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ANNUAL REPORT

STATE: ARIZONA COUNTY: YAV&PAI

REPORT OF: CHARLES U. PICKRELL

COUNTY AGRICULTURAL AGENT

FROM DECEMBER 1, 1922 TO MAY 15, 1923

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REPORT OF: HARRY A. STEWART

COUNTY AGRICULTURAL AGENT

FROM JULY 16, 1923 TO DECEMBER 1, 1923

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### III. Status of County Extension Organization.

The County Extension Organization, which is legally recognized by the State Extension Service is the County Farm Bureau. The Yavapai County Farm Bureau was organized so as to meet the requirements of the Senate Bill 109, Section Laws of Arizona. The principle features of this bill are that the County Board of Supervisors are authorized to appropriate County funds for cooperative agriculture extension work and are required to do so when petitioned by the County Farm Bureau.

The Yavapai County Farm Bureau was organized in June 1921. There were a few new members added to the organization during the past year; however no new locals have been organized. In one case, it was found to be more satisfactory to combine two of the locals and make one. Interest has not been so great as it was during the past year but in some locals extremely good interest has been shown. A strenuous effort has been launched with the hopes of renewing the original good work accomplished through the Farm Bureau locals. In most instances it has been found that a greater interest and a larger attendance is maintained if regular meetings could be held only once a month.

Yavapai County measures approximately fifty miles in each direction from the County Seat. This is a great hinderance toward having frequent County meetings and joint community meetings, as well as taking up much of the Agent's time in travel. The types of farming (other than range livestock growing) vary greatly in the various communities. This condition also is not favorable toward the growth of the Farm Bureau.

At the time of the organization of the County Farm Bureau, the State Cattle Growers Association was standing on very weak legs. The outstanding problem of the cattlemen was marketing. The head of the State Farm Bureau, at that time was of the opinion that this problem might be solved by the State organization taking it up with the National committees of fifteen. If this plan had been worked out and the State Farm Bureau had established a State Livestock Marketing plan, no doubt many stockmen would have become members of the County Farm Bureau. There is also a standing prejudice among the cattlemen toward the name, "Farm Bureau" and they feel that they should have an organization of their own. During the past year the cattlemen have become organized into the Arizona Cattle Growers Association and they have now undertaken a marketing plan which has worked out their trouble to a certain extent. This marketing plan has interested many communities and new locals were formed because of this marketing service, and renewed interest shown by the officers of the Association.

About two years ago the Industrial Congress was established in this State. This organization is made up of the organizations representing the industries of the State and here we find the Farm Bureau and the State Cattle Growers Association working in close cooperation. The past Agent, Mr. C. U. Pickrell hoped that before long arrangements might be made, or legislation passed, to the effect that the State Cattle Growers Association could be recognized as an Extension Organization. The need for this arrangement is probably more keenly felt in this County than in any other County in the State. Over 75% of the rural population are engaged in range cattle production. The Agent feels that such a connection between the Cattlemen and the Extension Service could well be formed. Up to the present the Agent has more or less followed the advice and plans of the past Agent and he finds that many great problems are confronting the cattlemen; however it is essential at present, to give his first attentions to the Farm Bureau, which does not include a majority of the rural organization. Already much work and assistance has been rendered by the Agent to the Cattlemen. Excellent cooperation exists between the Extension Service and the cattlemen of the County. There are seven local Cattle Growers Associations in this County with which the Agent works.

There is about half of the grazing area in the County located on the National forest and many of the cattlemen are grazing permittees on the forest, therefore a great deal of work can be done with the Forest Service in assisting to solve the problems which confront the cattlemen. Excellent cooperation exists between the present Forest Service Officials and the Extension Service workers.

IV. Program of work, goals established, methods employed and results achieved.

1. Factors considered and methods used in determining program of work.

In planning schedules for demonstrations, the Agent has found the best results can be obtained by ascertaining the time of the year which is most adapted to the period of the year when environmental conditions effect the communities, or when best results can be obtained because of the type of demonstration. Specialists in the different departments have had much work and this schedule has been taken up in many cases to such an extent that the Agent has had to carry out demonstrations which had been planned to be demonstrated by a specialist. Unforseen happenings in the Extension Department have caused this, and from now on the Agent expects complete assistance.

