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ANNUAL REPORT

PIHEL COUNTY AGRICULTURAL EXTENSION SERVICE.

E. S. TURVILLE,

COUNTY AGENT.

REPORT FOR THE YEAR 1921.

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This year completes the first full year of the Agent in this County, and for more than a year prior to his coming in, there was no Agent here. This may have accounted for the fact that practically all organization of farmers within the County has occurred during the past year. The exception to this statement lies in the case of the Casa Grande Farmer's Association, which is an association of farmers formed some years ago for the purpose of supplying its members with cheaper fuel oils.

The first attempt at organization was made last November, and during the following months four school districts were organized into local farmer's associations, and had begun to function by the middle of the winter.

During the spring months the Federal Farm Bureau sent in an organizer, and the associations already formed were converted into locals of the Federal,--with one exception--this latter one refused to join. Besides these the Federal Farm Bureau created two more locals, but one of these has never completed its organization, and the other is functioning poorly.

Some difficulties of organization present themselves because of these conditions. A number of individuals, and one local have refused to pay the \$10.00 membership necessary to join the A. F. B., but claim rights to Farm Bureau membership under Arizona Senate Bill #109.

The constitution and By-laws of the locals and the County Board are at the present time before a Committee for revision, and it is hoped that some present difficulties may be overcome. It is also hoped to make the Constitutions of the locals and the County Board agree, as well as to make both fit better with the Articles of Incorporation as required under Arizona Senate Bill #109.

2.

FUNCTIONS OF MEMBERS, OFFICERS, ETC.

To date, the actual work in the way of arranging for, and carrying out plans have been largely done by the County Board,--through Committees appointed by them. The work of the locals, that is the members and the officers of the local units has not as yet been very extensive. Efforts to correct this situation are in progress. The cause of the difficulty has been the lack of a well organized Committee on Programs.

3.
GENERAL POLICIES.

It has been the policy of the Farm Bureau to carry on a general program of development in the community. It initiates what it can, and supports the efforts of all other organizations working towards the same ends.

4.
PROGRAM OF WORK.

It should be understood that a large part of this County is new. As a farming community it came into existence during the war, and consequently during the period of high prices. When prices descended it was found that the cost of operation—mainly the cost of water—prohibited the growing of ordinary farm crops, and it became necessary, either to quit or inaugurate a system of intensive farming in the growing of high priced crops.

Discovering and trying out this new system of agriculture, together with efforts towards supporting it, have been the work of the Farm Bureau as well as the C. A.

In that section of the County which was agricultural before the war, little work has been done, as the nature of the water supply is such that but one class of farming was practical, that is winter grain farming; however auxillary pumping plants are going in on this area, and the problems arising are becoming similar to those of the area first mentioned.

As there has been an almost complete change of production, the necessity has arisen for a similarly complete change of marketing, and much of the work of the Farm Bureau and the C. A. has been devoted to the studying and arranging for this new set of markets.

2.
PROJECT ACTIVITIES.

(a) The development of the Farm Bureau;
The basis of the C. A.'s activities along organization lines, has been and is this; that anything that can be done to help the farmer to help himself is of infinitely more value than anything that may be done for the farmer directly. Working on this basis it frequently happens that it is a choice between slow methods and meager results in the former case, and faster methods and more striking results if the latter course were followed. Preference, however is always given to the plan of encouraging the organizations to plan and handle their own affairs. However, owing to the fact that the associations are not as yet, functioning normally, much that is really organization work, has been carried out directly by the C. A.

(b) Soil improvement:

In the larger part of the soils the most important need is the addition of humus.

To accomplish this the C. A. has carried on a continuous campaign in favor of adding this material. This has been done through the local papers, through private conversation and in public addresses. Results are beginning to appear; both in actual practice and in the sentiment evident in discussions.

