

DUNCAN . ARIZOMA.

Headquarters

UNIVERSITY OF ARIZONA EXTENSION SERVICE

FOR

GREENLES COUNTY.

SECOND ANNUAL REPORT

OF THE

COUNTY AGRICULTURAL AGENT

FOR

GREENLEE COUNTY

PERIOD

FROM NOV L. 1924 TO HOV 1, 1925

BY

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COUNTY AGRICULTURAL ACENT

DUNCAN, ARIZONA

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STATUS OF COUNTY EXPLUSION ORGANIZATION.

The County Agent has found it best to work through the existing organizations and to create new ones as the occasion arose. It is realized that this system is not ideal, and the hope is to eventually develope a farmer's organization which will meet their needs. The following paragraphs are in brief, a list of organizations which have cooperated with the work in this county.

Er. Jesse B. Signs, President of the local Farm Bureau, Assists with the work in the county through advising the Agent, and assisting with many of the projects carried on.

A cotton marketing organization was perfected during the early part of the year. This organization was found to be the greatest value in disseminating information relating to better methods of planting and irrigating cotton. The agent has discouraged the tarketing phase of the organization to some extent, as it is his opinion, that during a period of deflation and of falling prices, there is only one thing to do with a farm product, and that is, sell as soon as it is in saleable condition. It is the opinion of the directors of this organization to assist but not dominate the cotton industry of Duncan Valley.

The Greenlee County National Farm Loan Association, Organized by the local Farm Bureau when active, is still doing a very creditable work in Duncan Valley. Four applications for loans have been received during the year. Due to the lack of finances allotted to the western district controlled at Berkeley, California, and to flood danger, no loans were made on applications received this year.

The Franklin Irrigation District was petitioned by the balance of the land owners of Duncan Valley, to annex their land to the said irrigation district, for the purpose of protection of water rights, investigation of storage possibilities and to introduce a more regulated system of irrigation in the valley. This has been completed and progress is being made by the Board.

Some very good cooperative effort resulted from the organization of a Community Club. The meetings were discontinued during the summer and heavy work period of the year. It is the purpose of the Glub to act as boosters for all progressive movements. The Club activities are confined to the winter and early summer months; as this is the period of the year when work on the farms is the quietest.

In the opinion of the County Agent it will be some time before any organization can be perfected which will meet the needs of the valley along agricultural lines. Many different factions exist and are the cause of constant friction among cooperators. It is mainly a problem of educating individuals in seeing the value of cooperative effort, and to eliminate individual prejudices.

The County Agent has cooperated in the starting and carrying on of a local newspaper. This has been of value from a publicity standpoint of the work.

The County Agent assisted in organizing a local American Legion Post. This organization has carried on a Duncan "Home Beautiful" campaign.

The Agent cooperated with the local Woman's Club in putting on a Better Homes Week program.

A Fire Department of Duncan was organized for the purpose of developing means of fire protection for Duncan.

IV.

#### PROGRAM OF WORK

Goals established, methods employed and results achieved.

(1) Factors condidered and methods used in determining program of work.

The extreme diversification of crops, many of them equal in importance, and all in need of more scientific cultural methods have been factors contributing to the wide spread of effort in the program of work.

Unfinished projects started by the former County Agent have been carried with the years program of work.

The rapid development of the poultry and cotton industries in the Valley, due materially to extension work along these lines have called for an increased amount of effort along these lines.

The annual water shortage of May and June and damage of summer floods are factors upon which the work towards an irrigation district to develope storage of water and its proper distribution were based.

The excellent local market, and the results of production in past years have led us to believe that work along the lines of truck farming, insect and disease control would be of a very great value as the industry develops.

The County and State Fair have always claimed a large part of the Agents time, and very likely time rightly spent, since it is an annual demonstration of the agricultural development in the Valley.

Due to the fact that the community is small and to the favorable position of the county agent; it has been necessary to include in the program of the year a large amount of community activities not as a rule considered extension agricultural work, however, much of this has called for not regular work hours, but more in the nature of evening meetings.