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In many cases when the specialist's time is limited, the Agent must decide between having a few demonstrations distributed over the County or having several in one or two communities that are located close together. As mentioned before, the time of year is also a very great factor. For example, July, August and September are the best months for poultry culling, July and August for the plant disease control work. Some phases of the range cattle work can best be done in the spring and fall, however, organization work and meetings can best be accomplished with these people in the winter months, for at that time they are not so busy in fathering, branding etc. Much of the work of dairying can be done in the winter months, however much work has been found necessary in the summer, particularly during fly time. In rodent control, the prairie dog extermination work must be carried out during the spring, summer and early fall, as the dogs hibernate as soon as frost comes. Pocket gophers are worked during fall and winter; rats, squirrels and rabbits can best be exterminated during the winter months, because they consume more poison bait at that time.

2. Project Activities and results.

The Agent has more or less followed the plan of the past Agent, and he has found an extremely deversified type of farming. It is very hard to carry on similar projects in this county. The policy has been to select leaders in the different recognized districts and to allow them to act on the particular project at the advice of the Agent. In selecting the project leaders, the Agent has taken into consideration the man's characteristics, such as his local leadership, his devotion to public service, his ability to organize and his ability to maintain cooperation.

a. Soils

The soils of the County, as a general rule have not been given the opportunity to maintain their soil fertility. In some cases farm lands have been known to have grown thirty crops of corn for thirty years. These instances are many and much advice on crop rotation has been given out to these farmers.

Green manuring has also been advocated for many farms, even though of virgin, it is found that humus is needed to a certain extent. Maintenance of a dairy in two communities has been developed by the Agent. In many cases a greater amount of water is essential, plus a great amount of cultivation of crops which has not been in practice in the past

6.

Commercial fertilizer has been advised to one farmer, and it is hoped that good results can be obtained.

Several carloads of goat and sheep manure have been shipped out of the County to points in California. The Agent believes that this had its effect on some of the farmers in showing them what valuable fertilizer can be produced here.

b. Farm Crops.

Four farmers are conducting crop demonstrations, forty-four farmers planted improved seed, all of which they treated for smut.

The Agent has four cooperators in growing demonstrations of alfalfa and has twenty-five farms planting selected alfalfa seed. Five farmers have been furnished with information regarding sweet clover; three in the growing of cow peas, six in the growing of sudan grass, and seven in the growing of hygeria, all of whom were assisted in obtaining selected and improved seed.

Twelve farmers were assisted in obtaining improved and selected beans for planting. In two cases the Agent advised the owner the method of restoring pasture land. In one case the Agent assisted the owner in obtaining a supply of blue stem seed from Colorado.

One result demonstration was started with Irish seed potatoes, ten planted improved seed, and seven of the ten are selling improved seed; while this ten have been treating their seed for disease.

Owing to the fact that there is always a large demand for forage for range sheep, cattle, and dairy herds near larger towns and the cost of transportation on horticulture products in many cases is very high, farming operations are confined largely to the growing of forage crops.

Climatic conditions are also a determining factor. There is considerable land located in the County, that would be suitable to wheat growing if the annual rain fall, which would be sufficient, if distributed, so that there would be enough moisture stored in the soil for late spring and early summer.

None of our forage crops are sure crops here, except, in the irrigated sections. In many cases our forage crops do not start until the summer rains set in and this does not allow sufficient time for maturing before frost.

### c. Horticulture

Next to livestock the Agent has more demonstrations started in tree work than anything else. There are seven result demonstrations in pruning and six in walnut grafting. Demonstrations were conducted in bark grafting. On walnut whip or cleft grafting on deciduous trees, planting, heading and pruning.

The Agent has furnished information as to varieties and where nurseries stock could be obtained to twenty-nine farmers, for securing apples, peach, apricot, plum trees and grape vines. There is a marked increase in the planting of grapes during the past season.

