

ANNUAL NARRATIVE REPORT

OF

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APACHE COUNTY, ST. JOHNS; ARIZONA.

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--NARRATIVE SUMMARY--

1. Status of County Extension Organization.  
A. Form of Organization.

The organization of the Extension force is organized this year as it has been in the past; the work being carried out by the University of Arizona Extension Service, U. S. Department of Agriculture and Apache County. The work of the Extension Force, where they have a corps of specialists, as well as the University faculty proper to help the farmers, is very efficient and able to render much service to the people here.

B. Function of Local People.

Our local people, as in the past are working with the Extension Service through the Farm Bureau, Project Leaders and Club Leaders.

11. Program of Work.

A. Factors considered in determining the program.

1. Markets.

In considering our program of work, as was stated last year, markets must be considered first and then following, the kind of crops that we can grow here. Because of our climatic conditions and elevation, we are able to grow most any kind of crop we want except tropical crops.

While we consider our local markets, yet the important thing we consider is our distance markets.

2. Successful Marketable Crops.

Because of our isolated condition, from railroads, we are forced to market our farm products by truck, and because of this, we naturally have to have a crop that will bring a fair price per pound so that we may profitably haul it to market. Because of this condition, alfalfa hay is not so desirable, except in a limited way. However, such crops as beans, wheat, eggs and corn are desirable and can be produced with a profit.

B. Activities and Results.



ONE METHOD OF MARKETING HAY IN APACHE COUNTY.  
JIM OVERSON WITH OVER 100 BALES OF HAY ON HIS  
TRUCK.

1928

1. Soils.

a. Alkali Soils.

While a considerable lot of preliminary work has been done with alkali soils both in St. Johns and Hunt, yet nothing of a concrete nature has developed as yet. However, we do feel that the public sentiment is gradually growing and that within the next year we should have a drainage project started, if not completed.

Last August Doctor Burgess and Mr. Turville from the University were here in the County investigating our soil conditions, especially our alkali soil conditions. While here they made a thorough investigation of our alkali conditions and made analysis of our irrigation water. Dr. Burgess was a little handicapped on the account of not having the engineering data necessary to put over this project. We are expecting, however, to have this done this coming year.

To put over successfully, one drainage project in the County, would be a wonderful thing, not only for the local people in St. Johns, but for the County as a whole, because of the fact that we have in Apache County thousands of acres of land which should be drained, but which are not drained because the local people are not converted to drainage. This project, if successful should convince them.

b. Fall Plowing

We were successful in securing but a little fall plowing this year. This was because of the fact that the people do not ordinarily have time to fall plow. However, we feel confident that this project will grow in this coming year.

In spite of the fact that it was a dry year, the land which the University used in their variety test work was fall plowed. They irrigated but once and produced a good crop with the one irrigation. We are trying as best we can to call the attention of the people to this piece of University work so they may know that fall plowing is beneficial.

2. Cereals.

a. General Work--Smuts.

For a considerable number of years the people in Apache County have been treating their wheat and other cereal crops with formaldehyde. This treatment, while it is very good if used absolutely right, yet is very dangerous if not used according to directions. Last year and the year before a considerable number of farmers lost most of their wheat because they did not correctly use the formaldehyde treatment. For the purpose of giving them something better, copper carbonate treatment was introduced this year to the farmers.

Several demonstrations along this line were given and ten farmers treated thier grain by this treatment and they think more of it than the old treatment. All in all this project was more than successful this year.

b. Wheat variety tests.

Practically all of the wheat variety test work which is being carried on in this County is being done by the University of Arizona Experiment Station. This work is doing a lot of good in this County at this time, because a change in agriculture is taking place and they need to know the best wheat to grow. Even though this is not an Extension Project yet the Agent takes as much interest in it as he would if it were. So, also do the farmers.

c. Flour and Milling of Wheat.

We have not had any Extention Project in the milling of wheat, but we are doing all we can to shake conditions in the County in such a way that the milling of wheat will become a major industry in this County. This we are doing because of the fact that the milling of wheat may become a commercial business and therefore help the farmers convert their grain into a more saleable article and also because it would help our livestock industry very much.