Another soil condition that has been handled is that of tightness. Soils having this quality do not take water readily, and numerous plans have been suggested for improving them. All of the plans are variations of one, to hold water on the land for a longer time, and to prevent it from evaporating too quickly. The addition of humus will aid much, but the difficulty arises in trying to grow humus making material on this land. Another difficulty encountered is the cost of growing crops that will not be harvested. The work so far has largely been a study of the extent and varieties of tight-soils, together with some preliminary experiments. Plans are now maturing for definite demonstrations of methods.

Samples of soils from six farms have been analyzed, largely to determine whether or not they contained Black Alkali in harmful quantities.

(c) Crop production:

Work in crop production has largely been along survey lines. As previously stated, a new line of crops are being tried out, and there is no data available as to what are the best varieties, or as to just the best methods of handling them. Irish potatoes were tried on about twenty farms, but as this is the first year that any data was kept, the results were not conclusive. The yields varied materially, the varieties gave uneven results, and the only conclusion that seemed safe to draw, was that only such soils as would sub readily should be planted to this crop.

Lettuce, cantaloupes and numerous garden crops were tried but were largely a failure on land that was not well supplied with humus matter and nitrogen; that is they failed on most of the new land.

Sweet-potatoes generally did well, and an effort will be made to make them a main crop.

Tomatoes were generally a failure commercially, though one variety was found, - a very small tomato, that does exceptionally well. This tomato will be pushed for the home garden, until more success is obtained with better varieties. The same may be said of a variety of a lima bean.

The survey showed alfalfa to be the surest crop among the clovers, and the Cow Pea, tepany bean and black-eyed pea to be rank summer growing legumes, suitable for plow down crops.

Little time was given to grains generally, as they can only be grown profitably with ditch water, and its uncertainty makes it the controlling factor.

Much time was given to developing the grape industry to supply the early July table grape market. A demonstration vineyard of 300 vines was arranged for, and is being handled under directions from the Horticultural Department of the U. of A. Twenty five thousand rooted vines were secured for setting out this winter, and a large supply of cuttings was also secured. A demonstration in pruning, and a demonstration in training was given by Mr. Crider, U. of A. Numerous talks on grape growing were arranged for, and the C. A. spent ten days in the San Joaquin Valley studying grape culture.

RODENT CONTROL.

During the spring months important work was done in the matter of exterminating ground squirrels and rabbits. The U. S. Biological Department had a man in the County the most of the winter, ~~destroying~~ the ground squirrels with poisoned barley was comparatively easy, but not the less important. The number destroyed ran well into the thousands, and the crops saved thereby would reach a considerable value.

The matter of handling the rabbits which were very numerous and destructive, was much more difficult. One drive was effected and resulted in the destruction of about four ^{hundred} ~~thousand~~ rabbits; but this plan was found to be too difficult and expensive for the results obtained. A series of tests was then made of various means of poisoning. Many poisons and methods of using were tried, but one only - an alkaloid of strychnine on fresh alfalfa - was found effective. This method was advocated by the U. S. Biological Department, and the material supplied by them. It is estimated that over four thousand rabbits were destroyed, and crops to value extending into the thousands of dollars saved.

Some work on the destruction of pocket gophers was carried on, but the farmers who might have been interested, did not appear to be so.

(d) Live-stock production:

Poultry is the only line of live-stock production that has been much encouraged.

Five culling demonstrations were held, with Mr. Thompson of the U. of A. officiating, and numerous private flocks were culled by the C. A. Two poultry Associations were formed, and a continuous campaign carried on in the local papers for better care of poultry. A considerable development of the poultry industry is assured. The egg production during October and November of this year is many times what it was for the same months last year. This is largely due to a better system of feeding, producing an earlier maturity of pullets.

Hog raising has been encouraged only where the water supply was both cheap and constant, and these cases are not numerous.

The dairy business is marking time. A number of conditions must improve before much encouragement can be given to dairying. In the dairy sections, the drouth last year, threw all of the herds practically out of production, and the class of stock, the price of fat, (34¢ per pound for October, 15th to 30th) and the cost of power for pumping, makes the business rather a dubious one in the pump areas. The County Farm Bureau has just appointed a Committee to study the industry as it exists here.