- (2) PROJECT ACTIVITIES AND RESULTS
- (b) FARM CROPS

C OTTON VARIETY TESTS.

Three demonstration plots were established under field conditions to test in each three varieties of cotton, acala, Mabane and Lonestar. About an acre was used in each plot. The plot on Mr. Eggleston's farm was unsuccessful, due, to Johnson grass difficulties.

The plot on the Spoon ranch has not been completely picked, but the indication is that acala will yield the largest number of pounds; while the Lonestar has opened sooner and has more cotton per boll with a longer lint.

The plot on the High School grounds under the director of the Smith-Hughes teacher of agriculture, Mr. Glen E. Blackledge, will no doubt be of the most value. This plot not only has three duplications of each variety; but also carries an irrigation test and a test of spacing. The indication from the first picking, is, that the Acala spaced at 8 inches, is making the best yield. The complete data from the plots will be compiled and conclusions drawn when finished.

#### COTTON SCHOOL.

A Cotton school was held on February 25th, with the cotton specialist, Mr. B. J. Showers in charge. Two sessions were held, 25 farmers were present at the first and 14 were present at the second meeting. Photographs were used to illustrate the cotton root growth and its relation to irrigation. Cotton Organization, irrigation of cotton, and cultural methods were discussed. The purpose of the school, that of encouraging the proper use of irrigation water and better cultural methods, was put across in good shape. The school was a success and this type of extension work where a group can be gathered together and discuss their problems with a specialist, is the best form of extension service in the opinion of the County Agent. The results from the work of the extension service have been demonstrated in the doubling of the yield per acre in cotton this year over last year.

## COTTON MARKETING ORGANIZATION.

Twelve Cotton farmers organized an organization to help with the cotton problems of the Valley, Mr. Roy D. Williams, President, Joseph Mortensen, Vice-President. Alvin Warner, Sec. Tres. The purpose on the start was to assist in securing seed, ginning, grading and marketing of cotton, however, it was found that with so small

a membership; it would be unwise to carry out the program. Instead, the best efforts of the organization have been to assist in encouraging better methods of irrigation and culture. The organization encouraged an individual to remodel the small gin and put up a two stand gin with the very best of equipment for cleaning and pressing the cotton. This was done and has been of great value to the cotton industry of the Valley.

#### COTTON IRRIGATION.

Through the cotton school and by farm visits as well as through the local paper, the county agent has advised the use of water during the winter on cotton land, with the idea of getting a season of noisture in the soil which would carry the cottn plant through May and June until the summer rises come in the river. Over 60% of the cotton acreage followed this system, and in every case a successful stand was the result. About 15% of the remaining 40% was plowed up due to not getting a stand through the lack of moisture. The County Agent used the soil auger on four fields demonstrating the depth of moisture penetration in the soil. It was found that 60 hours of water during the winter will penetrate about 30 inches of adobe soil. No difficulty was found in getting good penetration in silt or sandy land. Where the moisture had penetrated to 30 inches on adobe land an additional 24 hours of water did not increase the penetration depth, when put on after the growing season had started. Roughly, the conclusion was that deep water penetratzion can be had by winter irrigation in adobe soil.

#### (c) HORTICULTURE.

CONTROL OF CABBAGE PLANT LOUSE.

A large amount of damage is caused by this insect every year. Last year the Agent demonstrated the use of kerosene emulsion on a three acre field of late cabbage. The field was cleaned up and no damage resulted. Due to the early rains this year the insect did not have an opportunity to do much damage except to very young plants. Nicotine sulphate or black leaf No.40 has been used on three fields of cabbage in controlling this pest.

## EARLY PLANTING OF BEANS WITH INSECT CONTROL.

Early rains of this season eliminated any serious damage caused by Mexican Bean Beetles or Bean Lady Birds. However, the pest was present in limited amounts throughout the season. The Agent demonstrated the use of zinc arsenate, I pound to 9 pounds of hydrated lime i a dust form on I acre of beans belonging to S. S. Francese. It was found that the dust in no way damaged the blants and readily eliminated the larva of the Bean Lady Bird which does most of the damage in this locality.