Since we are shipping into Apache County about \$50,000.00 worth of flour annually and since also if our wheat could be properly produced and milled, we could export about \$100,00.00 worth of flour annually, this milling project is very important.

d. Winter Wheat Production.

It has been the opinion of the farmers of Apache County especially those in high elevations that winter wheat, especially kanred and turkeyred could successfully be produced in this County if planted in the fall of the year. For the purpose of securing information along this line the Agent organized three projects in this County, one at St. Johns, one at Eagar and one at Nutrioso. These projects seemingly made good progress for the first few months but practically were all killed during the winter or died from lack of moisture. We will if possible this coming year try again because the Agent feels that this should and can be done in this County in ordinary years.

Surprising at it may seem to most people winter wheat is produced in this County successfully when planted in February or March. Just which will be Just which will be the most practical, fall or spring planting of wheat, the Agent as yet does not know, but should find out within the next year or so.

3. Legumes and Forage Crops.

a. Alsike Clover.

In past years we have planted our alsike clover in the early spring when the land was wet from snow water. Seemingly this has not been very successful since the land would dry out before the clover was rooted sufficiently to carry it over the dry season. This year we have planted the clover in the summer after the rains started and we believe we secured better results. We hope that this project will soon be successful because in our high mountain valleys much more pasture is needed than we now have.

b. Pastures.

We were successful in having a few farmers plant red top and timothy in their pastures this summer. It has up to date done fairly well and looks very promising.

4. Special Crops.

a. Hill selection of potato seed.

Because of the geographical location and climate which justifies potato production and also because of the lack of good potato seed which we can secure here, it has seemed advisable to this agent to encourage the farmers to produce their own seed. Of the many systems that good seed may be developed, the best one is by hill selection. This method gives local producers a method of developing good seed which are acclimated to their local conditions.

Although we have done everything possible to convince the farmers of this County that good seed, and therefore hill selection, is necessary, yet it has been very hard and to date we have had but a few farmers who have tried this method of seed production. We are, however, now progressing and it should be of great value to the people when they understand how and the value of this method.

b. Treatment of Potato Seed for Diseases

Even though Apach County is very well ~~adapted~~<sup>adapted</sup> to the growing of Irish Potatoes, yet at the present time the potatoes are so badly diseased that it is practically impossible for the farmers to get a profitable crop from their land. Even though they may at times produce fairly good bulk of potatoes, yet they are generally so small and diseased that they cannot be marketed.

The agent worked on this same project last year and the year before and this year he visited all old cooperators encouraging them to continue with the seed treatment. He also gave six or eight method demonstrations in seed treatment and in many cases encouraged the people to treat for diseases. In fact this project made wonderful progress in comparison with former years. For example we have had farmers who last year were indifferent to this treatment, glad to treat for potatoes this year. We had twenty thousand pounds of potatoes treated this year, whereas last year we only treated two or three thousand pounds. The treatment we used this year was, four ounces of Carrosive Sublimate, thirty-two ounces of Hydrochloric Acid to thirty-six gallons of water. We left the potatoes in this for five minutes. The Agent has advised that they dampen the potatoes about forty-eight hours before treating them, as this makes the treatment more effective. The Agent visited during the summer practically all dem-

onstrations several times, and even though it was very dry the potatoes looked fairly well in comparison with nontreated potatoes. The production this fall had justified the expence of treating by a large margin. It should be but a year or so now until the treating of potato seed for diseases will be as common in practice among the farmers as plowing the land.

## 5. Insect and Anamial Pests.

### a. Rodent Control.

The prairie dogs, kangaroo rats and squirrels are eating up the crops of the farmers as well as considerable of the grass on the range. In order, therefore, to exterminate these rodents it was necessary to organize a project along this line. This work, of course, has been done in the past years the same as it was done this year cooperatively with the U. S. Biological Survay Department. During the past years in which this work has been going on I would judge that about 75% of the rodent pests of the farmers have been eliminated and that probably only about 10% to 15% of the range rodents have been exterminated. This will seem to indicate that this work will have to continue for a good number of years before it is complete.