During the year two dairy type judging demonstrations were held in the County, W. S. Cunningham, U. of A. demonstrating, these dairy lectures were held, and two cow testing Associations were formed. In the case of these latter, the plan called for the weighing and sampling by the dairyman himself, and the testing by the local High Schools. The exceptionally bad feed conditions upset the work badly, and but a few of the dairymen hang on. The work will be started again if improved conditions justify it.

Considerable time has been given to a local co-operative market milk Company, trying to unite the work of delivery of all the milk in Casa Grande and the manufacture of the surplus. So far the scheme has been but partially successful.

In this department an effort has been made to induce the keeping of accounts along some special lines as the cost of pumping, production of cows, production of hens, etc.

One complete set of records is available, but these are not yet made up. Attempts have been made to start discussions along the lines of relative profits at the Farm Bureau meetings, and results are looked for. A plan has been arranged by which members of the F. B. will be placed on the stand and questioned on specific subjects, and an attempt made to bring out facts along economic lines. This plan will be carried out at the regular meetings of the locals, and will temporarily supplant speeches and open discussions.

(f) Marketing:

Our County has a real marketing problem. It has no local markets of consequence, and so must ship out. People do not wish to attempt production on a car load basis in a new country, and the consequence is they find no market. In turn they are afraid to produce more, and the market experts warn them against co-operative selling until there is a volume of production. However the County Farm Bureau is arranging, and has arranged demonstrations in co-operative selling that tends to establish confidence in marketing possibilities.

The first of these demonstrations was in the marketing of grapes. Through arrangements made by them the seasons supply of grapes, seven hundred crates were marketed to good advantage, and the methods of picking and crating demonstrated. Fourteen separate markets were entered and much market information obtained. A net return was obtained for growers of \$114.00 per ton.

The County F. B. is arranging a similar selling demonstration for Sweet-potatoes. Their scheme also includes a drying and storage house. All expenses including the crates are being separately financed, and will be held out of the gross returns. The plan is on a small scale and will be for about three hundred bushels of potatoes.

Plans are also under way to do co-operative selling of poultry products. These plans are not yet matured, but are being worked out by the local Poultry Association. In each of the above cases the Casa Grande Farmers Association Incorporated has acted as the selling agency.

A local Poultry Association located in Florence began business last March, and is marketing a large part of the eggs of that district. They are marking each egg, packing in cartons and selling wherever they find the best market.

The Association had the effect of raising the price of local eggs 10¢ per dozen within ten days of the time they started business.

(g) Farm Home Betterment;

The work along this line has been confined to the mailing out of bulletins dealing with home life problems. There has been no Home Demonstration Agent in this County this past year.

(1) Other activities.

Some work along the line of helping local organizations of various kinds develop the community was done. A lengthy article entitled: "OVER PRODUCTION AND RECLAMATIONS" was written by the C. A., and published in the National Stockman and Farmer, Pittsburgh. Numerous articles descriptive of the Valley were written for the local papers which carry a considerable outside circulation. Assistance was given in the matter of constructing a descriptive float for the Phoenix Industrial Fair, and generally help along these lines was given whenever possible.

On November, 5th, the first County Fair ever held in Pinal County was staged in Florence. Exhibits were made by Communities; usually the Farm Bureaus took charge but in two cases the ^{ag classes of the High Schools} ~~Senior~~ Classes of the High Schools had charge of the Community exhibits. Six communities exhibited, and a total of around five hundred exhibits were shown. The Fair was held under the joint management of the F. B. and the Agricultural Department of the Florence and Casa Grande High Schools. The event is now considered the beginning of an annual County Fair.

SCOPE OF OFFICE AND FIELD SERVICE.