### NIGHT CAPS FOR EARLY VEGETIBLE PLANTINGS.

3,000 paper caps were used by Mr. Francese on tomato, watermelon and pepper plants. This is the first time these caps have been used in Duncan Valley with the object of planting seeds of tender plants direct to the field from two to three weeks earlier than the period of freedom from the danger of frosts. Their use was a great advantage in the case of tomatoes resulting in about a three weeks earlier developement. In the case of watermelons and peppers; it was found that during the heat of the day the plant became to warm. The damage was checked to some extent by the use of whitewash and muddy water being thrown on the sunny side of the paper cap. Mr. Francese expressed himself as being very well satisfied with the results and plans on using them on all of his early vegetables for the coming season.

#### WATER TELON BLIGHT.

The Agent found that what was generally called water-melon blight was the result of either flooding the vines when irrigating or the presence of the melon aphis. No control measures were used this year.

#### WALKUT GRAFTING.

Walnut grafting was done on four ranches in the canyons of the northern part of the county. The purpose of
this was to establish groves where cion wood could be secured in the future in developing commercial groves. Mr.
Del M. Potter bought \$25.00 worth of cion wood from Mr.
Biederman of Hereford, Arizona, which the County Agent helped graft onto twenty-eight trees. \$25% of the grafts grew
and made an excellent start. Mr. Potter was gone during
the summer and left a Mexican in charge of the work sho
neglected to care for the grafts, the result being that
only about 20% of them lived through the season. Mr. Potter promises to have a man on the place next year who will
take care of this work. German Giant, improved smooth Franquett, Smooth Franquett, Franquett varieties were used in
the work.

Mr. Chesser and the County Agent put in 27 cions on

Mr. Chessers ranch on the opringerville road. 40% of those are growing and doing well.

The Agent demonstrated the grafting process to a cow boy working on the Spar Cross Ranch on the upper Hagle Crock. 12 cions were put in and with the excellent care given them through the summer, all twelve are making an excellent growth.

#### PAUMING OF ORGHARAD.

The ligent demonstrated the pruning of grapes and fruit trees on ten farms at which 49 people were present. Renovation work was started on three old orchards which have been neglected from six to eight years.

#### VALENCIA ONICHO.

About 15 tons of sweet Spanish onions have been produced in Duncan Valley this season. About 20 pounds of Valencia onion seed has been produced. This is the result of the experimental work started last year by the extension service here to determine the possibilities of producing a marketable sweet Spanish onion in the Valley. It was found that good yields could be had here and that first class seed could be produced. The Agent does not advise the farmers to make too large a planting; but that enough should be planted to meet our local market needs, and to learn of proper cultural and marketing methods so that if other localities find it a profitable crop with good eastern markets. This locality may increase its output later and avoid losses coming from experimenting with a new crop on a large scale.

#### BLAUTIFICATION OF HOME GROUNDS.

The Local American Legion Post of Duncan cooperating with the County agent, put on a Clean up Week for Duncan, giving \$25.00 in prizes to those showing the greatest improvement. Alarge percentage of the homes participated in the campaign by either cleaning yards, mending fences, walks, painting, pruning of trees, hedges and shrubs.

#### PLANTING OF TRES.

Through the cooperation of the Community Club and the schools of the Valley, about 200 shade trees were planted.

(2) RODERIUS FEDERICAY AND AN EN DI COL. GOPHIER CONVICTE :

955 Juants of poison barley has been distributed to 74 cooperators to be used on 1.439 acres of farm ground. The strychnine mixed with a laying much was used in poisoning sparrows. 250 dead sparrows were counted as a result of the poison put out on Mr. lob't Montgomery's place.

Darium Carbonate was used in demonstrating the control of rate and mice on Mr. Joseph Mortensen's ranch. The rate were so bad the people could hardly sleep nights, and were also doing much demage to the buildings and stored o onlone, squash, potatoes and etc. In less than a weaks time through the use of barium carbonate on meat, vegetables, soulted wheat and bread and milk, he further trouble was experienced from the rate. The domney's Bros., store has put in a supply of the poison, and a number of farmers have used it with success.