Drives have been organized and poison put out cooperatively during the past years, between the farmers and the U. S. Biological Survay man, Mr. Isaac Rogers, who did a great deal of work with cattlemen on the Apache National Forest. 74,061 acres were treated for prairie dogs. Next year we expect to use carbon bisulfide on all this area to completely exterminate them. That this work has been successful this year as in the past years goes with saying. Mr. John Hall of Eagar with whom our Biological man worked on one of these drives on the National Forest, said that he thought that such men were out just only to hold down the job and to render service, but after the drive he said that this particular man, Mr. Isaac

Rogers had put out twice as much poison as any one else and done other work besides. It was his opinion that practically 100% of the dogs were killed with the poison grain alone.

Some idea of the amount of work done might be had when you consider that he worked with 139 cooperators distributing 11,139 quarts of poison bait , plus 60 gallons of carbon bisulfide, 74,061 acres of land and he did this before going South which trip he took one month earilier than in the past years. We feel confident that our Biological man is one of the best in the U. S. in this line of work.

b. Blister Beetles.

During this past summer we had an out break of blister beetles throughout the whole county. The favorite food seemed to be potatoes, many farmers lost practically their whole crop from them. Various kinds of sprays were recommended, but the xerose emulsion spray seemed to be most effective, which is contrary to most advice along this line. It was proved by the farmers in this county this year that for Blister Beetles the Contack Spray is more effective than any other.

c. Grasshoppers.

The grasshoppers in Apache County this year took all or part of the crops in many fields. They took alfalfa and potatoes and other crops completely. They did damage all over the County but did not in every case totally take the crops. The Agent recommended the usual method of killing the grasshoppers by poison with paris green but the farmers did not follow this exactly. Turkeys and chickens were recommended as a means of elimination. This was rather successful since about fifteen farmers used this means of eliminating the grasshoppers. The Agent fully expects that in another season most of the farmers in this County will have a turkey project along with others for the purpose of taking care of the grasshoppers, this the Agent is, at least recommending.

6. Livestock.

a. Livestock judging at the fair.

Some exceptionally good cattle judging demonstrations were held this year at our County Fair. Such livestock as pigs, sheep, dairy cattle and beef cattle were judged with possibly 150 men looking on. Mr. C. U. Pickrell of the University of Arizona Extension Service did the judging, and he was a good judge.

b. Sheep buying.

Due to the drouth, literally thousands of cattle have been shipped out of Apache County this year, but for the most part the sheep have stayed at home and a few purchases made. Our pure bred flocks have more than doubled, and some new men have gone into the sheep business. From many angles the outlook for sheep for this County is fairly wholesome.

c. Sheep Diseases.

During March of this year many of the sheep men of this County were losing sheep daily. The Agent, not being able to exactly find out the cause of the trouble, wired the State Veterinarian, Dr. S. E. Douglas, who came to our help and spent several days with us. During the time he was here he visited with the Agent several flocks of sheep giving post mortem examinations of sheep and other advice which did help them. The Agent, after the Veterinarian had gone, back to Phoenix, gave post mortem examinations and otherwise tried to help the sheep men out. As near as could be found out most of the sheep were dying with either Liver Fluke or Hemorrhagic Septicemia. The treatment recommended for Liver Fluke was carbon tetrachlorid and it seemed to be very successful. We probably have treated four or five thousand head for Liver Fluke. We recommended vaccination of the sheep for Hemorrhagic Septicemia with Hemorrhagic Septicemia Bacterin for sick sheep and for the well Hemorrhagic Septicemia aggressin. About ten thousand head of sheep were vaccinated for this disease

last year and with the majority of them they pronounced it successful. Before the treatments probably three or four hundred head of sheep were lost and since then it has been reduced a great deal. During this year and for this winter the Agent has lined up a Federal Veterinarian of Albuquerque New Mexico to the extent that he will come here when we have any sheep diseases and investigate the trouble for us. We are hoping that we will not have to do this and we feel that we will not since many of our sheep men have vaccinated their sheep already this fall and the majority of the trouble should now be eliminated. We feel certain, however that much good has been accomplished along this line, but we expect fully to continue to work with our sheep diseases until it is thoroughly solved.

d. Poultry House Construction.

Although our poultry house construction project has been under way in Apache County for several years, yet there are a few towns even yet which do not have what we consider a suitable or modern poultry house in them yet. This last year we had another community added to the up to date poultry house idea and fully expect to have them all added by next year.

e. Egg Candling.