### d. Forestry.

The Agent has started one result demonstration in cooperation with the Forest Service on the control of erosion. This demonstration will extend over a long period of time, but is a phase of work which has created a great deal of interest and undoubtedly a great amount of loss of land to the County.

### e. Livestock.

The outstanding features of the work in this line have been better sires and increased calf crops. There are, however, several factors that greatly increase the calf crop, such as range improvement, improved methods of cattle management, both of which depend largely on the range being fenced.

The Agent has three cooperators in this work, one who has been operating under a fenced range for a number of years and two more that are now under way.

Some of the results brought out from data gathered so far, are that it is possible to increase the carrying capacity of most of the ranges of Yavapai County at least 25% and that the average calf crop increased 50%.

The Agent has assisted five cattlemen to sell their yearling steers and obtained pasture and hay for several others.

Dairying is quite limited in the County, however, those engaged in the business have displayed exceedingly good spirit as to the production of extremely clean type. There are a few foreign dairymen in this County and they are not prone to very strict business principles which makes unanimous cooperation impossible.

Four hundred and ninety-six dairy cattle were tested for tuberculosis by the representative from the United States Bureau of Animal Industry, with the cooperation of the Agent. Twenty-nine dairy herds were contacted with this work.

The Dairymen have formed a Dairy Association for the purpose of improving the quality of milk produced and determining better methods of marketing. Assistance has been rendered the dairymen in buying feed for their stock, method of calculating a balanced ration, methods of hygiene etc.

The poultry industry of the County undoubtedly ranks third in importance, for it interests the largest number of people. There are now thirty-one farmers that have culled their flocks at the advice of the Agent and nineteen of these were actual demonstrations which have been carried out by the Agent and a specialist from the University of Arizona. The feeding of laying mash is increasing, better houses are being built and there is an increase in those desiring purebred cockerels. Poultry Associations are now being planned and talked of in the different communities, and it is probable that better results can be obtained in breeding for greater production and more uniform variety will be attained.

Many inquiries have come to the office regarding individual cases of lump jaw, loco, poisoned weeds, etc., and have been given attention.

Vaccination for black leg has been pushed at all times and the loss because of this disease has been practically controlled. Demonstrations in cattle tick eradication have been given as well as several demonstrations on the control of parasites on poultry.

Although not mentioned, on the statistical report, five bee men have been given information as to the method of care and management of their hives.

#### f. Rural Engineering

The work in rural engineering has consisted in furnishing information for the establishing of two water systems and ten farm buildings; namely two barns, four poultry

houses, three silos and two milk houses.

Three orchard owners were assisted in the care and operation of spraying machines; and two were assisted in securing stump pulling machines for clearing their land.

One district was advised, with the assistance of the Irrigation Engineer of the University of Arizona, as to the method of supplying water by the construction of an impounding dam.

One was assisted in buying a milking machine.

g. Rodent and Predatory Animal Control.

During the year the Agent has furnished over two hundred different rural residents with poison bait and instructions for applying it to prairie dogs, pocket gophers, rats and other rodents.

In cooperation with the Bureau of Biological survey, the Agent has assisted to start five demonstrations, plots toward the control of rodent pests. This rodent control work has shown its results. Today one can not find but a very small area of the infested region and a complete extermination is looked forward to.

The Agent has opportunities in traveling over the County to contact those people that have had trouble with the predatory animals. The U. S. Biological survey of Phoenix places strychnine tablets in the Agent's office to be issued to those people desiring assistance with advice as to the method of application.

h. Plant Diseases and Insect Pest Control.

The writer had hoped to obtain the Plant Pathologist of the University to make a plant disease survey of the County but conditions arose so that his presence was made impossible.

Much assistance has come from the State Entomologist's Office on plant diseases, and insect pest control. The Coddling moth control has probably been the greatest phase of this work, however, assistance has been given to farmers on the method of control of cabbage black rot, blister beetle etc.

i Agriculture Economics.

Thirteen housewives were assisted to obtain information

as to the method of preserving fruit most economically.

The Agent also assisted the Prescott Red Cross Nurse in making out a simplified method of budgeting.