# (f) AIT & HIJDER IV.

The Agent has demonstrated dehorming of calves and cows on four ranches. Wix calves were dehormed and seven old cows. Fourteen people were present at the demonstrations.

JAR 21. 13.

The Agent demonstrated the control of ear ticks on 148 head of sheep belonging to the landers by the use of thire loop to clean out the war and the use of pine tar and cotton seed oil injected in the ear.

## (h) POJERNY MUSBANDRY.

COMPON OF PISTS:

Twenty-two people cooperated in the use of carbolineum and other preparations in controlling blue bugs and lice. These pasts are very harmful and tend to reduce our production very materially. A test was made on nine held which were placed in a building budly infected with blue bugs; feeding and other conditions were the same. The nine had been laying two or three caps a day; shy remained in the infected house a month during which time they laid only locates. One hen died from loss of blood. Furing the last feed days of the month no east were laid. The house was cleaned and blue bugs

killed by spraying and the eight hens treated with sodium fluride for body lice; at the end of three weeks they were laying three or four eggs a day.

#### POULTRY HOUSING:

Seven houses for poultry were constructed during the year, all of which have corporated in their plans many of the suggestions from the Extension Dervice.

#### POULTRY FLEDING:

Nine Poultrymen have used the advised chick feeding systems with favorable results. Eight Poultrymen have used feeding systems for their flocks which included in part, at least, the system advised by the Extension Service.

#### CAPONG:

The Agent and the poultry specialist, Mr. Boggs, have put on six caponizing demonstrations at which 62 people were present. The fourteen cooperators have produced 250 capons this season.

#### CULLING:

Mr. Borgs, Poultry specialist of the Extension Service and the County Agent have demonstrated culling on six farm flocks, 114 people being present at this work. Sixteen Poultrymen have done some work in culling their flocks this year as a result of the work put on.

#### POULTRY SCHOOL AND TOUR:

Mr. Boogs spent three days in Jamuary in Greenlee County to conduct a poultry school, poultry tour and select breeding pens. Jelection of breeding pen, incubation, brooding, housing and feeding was taken up at the school at which twenty were present. Seven Poultrymen accompanied Mr. Bogs on the tour. Four poultry flocks were visited. A post-mortem demonstration was given at Mr. James Opie's by Mr. Bogs. Different forms of management and building arrangements were compared and discussed. There has been more interest shown in the poultry industry and more progress made, with the exception of cotton, during this year than along any other project. The development of the poultry industry is largely due to the work cone by the Extension Service. However, there is much to be done along this line in the full Markey future.

Remond to be med.
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OHR

Mr. L. C. Boggs, Poultry Specialist, of the Exten-Service. Demonstrating methods of culling laying hens on the Poultry Ranch of Mr. L. T. Christensen's at Franklin, Arizona. Forty-two persons interested in poultry were present at this demonstration.

## (q) CORDBITY ACTIVITIES.

#### COLEMNIAN CLUB:

The Agent assisted in the organization of a Gogginity flub which had as its purpose the festering of progressive movements relating to the community as a whole. Some of the accomplishments of the organization were as follows. Disposing of a building from the main cornor of the town of Duncan which had become unsightly, due to dilapidation.

Fontered the novement to plant 200 trees in the valley for shade.

Fostered the organization of a Fire Department and put on a Firemen's cause, proceeds for the purpose of buying equipment.

Assisted the County Engineer in making arrangements necessary for the midening of the road at a dangerous point on the highway traveled by school busses.

Advocated the cutting of brush and trees on corners of the highway where vision of the road was impaired. The Cangerous corners were remedied as a result.

The club put on a Fourth of July celebration, consisting of a rodec, tarbecus and speeches.

The club assisted in irrigation and school consolidation problems which in a measure became larger and more important than the Club itself, and due to friction and the season of the junk year, meetings were discontinued until harmony would again reign.