In many of the towns in Apache County eggs are neither produced nor sold in quantities large enough to justify modern production of eggs. This means that in such towns eggs are collected from every source and under all conditions and therefore are naturally a low grade of egg under normal conditions. Realizing that this was so and having in mind the remedying of this condition, the Agent gave this year seven egg candling demonstrations in these communities trying to educate the people to the value of candling, so that a higher grade of egg might be produced. We have accomplished some good but nothing like we must do in order to have standard eggs shipped from these communities.

f. Commercial Egg Production.

Right in connection with and directly following our Poultry House Construction, Project, comes our Commercial Egg Production Project. We have in mind in this project to get the people in the Poultry business large enough that they will, the year around, ship eggs and therefore commercialize the industry more than it ever has been in the past. When this project started 41,000 dozens of eggs were shipped into Apache County. At the present time we are shipping out of Apache County from six to ten cases a week. In order to convince the people that commercial egg production was possible, many meetings and trips naturally had to be taken. We also had to work with our individual Poultrymen, very hard to keep down diseases, troubles and other things that happened to come along. We have had our ups and downs in the way of diseases, markets and so on, but in the main everything is working along fairly satisfactory.

One of our Poultrymen, Harry Colter of Eagar has been producing eggs for 14¢ per dozen which we consider a good record for a new Poultryman. He secures from 50% to 60% production by feeding  $\frac{1}{2}$  oats  $\frac{1}{4}$  barley and  $\frac{1}{8}$  bran and all the commercial buttermilk that his hens want, with 20 pounds of meat scraps per 400 pounds of mash.

Some of our Poultrymen at Vernon tried very hard to get a good start of Rhodeisland red chickens. They shipped in about 1,500 of these and were successful in rearing about 75 out of the 1,500. Due to this and other examples of this kind we have had in this County, we do not recommend any kind but White Leghorns for commercial production.

We are fairly well organized in this County at this time. We are shipping our eggs to Holbrook where the Navajo County Poultry Association ~~are~~ selling our eggs on a commercial basis. All in all the future of this project looks very bright and should be successful.

g. T. B. Testing of Cows.

The people of Apache County are milking approximately 1500 head of cows either for domestic or commercial use, and many of these have been shipped into the County from T. B. territory. In order, therefore, to assure the people of clean milk it was necessary to test the cows for T. B. We therefore cooperated with the State and Federal Veterinarians. The Agent tested, this year, only herds of cattle in which suspects had been found in past years and which were selling milk. We did not test cattle in Nutrioso and Alpine, and another year we will have to do this. We did not find any T. B. cattle in the county and as soon as Nutrioso and Alpine have been taken care of, we hope to have a T. B.-free County.

h. Improvement of Dairy Cows.

During the past four to six years the Extension Service has been trying to improve the Dairy Cows of this County, by shipping in new and better cows. This has been successful to a certain degree, but this year the Agent has tried a new plan. First, he has had the Dairy Specialist from the University, Mr. Roe; give lectures, in the County on Dairy Cows Importance in Feeding. Second, he has done all he could do to develop better cream markets. This he felt he had to do because of the geographical location of the County, which is considerable distance from markets and therefore must have products which can be shipped a long distance and cream is one of them. During the first of the year the Agent worked on cream markets with Maricopa Creamery of Phoenix. This worked very satisfactory and did some good, but the prices of butter fat were such that the dairy business could not progress under these prices. The Maricopa proposition was to charge 10¢ per pound for handling cream when the individual shipper had 50 pounds or less per month, and 5¢ per pound where the shipper had 50 pounds or more per month. Under these conditions in either event, irrespective of how much cream a man had, the prices were almost prohibitive of going into the cream business.

Therefore the Agent got in communication with the Copper State Creamery of Phoenix, which immediately sent their personal representative up here to investigate the conditions. Their proposition was this: they would pay the farmers Phoenix prices for butter fat in any quantity f.o.b. Holbrook. The farmers can ship their cream individually or they can organize stations and ship collectively. They can ship at any time they want to, once a week, twice a week or once a month. All they have to pay is the shipping to Holbrook, in addition to this they will receive their checks immediately back on each shipment. The farmers feel sure that this is much better than the other proposition and therefore changed from Maricopa to Copper State. We have shipped, this year, butter fat from Alpine, Eagar, Richville and St. Johns. Next year we hope to add several towns to the list. The Udall transportation Company, which runs the mail out of Apache County to Holbrook has agreed to haul ten gallons to Holbrook deliver the cans back to Round Valley at 50¢ per can, when the people will have sixty or more gallons at one shipment. For the most part during the summer the farmers of this County shipped twelve to fifteen cans of cream each week. Our goal for the next year is to double this production.

