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NARRATIVE REPORT OF COUNTY AGRICULTURAL AGENT,

Maricopa County, Arizona.

December 1, 1920 to November 30, 1921.

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NARRATIVE REPORT OF COUNTY AGRICULTURAL AGENT

MARICOPA COUNTY, ARIZONA

DEC. 1, 1920 TO NOV. 30, 1921

THE AGRICULTURAL SITUATION

Arizona, the fourth state of the union in point of size, contains over 100,000 square miles, divided into 14 counties. Maricopa county is of medium size, compared with other counties of the State, containing numerous mountain ranges which surround seemingly limitless areas of flat desert mesa and cut by several rivers which in dry seasons are practically without water and in flood make an ocean look pacific in comparison. What looks on the map to be a thin streak of green is in reality about 325,000 acres of irrigated land running in an irregular line from east to west across the middle line of the county, 85 miles long from tip to tip with an extreme width of not to exceed 15 miles. Marvelously fertile soil, hundreds of thousands of acres in extent, lacks only water to increase the productivity of this region to many times its present total. In fact, the sale of bonds will start construction on 200,000 acres of new land within the county with 80,000 now under water waiting for farmers. By the time this new 200,000 acres is growing crops numerous other projects will be at least outlined, so that the future production promises to far outshine the present.

Many look on Maricopa county as a land of promise, which it is, but it is also a land of accomplishment. Its soil has been yielding agricultural produce since shortly after the Civil War. The construction of the Roosevelt Dam did not mark the birth of agriculture in the county but an important step

The educational duties of the county agent do not consist in teaching folks the A B C's of farming but in helping collect and disseminate agricultural information of the highest sort, and he is fortunate in being able to obtain information from the farmers as well as scatter it.

The best known agricultural area in the county is the Salt River project, comprising about 200,000 acres, including the bulk of the older farming lands of the county. This project owns the Roosevelt reservoir. From the irrigation works of the Salt River project water is supplied to the Lehi and Tempe districts, whose lands hold some of the oldest water rights on the Salt River. The Buckeye valley is a narrow strip along the Gila River west of Phoenix and has been farmed many years by use of water taken from the Gila River by rather temporary diversion dams. This valley, with the Arlington project, farther west comprises about 60,000 acres of land. Some six years ago the Goodyear Tire and Rubber company organized a subsidiary corporation called the Southwest Cotton Company which acquired about 35,000 acres of desert lands on which it was feasible to pump irrigation water and the majority of these lands has been put under cultivation. The stimulus of war prices also brought into cultivation several thousand acres of lands irrigated by privately owned pumping plants. A permanent type of diversion dam constructed below Arlington across the Gila River is now in shape to supply water for what is known as the Gillespie project of which as much as 80,000 acres is likely to be irrigated as soon as farmers buy and improve the holdings. A possible 4000 acre development, also near Gila Bend, is owned by Norwegian capitalists, incorporated as the Gila Land and Cattle Company. Of this tract 1000 acres are already farmed by gravity and pumped water from the Gila River. Permission has been granted by the Secretary of the Interior and other interested parties

and the Auxiliary Eastern Canal project comprising 40,000 acres, paralleling the eastern edge of the Salt River project. Therefore a half million acres of arid land is virtually in sight.

The subtropical climate with a usual frost free period from early March to late November renders possible the use of the land for the full twelve months of each year. By virtue of this long growing season, the nearly-perfect irrigation system, and the fertility of the soil the agricultural production of Maricopa county lands is enough more than twice that of the same area of corn belt lands to pay the added expense of irrigation. This makes actual yields and values greater and increases the desirability of residence in Maricopa county but makes the work of the county agent doubly difficult for there is no lack time for follow up work. There are no real winter months to spend in planning meetings, which are half social and half business, and extended conferences with numerous parties without some urgent need presents itself. Farmers spend the entire year farming and rightly resent spending time talking over things not of definite import.