One community was assisted in a method of financing a cheese factory.

Fifteen farmers have made changes in their farming and livestock systems according to recommendations of the Agent; nine cattlemen were advised as to the method of lease and contract of land. Two were assisted to estimate the exact cost of production of a yearling bovine.

Seventeen additional farmers and stockmen were started in keeping records of cost of production.

The Agent assisted in forming the Yavapai County Dairy Association and the Walnut Creek Cattle Growers Association which now makes six cooperative marketing organizations in the County with a membership of ninety.

#### j. Miscellaneous.

A service that has received considerable time during the year and which can not be well taken up under any of the above mentioned headings, is furnishing agriculture information concerning Yavapai County to prospective settlers. Eighty letters have been written on this subject. In many cases the Agent has thought it best to discourage rather than to encourage settlement, especially is this true in case of the establishment of new homesteads with cattle ranching as an objective with a limited capital, and where dry farming was being considered with the use of livestock.

Another service that has been rendered the County through the assistance of the Agent has been the developing, organizing, and assisting to make two local County Fairs a success. In the opinion of the Agent it is believed that a great amount of educational value was derived at these Fairs, and in many cases farmers were assisted in selling their exhibits for good prices and advertising their business.

V. Outlook and Recommendations, including suggestive program of work for next year.

It is planned to follow out as near as possible the foundational work which was laid down by the past Agent. It is believed that a great deal of efficiency can be obtained in this way. At present the Yavapai County Farm Bureau is not as strong as it should be, this being the outlet for the County Agent's assistance, it must be reconstructed and placed in a more substantial organization.

Local cooperative marketing groups should be organized within the different local Farm Bureaus. The moving picture machine, which the Agent now possess will be the greatest assistance in bringing the people out to the meetings so that results can be obtained.

The field of range live stock improvement which includes cattle, sheep, hogs, and horses still has many problems. much work can be done in the standardizing of the different varieties of fruit. More acres can be planted to orchards, as the old ones are deteriorating and dying out. Better methods of spraying can still be improved upon in poultry.

Much work remains in culling, feeding and breeding of farm flocks, particularly in obtaining a higher egg production. It is hoped that an increased number of cooperators in the farm flock record project will greatly help this work.