## 7. Miscellaneous.

### a. County Fair.

Apache County has existed for fifty years, during which time they have been more or less isolated from the surrounding country. Because of the lack of roads the export markets have been limited to livestock. In the past it has not been especially necessary to stimulate production for selling purposes of the common field crops. We therefore tried various methods of stimulating standardization of farmers crops and ~~the~~ <sup>one</sup> method we are using to do so is the County Fair.

In order to secure the County Fair, the Agent,

over four years ago, tried very hard to get necessary, appropriation for this work and failed. He came back the next year and succeeded and has succeeded every year since that time in securing County Fairs.

The Agent's opinion is that the public is almost converted to Fairs now, much more than they were a few years ago, and therefore the County Fairs of the future should be better than they have been in the past. The Agent, this year as in past years was forced to go before the Board of Supervisors and ask them for the County Fair. The Agent knows full well that in the main this is the Farm Bureau's job, but since we are not very close together and since the people have not totally been convinced to Fairs, the Agent felt that it was his duty to do this. He hopes that another year he will not have to do this.

Our County Fair which was held on October 5th and 6th was a success in many respects, although the County as a whole should have come out more than they did. We hope that in another year this can be completely overcome and that the people of the County generally will come out to the fair.

It is the Agents opinion that, if the fair was to open Friday evening to the public having everything judged and in place at that time, and hold it all day Saturday and Saturday night, that more people would come out since this would only cause the farmers to lose one day of work and they would be able to see everything worth while, and not lose two days as they have done in the past. This is about the only new idea that we shall try to put over at the County Fair next year that we haven't in the past. Of course, we may, if the fair commissioners feel so disposed, give prizes for the best ten acres of wheat and the best five acres of potatoes and things of that character. At any rate, the Agent feels that this would be worth while.

b. State Fair.

Apache County's fair commissioner, Mr. Lynn Whiting with the Agent put on an exhibit at the



LEAMAN MINEER OF ST. JOHNS, ARIZONA JUST  
BEFORE HE LEFT FOR HIS FREE SANTA FE TRIP  
TO CHICAGO

State Fair this year. Because of the exceptionally dry year, our fair exhibit was necessarily small, but the quality was good. The Apache County booth took sixteen blue ribbons, five red ribbons and the sweepstake in oats. Mr. Lynn Whiting took to the State Fair fifteen head of pure bred sheep, receiving prizes on all classes,, including a Champion Ram for which a Royal Blue-purple ribbon was received.

d. Club Work.

The Agent had clubs in Vernon, St. Johns, Eagar, Springerville and Nutrioso. Our club work this year was carried on mostly by our State and County workers, having but two local club leaders. On the whole our club work was a success, not that we can boast of great numbers taking club work, but we do feel that the quality of the work was as good as any other year, even though we had a very dry year which handicapped some of our club members.

Among some of the things which the club members of Apache County did this year are the following: 1. The last of May and the first of June, the Agent was successful in taking twelve club members from Apache County to the state University at Tucson for the annual encampment there. 2. The Agent was successful in taking several trips with the different clubs. 3. The Agent was successful in training one Demonstration Team. 4. 24 boys and 5 girls completed their projects. 5. One club member,,Mr. Herman Lesueur won a Santa Fe trip to Chicago.

## SUMMARY.

The organization of the Extension Work in this County is as it has been in the last few years, well organized and doing fairly good work.

Naturally, as in the past, in considering our program of work, we have had to consider our markets both distant and local.

The results of the Extension Service Activities in this County have been very satisfactory in the main. Work has been done along practically every Agricultural line in the County. Our main work, however, has been accomplished along the following projects: Improvement of Dairy Cows, Commercial Egg Production, Sheep Diseases, Rodent Control and Treatment of Potato Seed for Diseases.