to lack of sufficient water to carry it into the soil. Considerable experimental work has been done at the Safford Experimental Farm on the use of this soil amendment. The results have been discussed at the various field meetings held at the Station. Nothing conclusive has been reported, except that it has made the soil more mellow at planting time.

The gypsum test on the Sam Shirley Farm, Ashurst, Arizona was checked on November 25, 1953 by the agent. Mr. Shirley reported that this year the gypsum seemed to have no effect on the cotton yields whatsoever. The material was applied in 1952 at the rates of one ton and five tons per acre.

Mr. Shirley did report that it did make a difference in his grain crops, and when watering his grain it took a whole lot longer to get water across the field where it was treated with gypsum. He has, however, come to the conclusion that he could do just about as well by plowing under manure and trash combined with a crop rotation program.

V. PROJECTS

#12 - Rural Sociology

Situation - For the past two years the Extension Service has not had a specialist in rural sociology, and consequently the program has not been too aggressive. However, the Extension Service has helped to improve living continually through landscaping, providing plans for septic tanks, indoor plumbing, and better housing.

A. Farm Safety

Farm safety cannot be over emphasized. Farm accidents are too numerous even after years of campaigning by all agencies and farm organizations.

The first meeting of three Graham County 4-H Tractor Maintenance clubs was devoted to safety. A demonstration on the proper hitching of implements to tractors brought the story close to home. Adults attended this meeting, and 30 4-h-ers. They will always remember to always hitch to the drawbar on any tractor.

The agent furnished plans for a safety bull pen to the Mattice Dairy, Pima, Arizona. A scale model kept in the agent's office was also used to help Mr. Mattice make his plans.

It is difficult to estimate the actual benefit of a circular letter to achieve improved practices in farm and home safety. However, a considerable number of favorable comments have resulted from county-wide circulation of two-color safety letters. This means that the people's attention has been focused on items of safety. In October of this year the agent and the home demonstration agent sent such a letter during National Fire Prevention Week, a copy of which is included at the close of this report section.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF ARIZONA
Safford