The kind and variety of crops grown add another problem which needs explanation. The early developments in the county were largely for the purpose of feeding horses, beef cattle and sheep. Further settlement called for the introduction of grain farming. Fruit was put in on a rather extensive scale in parts of the valley about 30 years ago. Figs, grapes, peaches, apricots, plums, pears and almonds mostly went out of style because at the time the marketing systems were incompetent to allow profitable growth of perishable products which had to be shipped as far as was necessary to reach the markets. Too, the irrigation system of that time was simple diversion of Salt River waters by means of more or less temporary dams and water shortages during certain seasons of

Twelve or fifteen years ago the development of a dairy industry was started which reached its zenith about 1917. Labor shortage, low returns and relatively high returns from Pima cotton caused most of the dairy cattle to be sold out in 1918, 1919 and 1920. Pima cotton requires a relatively large cash outlay for production so that the depression beginning in 1920 hit Maricopa County very hard. It has forcefully indicated the necessity of a new cropping system for the Salt River Valley, more intensive, and taking ~~better~~ ^{into account} ~~advantage~~ of certain natural advantages which cannot be overlooked.

This new shaping of local agriculture should be evolutionary rather than revolutionary and in it is the main work of the County Agent for some years to come. For sometime past other work has been made incidental to this. The program involves increase of the citrus acreage to cover all lands in the County where citrus can be safely grown. Arizona Washington Navel oranges are of exceptional quality and are from ten days to two weeks earlier than ranges of any other belt in the southwest. Arizona grapefruit is of the finest quality obtainable and is so much earlier than other southwestern grapefruit that it can largely be marketed in other grapefruit producing areas before their own grapefruit is ready for consumption. Salt River Valley plums and apricots do very well indeed and are ten days earlier than similar fruit in other parts of the southwest. Arizona grapes may be marketed ten days to three weeks earlier than grapes elsewhere in the southwest and a vital problem is securing establishment of these industries in all parts of the County particularly suited to their culture.

The present crop of cotton covers about 70,000 acres, while the biggest crop yet grown included 185,000 acres within the County. There is room for and there should be grown from 100,000 to 125,000 acres of cotton in the

strain and to help keep the cotton acreage on suitable soils.

Dairying presents serious problems. The past summer when everything possible should have been done to insure the financial success of local dairymen and when those starting in the business should have received the utmost encouragement, the local wholesale price of butter was six or seven cents less than the wholesale price of California butter sold on the local market. There seemed to be no reason for this. Furthermore the present system of financing the purchase of dairy cattle is through creameries which is fundamentally on the wrong basis. Such handicaps, coupled with the relative attractiveness of other lines of agriculture render questionable re-establishment of the dairy industry on its previous large scale.

Raising grain and alfalfa on any but the most unfortunately situated lands, except where such crops may be incidental to another main type of farming is a losing business and to be supplanted with something better. Helping to properly shape the agriculture of the future is a matter of tremendous importance to the Farm Bureau and all other public agencies interested.

FARM BUREAU DEVELOPMENT.

The evolution of the Farm Bureau in Maricopa County has been interesting and not unlike the development elsewhere. The first local County Agent came in 1915. Since that time there has been about a year with no County Agent in the County. Meanwhile it has taken sometime for folks to get used to a County Agent and to become accustomed to using him. It also took some time to develop the original Farm Bureau idea, where the organization was primarily for County Agent purposes. Furthermore, it has been noted in three previous annual reports of the present Agent, Maricopa Coun-

ture of the State of Arizona either through or in addition to a formal organization of the original Farm Bureau type. Furthermore, farmers had not gone through the stage in evolution of being ready to support a County Agents' organization. Hence, an organization called a Farm Bureau arose in true Phoenix style from the ashes of the Arizona Farm Improvement Association but was not in itself of any great power or importance. The Farm Bureau thus formed was organized in the spring of 1918, and was always more or less comatose because no one had time to keep it healthy. During the existence of this organization the County Agent worked through it as much as possible but in a great many cases worked on the Farm Bureau plan informally applied.