#### THE ATTRICAN LCGICH.

The Agent assisted in organizing the local Legion Post, which has i turn assisted with extension work by carrying on a Clean up Week Campaign and has for one of its purposes, that of a more beautiful Dancan Valley. The Legion Post has put on two successful dances and assisted with the Fourth of July celebration program.

## (P) MISCELLANEOUS.

#### IRRIGATION:

Eleven meetings were held and attended by the County Agent, for the purpose of organizing the balance of the walley's irrigated lands into an irrigation district according to Arizonas land. This was cone with the help of



Box Canyon of the Gila River below Cliff Dam Site where twenty-two farmers waded the river fifty-one times to see three purposed dam sites between Redrock and Cliff, NewMexico.

13.

Mr. W. R. Elliott, irrigation engineer, from Safford and Phoenix. The process used was that of petition to the existing Franklin Irrigation District which was accepted. A new Board of Directors were appointed and are now carrying on the work. The purpose of uniting the Valley to work as a unit with the Safford Valley in matters of storage of water, and adjudication of water rights, particularly in relation to the law suit filed by Mr. Eaxter of the U. S. Indian Service to the effect that the Pima Indians would claim priority to all water rights on the Gila river.

Two trips were made up the Gila river to investigate possible dam sites. The Cliff dam site was visited by 22 farmers and one week later 18 farmers visited the upper and lower Red Rock dam sites.

#### COUNTY AND STATE FAIRS.

The Agent acting as a member of the Fair Commission and secretary to the Commission, has supervised the building program on the grounds. hired all labor, developed plans for the fair and arranged for their being put in action. All advertising matter, premium lists, correspondence and such matters were prepared by the County Agent. All accounts of finances, exhibitors and premiumswon were prepared and filed in the County Agent's office. All secretarial work relating to the fair was done under the supervision of the County Agent. All checks, money paid or collected were signed and accounted for by Dr. Briley, Treasurer of the Fair Commission.

A tetal of 901 exhibits were made by 159 exhibitors. 422 exhibits of farm crops and Horticulture. 325 of Home Economics products. 46 head of Livestock were exhibited and 103 exhibits of Poultry. \$950, was paid in premiums. \$5455.20 was spent i financing the Fair.

The Greenlee County Fair is recognized as the biggest and most beneficial celebration we have, and from all reports, is doing a very valuable piece of work in educating farmers along the line of better stock, poultry and commercial farm products.

#### CLUB WORK.

Two Girls 64wing Clubs were organized and completed their work with fourteen members. These leaders were Mrs. Floyd Hightower of Duncan, and Mrs. Tom Arnett of Franklin.

The State Home Demonstration Agent, Miss Stella Mather, assisted in this work.



## Greenlee County Fair Grounds

19 25

There 2000 people attended the Seventh Greenlee County Fair. There 159 farmers exhibited 901 products. \$5,500. was spent in holding the fair and spent in improvements.



Duncan Valley Potatoe Grower's Association Virden, New Mexico.

Loading one of three cars of potatoes shipped from Duncan Valley's \$12,000. potatoe crop harvested from sixty-five acres.

V.

OUTLOOK AND RECONSTRUCTIONS.
INCLUDING SUGGESTIVE PROGRESS OF WORK FOR HERE YELR.

The outlook for the coming year of extension work in Crecules County, is much brighter than has been the case in a number of years. The financial status of the firmer is better than it has been any time since 10%. The cotton crop averaging near a bale and a half an acre has been a very substantial help in putting the furner on his feet financially. The increased income derived from poultry products has helped materially. Other crops have been above the average and have assisted in eathblishing a better condition on the farms of Dancan Valley.

There is on the part of a number of more progra sive furners a realization of a more adequate organization to cooperate with the extension work in this county. The agent believes that this will materialize during the coming year. The Agent is recommending the following as a basis for this organization. There are five communities in the valley in which extension work should be carried on, each of which h ve a district school house which is no longer used for school purposes, but which ought to be used as community club houses. It is the plan to organize each one of these communities into a unit and to hold an extension service meeting in each co munity; at least each of the four outlying communities once a month. In this meeting to use the moving picture machine, charts, University specialists, and if possible to secure a radio which can be moved from place to place; each community center being equipped with its own aerial and ground wires. In this way a much closer contact from a group standpoint can be had by the extension service with the people.