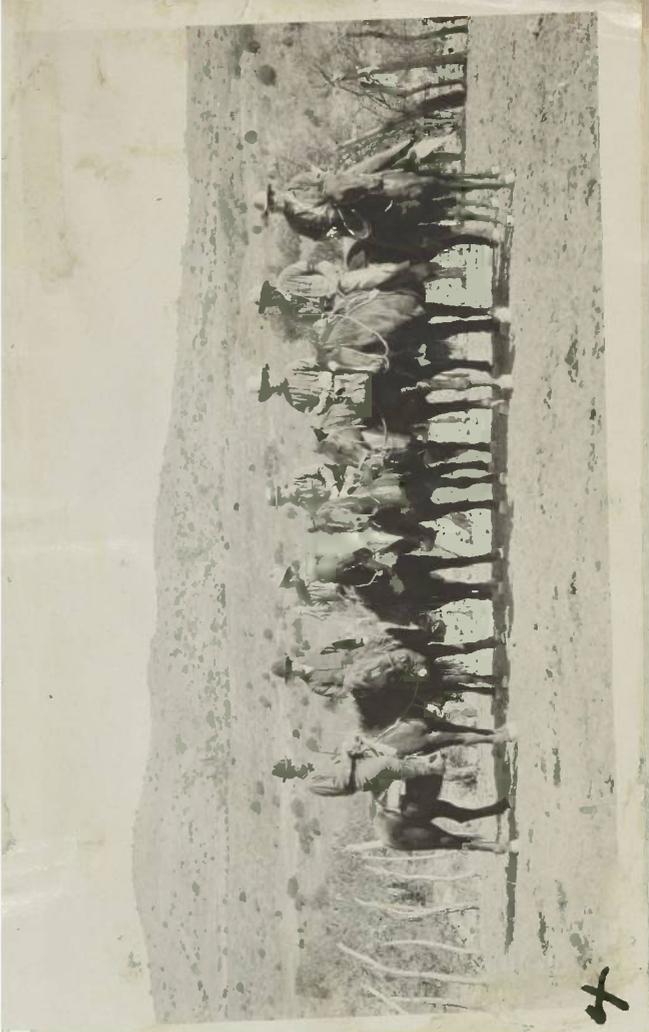
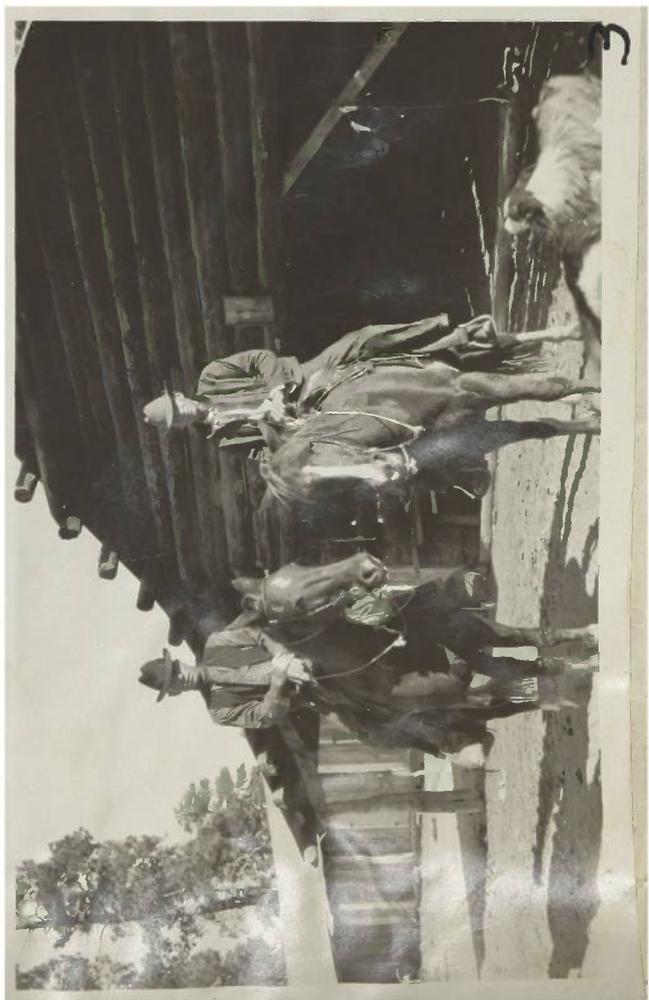
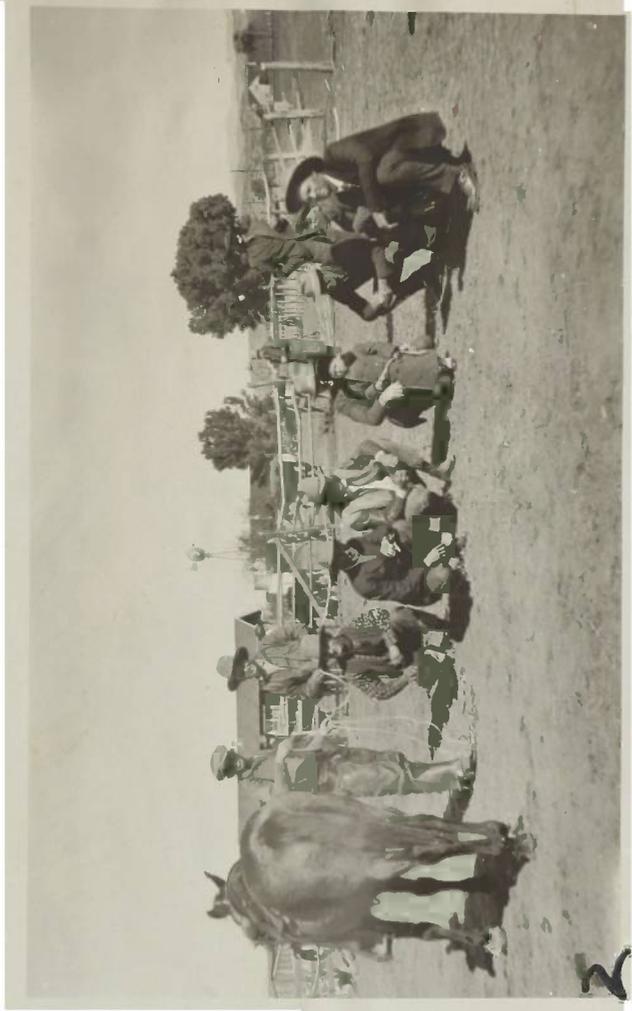
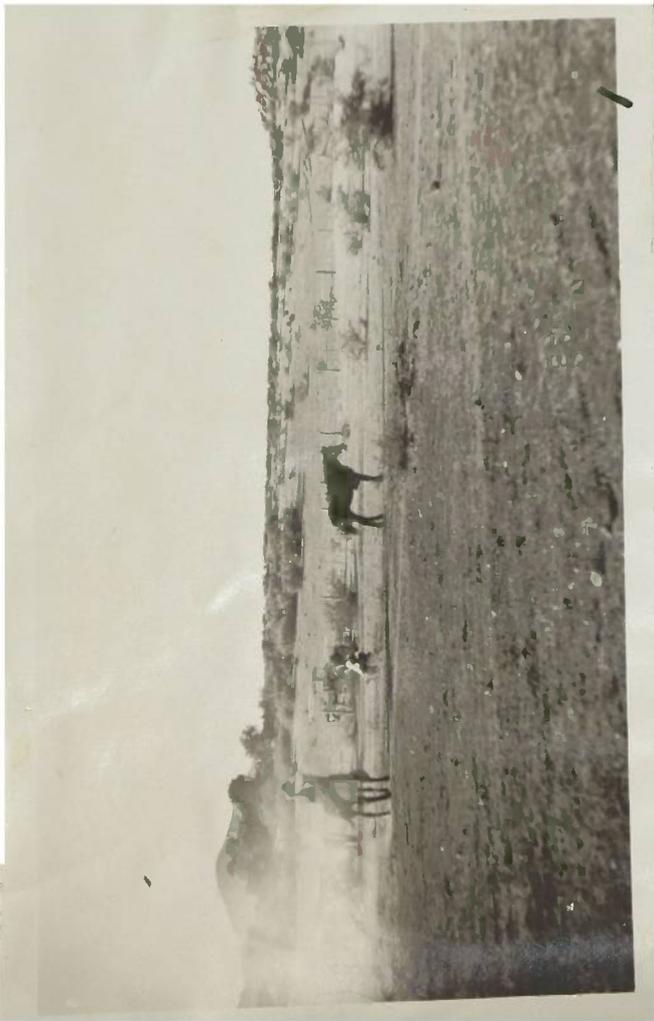
Boy's and Girl's poultry, big, and vegetable growing Clubs will be pushed. It is planned to carry out a number of pit silo building demonstrations and to have a plant survey made during the months of July and August. Further work in rodent control is also planned.

## VI. Summary of Activities and Accomplishments.

During the time in the past from December 1st, 1922 to May 15th, 1923, Mr. C. U. Pickrell was County Agent. From July 15th, 1923 to December 1st, 1923 the writer has been County Agent of Yavapai County.

In summarizing the work of the two Agents there have been 90 days spent in the office and 178 devoted to field work. There have been a total of 558 farm visits made on Extension work. 269 of these were different farms. 518 office calls received attention. There are 20 communities in which the Agent has worked.

In 15 of these there are leaders. 43 demonstrations were held with a total attendance of 568. 992 individual letters and 1961 copies of 25 circular letters have been written in the interest of the work. 17 articles for publication in the local papers, have been prepared during the year. The Agent has attended 17 meetings to the interest of the Extension work outside the County.



1. Count Agent getting acquainted with cattlem by tying a calf at local fair

2. Group of cattlemen (local)

3. Steerbuyer" assisted to obtain 500 head of yearling steers. on T. Caness Ranch.