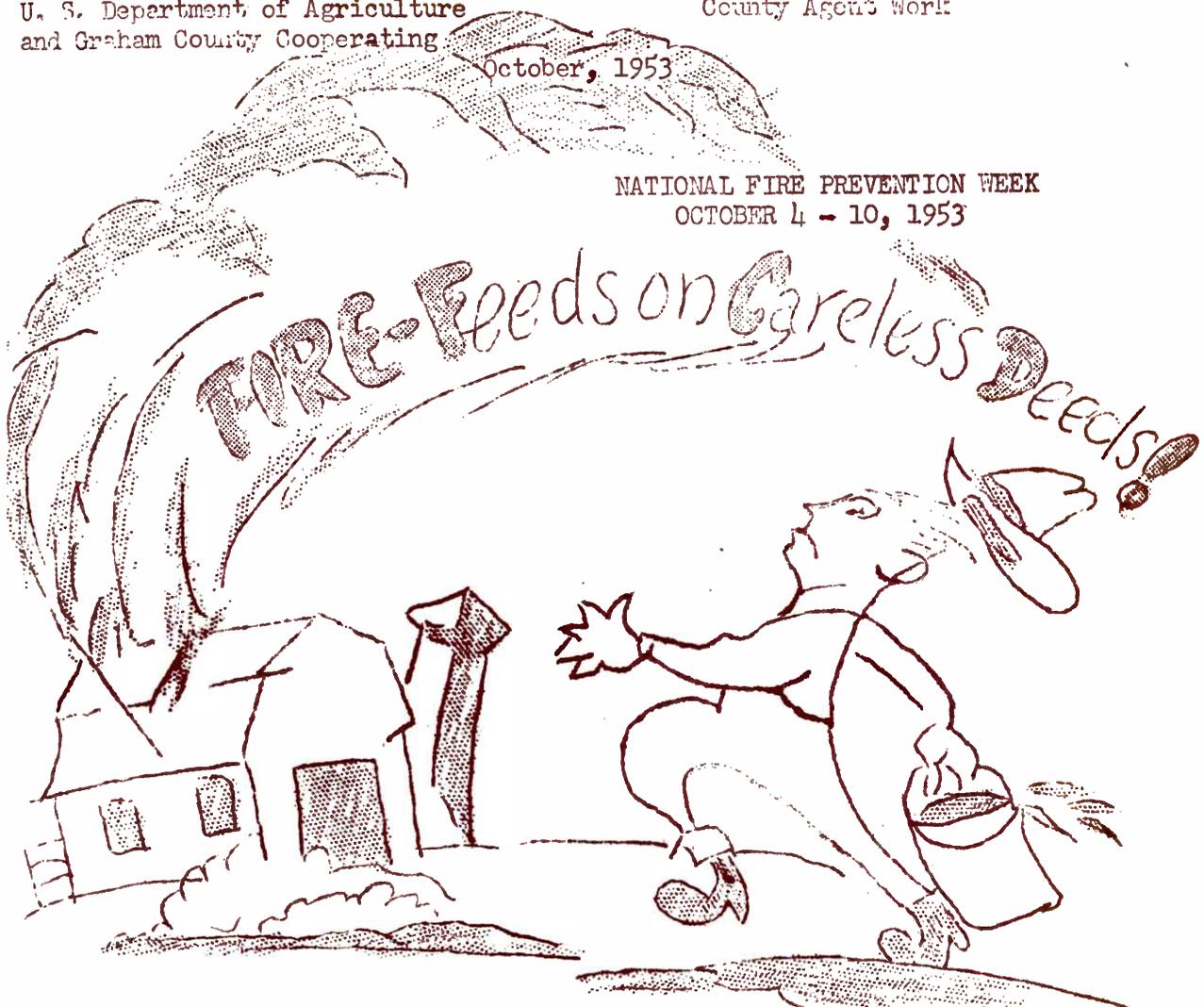
University of Arizona
College of Agriculture
U. S. Department of Agriculture
and Graham County Cooperating

Agricultural Extension Service
Home Demonstration Work
County Agent Work

October, 1953

NATIONAL FIRE PREVENTION WEEK
OCTOBER 4 - 10, 1953

FIRE-Feeds on Careless Deeds!



YOUR buildings - -

are they too close together?

YOUR water supply - -

will it put out a fire?

YOUR gasoline - -

is it safely stored?

YOUR roof - -

is it fireproof?

YOUR matches - -

out of reach of children?

YOUR home - -

do you safeguard it?

Be careFUL - not careLESS!!

Virginia E. Twitty

VIRGINIA E. TWITTY
Home Demonstration Agent
Graham and Greenlee Counties

John L. Sears

JOHN L. SEARS
County Agent
Graham County

VET:JLS:lg
cc: 1,000

National Fire Prevention Week Emphasizes Safety, Protection



**YOUR COUNTY
AGENT**

JOHN L. SEARS

Coming Events: Graham County Fair, October 16, 17, 18, Fairgrounds, Safford, Arizona.

4-H-ERS: It's time to turn in those record books! Complete them now and turn them in to your leader. County and national winners are picked from your records.

The Dairy Herd Improvement Association year is drawing to a close. If you would care to start the year off right by joining the local Dairy Herd Improvement Association either contact your county agent or Mr. Freeland Moody, Thatcher, Arizona.

Dairy herd improvement records are a necessary part of good dairy herd management. Production records eliminate the boarder cows, prove bulls, and make the dairymen money. It's easier to be a good dairyman with production records to follow.

This is a list of your dairymen in Graham County who belong to the Dairy Herd Improvement Association: W. O. Tyler and Ed Brown, Ft. Thomas; Vance Marshall, W. B. Mattice & Sons, Osmer Crockett, Silas Jarvis, Ferrin Brothers, and Alma Bryce of Pima; Carl Morris, Safford, Frank Skinner, Safford, Rex Black, Geronimo; M. M. Larson, and Don Curtis of Solomon; Ed Smith and Maurice Reed of Safford.