The Agent suggests the following as a program of norms to be carried on in Greenlee County for the next year.

To encourage the proper use of barnyard manare in relation to soil fertilization. To introduce into the Valley the use of sweet clover for pasture and soil improvement. To introduce crop rotation eyetems with clifalfa, grains and cotton.

F.III CROPJ.

JOILU.

Field coclection of coed corn; use of pur seed as seed for cotton planting.

#### HORTICULTURE.

Increased production of cabbage, oneons, potatoes and sweet potatoes. Spraying program for diseases and insects on melons, beans and vegetables. Walmit grafting.
Orchard pruning.

#### FORESTRY.

Increased planting of shade trees in Duncan Valley.

ROD ENTS, REGISTORY ANIMALS AND BIRDS.

Community campaign on gopher control. Control of sparrows. Control of rats by use of Barium carbonate.

#### ANNUMAL HUSBANDRY.

Cattle testing for T.B.
Dehorning of cattle and calves.
Introduction of more farm flocks.

#### POULTRY.

Culling of Farm Flocks.

Better Feeding Mations.

Poultry House Construction.

Brooder Construction.

Produce 400 Capons.

Poultry Pest Control.

### IRREGATION.

Work towards storage of irrigation water. Work towards better systems of distribution of water.

#### COMMUNITY ACTIVITIES.

Organize Community Clubs in each of the five community centers in Duncan Valley.

#### COUNTY FAIR.

Act as Secretary to the Fair Commission.

#### STATE PAIR.

Assist County State Fair Commissioner in preparing exhibit for State Fair.

#### CLUB WORK.

Boys Poultry Club. Boys Sheep Club. Girls Sewing Club. Girls Canning Club.

#### VI.

SUMMARY OF ACTIVITIES AND ACCEPLISHMENTS.

#### COTTON.

Much progress has been made in cotton methods of culture and irrigation. A successful Cotton school was held; three variety tests are being carried to completion, and a Cotton Marketin Organization was formed to assist with cotton problems.

#### HORTICULTURE.

Demonstrations of methods in the control of incects attacking beans, cabbage and other vegetables have been given. Oil paper for covering early planting of tender vegetables were introduced. 250 cions of improved walmuts were grafted into native walmuts by the Agent. Pruning demonstrations were put on in ten orchards. The growing of sweet Spanish onions was introduced in Duncan Valley. 200 shade trees were planted as a result of a tree planting campaign. The Homes and yards of Duncan were cleaned and improved as a result of a flean up Week.

#### ANIMAL HUSBANDRY.

Six calves and Seven cows were dehomned in demonstrating this practice.

148 head of sheep were treated for ear ticks.

#### POULTRY.

Better buildings with improved conveniences are being used by poultrymen; blue bugs and lice are being controlled; better feeding methods are being used by twenty-two poultrymen. 250 Capons were produced as a result of demonstrations given in the work. Six culling demonstrations were given with 114 people present. Sixteen flocks were culled by owners and the agent this year. Asuccessful Poultry School and hour was held.

#### RODINTS.

69 (marts of poison barley was distributed free to 48 cooperators and used on 140 acres of land in controlling gophers.

The use of Barium carbonate was demonstrated in the control of rats.

#### CO MUNITY ACTIVITIES.

The Agent assisted with the following, Organizing of a Community Club and American Legion Post, both of which assisted materially with the program. The holding of a Fourth of July celebration at the Fair grounds.

The Agent was appointed on the Fair Commission and acted as secretary of the commission. A very successful Fair was held.

The Agent assisted in collecting and exhibiting a county display at the State Fair.

#### CHUB WAEK.

Two Cirls Sewing Clubs were organized and completed their work.

#### IRRIGATION.

The Agent assisted in forming an Irrigation District, placing all the land of the Valley under one organization, with the purpose of working towards water storage and better systems of irrigation.