Office work was confined to handling the regular correspondence, to preparing copy for each and every copy of the local weekly papers; to compiling reports, and to such office calls as occur. These latter are not many as the agent spends but comparatively small time in the office.

The field service may be divided into three distinct parts:

- (1) Business visits to Farm Bureau Officers and Committee Men.
- (2) A crop survey, looking towards the collection of actual data on the growing of crops; especially the new crops.
- (3) Visits to individual farmers for the purpose of giving individual assistance.

The work in part (1) was rather more this year than it is hoped to be another, owing the fact that this organization has but recently started.

(4) Interpretation of tabular summary:

The tabulated statement should largely explain itself, but it may be said that it is not been gotten up for a pioneer district.

PROGRAM FOR COMING YEAR.

Next years program may be briefly stated as follows:

(1) Assisting in the completion of organization, and the development of the work the Farm Bureau.

(2) Arranging for the obtaining of information on the conduct of various crops that appear to have promise, but which as yet have not been thoroughly tried out. This work will be especially along the lines of fruit and truck crops.

(3) Arranging for the securing, and developing of markets for these relatively new products.

(4)(5) The development of improved poultry stock and systems of handling it.

(5) An organized study through the Farm Bureau of, (a) the dairy situation, (b) hog production, (c) Cotton varieties, (d) methods of handling tight-soils.

(6) Efforts already started to make the farm supply a larger part of its own needs will be continued, especially through the Home Demonstration Agent.

(7) An effort will be made to secure and disseminate some information on the matter the principles of sound economics.

Summary.

The report as given in the preceding pages may be briefly summarized as follows:

(1) All extension organization within the County has occurred during the past year. Six districts have been organized, and five of these are affiliated with the A. F. B. F. Though organization has not been fully perfected, these locals as well as the County Board are functioning. Two poultry associations have been formed. Two demonstrations in co-operative marketing have been made by the Farm Bureau, grapes and sweet-potatoes.

(2) In the matter of soil improvement, tests have been made for alkalinity in particular cases, experiments in handling tight-soils have been conducted, and a campaign for the incorporating of humus material in all new lands has been carried on.

(3) In crop production, work has been confined largely to collecting data on the new class of crops that are coming to form the local agriculture, and to assistance in handling these.

(4) Active work along live-stock lines has been largely with poultry, - conditions are such that work along other lines must move more slowly.

(5) Work along marketing lines has been largely preliminary. An attempt has been made to demonstrate a knowledge of co-operative marketing methods, two demonstrations have been conducted, and a volume of business amounting to about \$3,200.00 transacted. Individual help in marketing can not be reported, as in all cases, information only was given, and no follow up used to determine the volume of business done.

(6) In Farm and Home betterment, activities were confined to sending out bulletins, and the regular Farm Bureau Meetings, which usually contained in their programs some subject along this line.

OUTLOOK AND RECOMMENDATIONS.

Notwithstanding the general slump in farm activities, prospects in our district at the present moment are noticeably superior to what they were a year ago. The reason for this is partly due to the fact that the farmers have taken time to better adjust their line of farming to the climatic and soil conditions prevailing, and partly due to the work which the Farm Bureau has accomplished, in a more thorough study of the lines of agriculture suitable and their actual trials of ~~grapes~~^{crops and} their handling and marketing possibilities. The large development will undoubtedly be along the lines of grape and fruit production, and an improved and enlarged poultry industry. Prospects for electrical power and cheaper water have also added to the feeling of improvement.

As to the line of work which the Extension Service should endeavor to accomplish during the next year, it will be very largely a continuation of the work done the past year improved and amplified. It should differ in this respect that wherein last year the work was largely a study of conditions, this year should be devoted to actual trial and demonstration of the ideas resulting from the past years study.

This office would suggest that there is ample opportunity for especially the Agronomy and Horticultural Department of the U. of A. to map out a definite line of experiments and demonstrations suitable for this locality, a part of which would be tried out on the ground here and a part fitted in with the regular experimental work carried on at the various University Experimental Farms.