Fire Prevention Week, to be observed throughout the nation October 4-10, is a means of directing public attention to the ever-increasing need for greater fire safety and protection in your community. Again this year, the National Board of Fire Underwriters is calling on communities everywhere to engage actively in this campaign.

In general, individual community activities are directed through local fire safety committees, which assume the responsibility for the week-long campaign without duplication or overlapping of effort.

The committees usually are composed of municipal officials and representatives of fire departments, civic and educational groups, schools, churches, the fire protection and public service organizations of the insurance business, and various other volunteer agencies.

A National Observance For 34 Years

Fire Prevention Week, so dedicated by Presidential proclamation for the last 34 years, actually originated years before in the Middle West. There many communities annually conducted special "clean-up" campaigns. As a result of such activity there were fewer fires and soon communities began referring to their "clean-up" day as Fire Prevention Day.

As the years went by most communities began observing Fire Prevention Day on October 9, the anniversary of the Great Chicago Fire of 1871.

Thus it came about that in 1911, 22 governors issued proclamations calling for statewide observance of Fire Prevention Day. Nine years later President Wilson issued the first Fire Prevention Week.

Good poultrymen have been continuously on an all-year culling program. However, now that pullets are starting to produce and are being in the laying house, give them the culling that really counts.

There may be some birds in the flock that have developed undesirable characteristics recently. Get rid of them. If you missed some undesirable birds at previous cullings catch them now. Don't leave them in the flock. If you're new to the poultry business and aren't sure what to look for, stop in at, call, or write my office for Circular 200, "Culling Poultry for Profit."

Desirable birds will have a broad pelvic measurement, deep pelvic keel measurement, deep body, and a full head with a full comb and wattles. Keep the birds with prominent eyes and relatively short beaks. Consider feathering; rapid feathering is a sign of early maturity.

Cull out the slow-developing, slow-feathering birds. Look for crowheaded, small bodied birds. Keep on culling while the birds are in the laying house too. Eliminate poor layers from the flock.

When culling consider the particular strain of birds, know the composition of the ration used, how much supplemental feeds have been used, and whether parasites or diseases have been present in the birds.

Your old hens should have been culled according to characteristics last year, so this year cull them out as they stop laying. A hen eats as much feed when she is out of production as she does when she's in. Put the feed in a laying bird.

I had a very good meeting last week with the Ft. Thomas 4-H Club, known as the Hoof and Horn Club. Almost all members were present, and turned in completed records. Mr. Earl Black is the leader, and Gerald Black is president of this club. Other officers are vice-president, Ray Tyler, secretary-treasurer, Ross Tyler, and reporter, J. B. Hawkins.

These boys and their leader are getting ready to do some judging, and hope to send a judging team to the State Fair this year.

Of course the 4-H club meeting wasn't just work. We had good fun playing games, and the boys seem to be enthusiastic about 4-H club plans for County Fair, State Fair, contests, and the new club

V. PROJECTS

#14 - Plant Pathology

Situation - Plant pathology is important to the agriculture of the county and state because of the numerous diseases affecting agricultural plants of different kinds. The Extension office continues to get requests to examine everything from dying roses to root rot in cotton. It is necessary to have a wide range of knowledge in this field and to have a good laboratory service on these problems. Up to last year the Extension Service was somewhat handicapped in this field because of the lack of an Extension Pathologist to handle problems and assist the agents in plant pathology problems.