The rapid growth in power of the Farm Bureau came when it rather naturally assumed functions of a business nature in addition to its educational purposes. The reorganization of the Arizona Farm Bureaus, beginning with Maricopa County, was on its later basis; that is, as both a business and educational organization. The period of depression with its inequalities prepared the popular mind for the Farm Bureau idea, and the present organization is strictly a farmers' bureau, which has as one of its main functions, betterment of farming conditions through utilization of the educational facilities offered by agricultural extension work.

A law passed by the State Legislature in the spring of 1921 and effective in early summer gave to the Farm Bureaus joint responsibilities with the Extension Service for administering the work of county extension agents. The Maricopa County Farm Bureau willingly assumed this work, which places the relationship of the County Agent to the Farm Bureau rather differently from that elsewhere. Furthermore, the type of organization in Mar-

to the usual county organization. The county is at present divided into eighteen districts, largely on school district lines, each of which has a community organization; a unit not unlike the usual County Farm Bureau. The acting executives of the community organizations comprise the County Farm Bureau Directors. Hence, in effect, the County Organization is the Board of Directors and with them all matters pertinent to extension work can be arranged. The system is most effective and satisfactory. A Field Secretary is now employed to look after strictly Farm Bureau matters, such as membership, publicity, etc.

The program of the County Agent is decided with the County Directors and where desirable committees may be appointed either from the directorate or elsewhere.

The relationship of the Farm Bureau to other organizations is very similar to that elsewhere. It does not undertake marketing directly but rather fosters other organizations for such specific purposes. For example, the Farm Bureau is now organizing a Dairy Association, whose functions will probably include marketing. It has also formed temporary hay and grain growers' associations which function independently. It will probably organize permanent associations of this character when opportune time arises. The local Farm Bureau has assumed a broad and constructive policy toward such organizations, as Chambers of Commerce, and while, formally, it is unrelated to any other organization, it holds itself ready to cooperate with any agency when such cooperation is in the best interests of the County.

The reorganization of the Maricopa County Farm Bureau occupied the latter part of February, March and the first part of April. A committee

Farm Bureau Federation and the County Agent. The campaign was managed by Messrs. Brown and Cummings. The facilities of the County Agent's office were turned over to the Committee, the County Agent acting as publicity agent for the drive. The County Agent was present at many of the meetings and made numerous talks calling attention to the local application of the organization. This work took all the time of the Agent for about six weeks with the exception of some time necessarily devoted to routine matters. Since the drive numerous meetings have been attended and speeches made on subjects pertinent to Farm Bureau work, while a great bulk of publicity matter has been placed in appropriate channels prior to the installation of the field secretary.

As a result of the reorganization the Farm Bureau now has a membership of about 1500 farmers, whose memberships are on a ten dollar basis. Many memberships have been secured by notes, which the organization has not seen fit to sell, with a resultant shortage of funds in the treasury. The work has been effective, however, and much bigger things are planned as the means for putting them over are found.

SOILS

Not a great deal of soils work has been done, not so much because of lack of need as lack of time. A great number of individuals have been advised relative to their especial problems and some community work has been started. The services of a soils specialist from the University was secured for one community for a two-day visit. The soil of this district is somewhat different from the general run of soils in the County. After personal visits had been made the soil specialist delivered an address to a mass meeting in the community covering points he had discovered in his visits.

Salt River Valley lands have some acreage troubled with alkali.

is seldom an individual matter. In the last few years the Salt River Water Users' Association has installed a series of large pumps in the high water table areas of the project so that water logging is practically solved. To remove the accumulation of alkali, however is another question. Accordingly some demonstration work has been done in one of the better alkali belts of the Valley and some bad spots leached of excessive alkali. This has taken place in black alkali soil of a texture most favorable for leaching. The black alkali spots on finer and tighter lands have not yet been touched but plans are being made to enlist the aid of several specialists from the University and to undertake experiments and demonstrations to reclaim larger areas located at various points of the Valley. Numerous individuals have been advised regarding treatment of soils.