Plant diseases in this county as covered in this annual narrative report are shown under pertinent sections as follows:

1. Horticulture
2. Agronomy
Cotton Plant Diseases

V. PROJECTS

#15 - Cooperation With Other Agencies

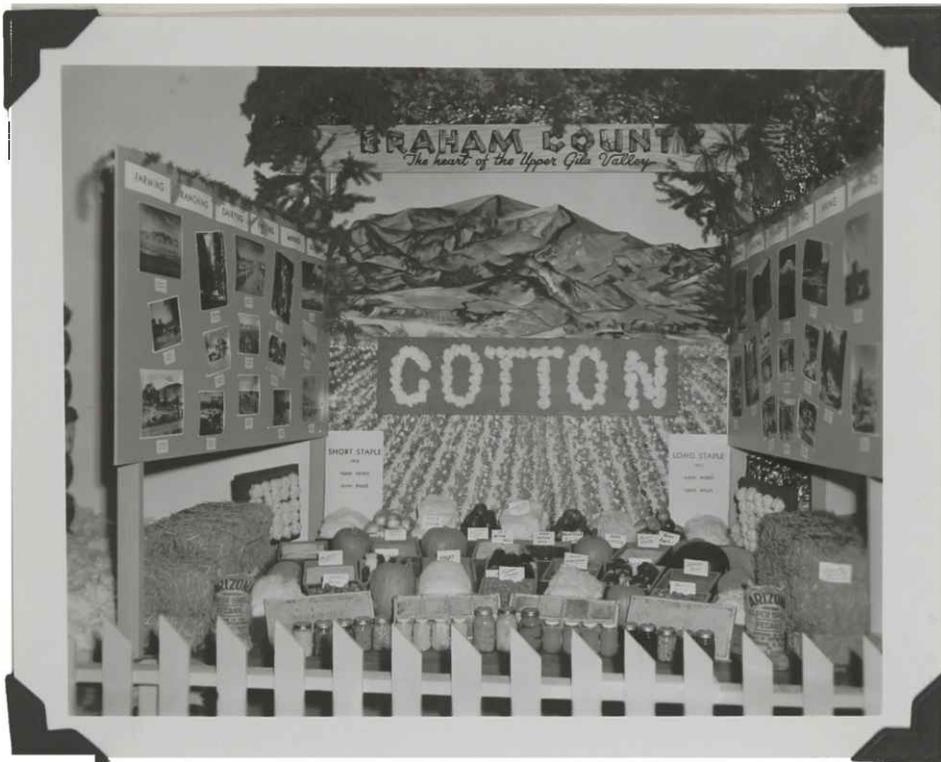
Situation - The Extension Service cooperates with many other agencies, local, county, state and Federal. This is a very necessary function of the Extension Service because its work is so varied and includes so many different people in different phases of agriculture.

Each year the agent is called upon to talk to the Graham County Homemakers' Council. This year the subject was "The Agricultural Outlook for Graham County".

In cooperation with the Farmers' Home Administration a letter was sent to each rancher in the county informing him that livestock loans were available. A copy of this letter follows this report section.

In cooperation with the Soil Conservation Service the agent is serving as chairman of the county committee on soil conservation contests in the schools of Graham County. On many occasions the agent has met with the local Soil Conservation District committee and talked over problems with them. The agent served throughout the year on the local County Agricultural Mobilization Committee which is made up of a representative from each agency.

Helping the Graham County Fair Commission in an advisory capacity was another service performed by the Extension Agent in cooperation with other agencies.



Graham County booth at the Arizona State Fair in Phoenix, Arizona, November 6-15, 1953 - planned by Donald Foote of Eastern Arizona Junior College - this booth won one of the four second place awards of \$125.00 and a red rosette - the Agricultural Agent gave assistance and suggestions when requested

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF ARIZONA

University of Arizona
College of Agriculture
U. S. Department of Agriculture
Graham and Greenlee Counties
Cooperating

Safford

Agricultural Extension Service
Home Demonstration Work
County Agent Work

October 29, 1953

DO YOU NEED A LIVESTOCK LOAN? ?

WHO is eligible)- Farmers and ranchers producing cattle, sheep, and goats
who cannot secure credit from other reliable sources of funds.