Little is left to be done in installation of irrigation systems in the older parts of the County. Numerous individuals have been helped to level lands better and a concrete pipe system was mapped for one farm which was particularly difficult to irrigate.

Soil fertility in Maricopa County is at present a problem of little moment. Previous demonstrations have shown the fallacy of using ordinary commercial fertilizers on general farm lands and owners of such farms are merely advised to practice every reasonable means to incorporate organic matter. With citrus lands, and to a small extent other fruit areas, it is questionable whether economic returns can be secured from commercial fertilizers. Hence, a series of rather thorough demonstrations in this regard has been planned for next year. The value of cover cropping is unquestioned in orchards but demonstration of the best crops to use is not complete. Accord-

... with the citrus growers organization a tour was made

the basis for demonstrations next year. Cover crops now used in citrus groves are quite effective, but improvement should be made in methods of handling such crops and it is planned to devote what time is necessary in future to properly solve this matter. Discussion of cover cropping has been the subject of considerable publicity written or placed by the County Agent.

The use of sulphur on alfalfa has attracted considerable attention. In the absence of evidence of local value two demonstrations are now under way to show possible effects of sulphur as a fertilizer. Results from these demonstrations will probably not be conclusive for nearly a year.

CROPS.

In 1920 about 185,000 acres of land in the County were planted to Pima cotton. The demoralization of markets, coupled with the high costs of production caused a shift in 1921 so that at the present time the cotton acreage is reduced to about 70,000. For various reasons comparatively little cotton work has been done this year. Numerous personal calls have been answered and advice given regarding irrigation, cultivation, planting, insect pests and diseases. Work looking toward perpetuation of the true seed supply will be reported elsewhere. The supply of Pima cotton in the hands of growers from both the 1920 and 1921 crops is still relatively large and sales are very slow. Furthermore every general farm crop of the 1921 season with the possible exception of cotton has been sold at less than the cost of production. The resultant unrest has been responsible for several farmers wanting to shift to another type of cotton less suited to this region and depending on a better market outlook. The change is unwise for several rea-

peculiar advantages by virtue of our one variety system, partial destruction of our present industry with consequent serious economic loss and the blow to our present cooperative marketing arrangements. Several conferences concerning the situation have been held, publicity placed, addresses made in public meetings and personal talks entered into by the County agent to attempt to counteract the desire to change.

Assistance was rendered in the formation of a temporary hay marketing organization, while plans for a permanent association are under consideration. Excessive freight rates constitute a serious barrier against hay marketing on a large scale in this County. The State Corporation Commission, in an attempt to secure a reduction of rates held an informal hearing of the cases of the hay growers and railroads, at which time matter was submitted by the County Agent. Sometime later the Corporation Commission asked the County Agent to attend a hearing before the Interstate Commerce Commission for the purpose of adjusting freight rates on certain commodities, including hay, affecting this region. Permission was asked in order to present testimony on production costs, but the States Relations Service held that it would be unwise for the County Agent to appear personally at the hearing. Depositions were made for the use of the Corporation Commission, however, and some relief was obtained as a result of the hearing. While comparatively little time was devoted to this matter it is believed to have been one of the most important pieces of work engaged in. Considerable personal help was given in seed bed preparation, seeding, seed selection, irrigation, inoculation and handling of alfalfa.

The Arizona Gazette, a daily newspaper of Phoenix, staged a con-

ference at Phoenix which was attended to the growers of the

Bureau as one of three judges of the alfalfa fields entered. This involved inspection of about seventy fields and took a weeks time. The work was considered valuable because it offered a more accurate method of premium distribution than is ordinarily met with in fairs.

Some help was given the Farm Bureau in organization of a grain marketing association of a temporary nature. Many growers were advised regarding treatment of seed, seed bed preparation, seeding and irrigation of grain.