PURPOSES, for which loans can be made)-

In General - all normal operating expenses including grazing fees,
feed, farming operations, family living expenses,
repair on fences, replacement of machinery, interest,
taxes and insurance premiums, purchase of livestock for
replacement, and other items.

NO loans for: - Refinancing debts, to establish new livestock
operations and/or commercial feed lot operations,
or purchase of real estate

LIMIT OF LOAN)- According to needs

For further information call or write:

FARMERS' HOME ADMINISTRATION
BOX 167
SAFFORD, ARIZONA

Philip W. Hansen

PHILIP W. HANSEN
County Supervisor
Farmers' Home Administration
Safford, Arizona

John L. Sears

JOHN L. SEARS
County Agricultural Agent
Graham County
Safford, Arizona

JLS:lg
cc: 75

VI. OUTLOOK AND RECOMMENDATIONS

General

At this time the entire situation for 1954 looks very critical. This situation could change however, before planting time. The Gila River was still dry on November 30, 1953, and that is very unusual. Without a flow from the river or snow on the watersheds the recharge necessary to keep the pumps going will be very little.

Cotton

Cotton allotments in 1954 will mean putting the best land in cotton and taking the best care of it possible.

Good cultural methods and the best seed available should be used. A cotton meeting should be held during the winter to bring farmers up to date on the latest research findings. Cotton insect field demonstrations should be continued.

Alfalfa

Alfalfa is an expensive crop to raise in many ways but it works into a rotation fine and certainly helps alkali soil to improve.

A final demonstration on the use of treble superphosphate should be made. Phosphate may be the answer to cheaper production.

Plant Diseases

Root rot is our top plant disease. Crop rotations and manure will help the cotton farmer to fight this disease and he must be urged to do so.

Many of our diseases can be prevented by planting resistant crops. This is also the case of plantings of shade trees and many shrubs.

There is a need to discourage the planting of cotton varieties that are susceptible to wilt.

Weed Control

The control of bindweed is a number one problem in some areas of the county. Demonstrations on the control of bindweed should be established.

More demonstrations on the use of the chemical CMU should be planned on annual morning glory in cotton.

Irrigation

The conservation of water is becoming more necessary each year. Demonstrations on penetration, measuring loss of tail water, and cement lining of ditches should be pushed.

Livestock

Livestock feeding may be quite a large part of the farming enterprise in Graham County in 1954. Cotton allotments will force farmers to raise grain and hay. Feeder cattle can be purchased early and fed to a certain degree at least in the Safford valley.

The Extension Service should have information on rations to be used by the farmers which are based on feeds available in this area.

Dairying

At the present time dairying is an important and growing industry in Graham County. The nearby markets in Tucson, Globe, Morenci, and Clifton make Grade "A" milk production a profitable enterprise.

At the present time the D.H.I.A. has a membership of eleven members. This should be increased by five or six to make a nice profit over the job for the tester.

Poultry

Poultrymen do not have too much trouble selling eggs in this area, but they do have trouble in disposing of their

cull birds. This problem should be presented to the Extension Agricultural Economist for a possible solution to this marketing problem.

Malathon has proved itself as an insecticide for control of flies in poultry houses. The poultry fly control program should be continued next year.

Home Beautification

Home beautification work should be continued. Demonstrations on landscaping and care of shrubs should be continued.

Fire and Accident Prevention

Fire and accident prevention is a continuous process. Radio talks, newspaper articles, personal contacts, and circular letters should be used to publicize.

4-H Club Work

4-H club work will take a considerable amount of the agent's time during the next year because several clubs have failed in the past and the program must be kept going.

The tractor maintenance project program inaugurated in the Fall of 1953 should help to strengthen 4-H club work.

Fairs

The county agent should act in an advisory capacity to the county fair commission and do everything possible to build up the county fair. The agent should urge people to take exhibits to the fair and give the fair a boost whenever possible.