The chief fruit work has been with the citrus growers' association. The second annual citrus growers' institute was held in early January, 1920. A two day program was filled with excellent talks by various authorities while a marketing discussion led by Mr. McNabb, of the Bureau of Markets, was especially featured. An attendance of forty-five to fifty were present at each session. There are about 65 growers in the county. At the institute a continuation of previously tried gopher control methods was initiated. Under this plan the Bureau of Biological Survey, under D. A. Gilchrist, furnished poison and supervision while the citrus growers hired a man to do the poisoning, charging each grower with the time the man spent on his place. The entire acreage was poisoned twice and the few remaining gophers were trapped. Three months work was done in this manner. It was sufficiently successful that a new campaign to clean up gophers coming in in the meantime was begun on the same basis in late November, 1921, and a similar campaign to clean up ants is contemplated. Tentative plans have been made for the third annual citrus growers institute to be held in January, 1922. Previous mention has been made of contemplated soil work, and installation of a system of pedigreed ~~seed~~ selection has been planned and ~~partly accomplished~~ in cooperation with the Department of Horticulture of

be spent in citrus work next year for there is little doubt of the value of the industry to this vicinity.

The high price for grapes for the past few years, coupled with the adaptability of the region to production of very early, high quality table grapes, has stimulated the grape business locally to a dangerous point. Considerable individual work has been done in this line and organized work started. Local ~~grape growers~~ and prospective grape growers have formed a ~~grape growers~~ ^{an} ~~association~~ ^{association} to which a plan for a grape growers institute, modeled largely after the citrus institute above described was presented upon their expression of desire to undertake the matter, a committee was appointed to work with the County Agent to make the affair a success. Addresses were given along lines of starting a vineyard, pruning, staking, trellising, cultivation, irrigation, insect pests, diseases, fertilization and marketing. Feature addresses were by Fred Howard of the Associated Raisin Growers of Fresno, California, and Professor F. J. Crider, Horticulturist of the University of Arizona. The two days sessions were held in vineyards and attendance varied from forty-five on a disagreeable day to 125. There were two ideas behind the institute; to give out most accurate information as to how to handle grapes and to attempt to impress grape growers with the desirability of conservative planning.

The earliness, quality, quick maturity, and yield of apricots and plums in this region make their culture very lucrative when they are properly marketed. It is desirable to increase production of these fruits and considerable work has been done toward this end. It has not seemed feasible to attempt this work thus far other than on an individual ~~basis~~ ^{basis}, except where the matter has been presented in addresses at public meetings.

LIVESTOCK.

Where possible poultry lectures have been given, dealing with better methods of feeding, housing, selection, etc. Early in the year a two day poultry school was staged in Glendale. A committee of Glendale folks was in local charge, the chief speakers being R. B. Thompson, Nat E. Luce, E. Draper, and C. H. Westfall. There was some disappointment at the size of the crowd, only 20 being present at each session. Numerous meetings featured poultry talks in the spring and throughout the year, many successful culling demonstrations were held at various parts of the Valley. The interest awakened in these meetings has been very encouraging and the demand for poultry work is much keener than heretofore.

The dairy situation is still unsatisfactory. Many cattle sold from the County in 1919 and 1920 were shipped out of the State subject to the tuberculin test. Sometimes owners allowed the best cows to be culled from herds and the foundation stock left in the County contains many undesirable individuals. Shortage of money has prevented large purchases of new cattle and it is unlikely that the dairy industry will be quickly rebuilt. Plans were formulated early in the year for financing cattle on a better basis. Various interests were represented in the plans, including the Phoenix Chamber of Commerce, financiers, creamery men and dairy men, in addition to the Farm Bureau and County Agent. A financial pool was to be organized and put in the hands of suitable trustees who were to buy only desirable cattle and resell them to dairymen at cost plus handling charges on liberal credit terms. Suspension of activities of two banks precluded putting the plan into effect, however, and it has not been attempted since, pending an opportune time. A dairy organization is now in the process of formation which will probably take care of such matters. This organization

cooperation with the State Dairy Commissioner and the Dairy Department of the State University. About 30 members joined and nearly six-hundred cows have been under test.

Little hog work has been done due to lack of time. Advice relative to feeding, equipment and care has been given in numerous instances. One hundred feeders have been located for one customer and a large bunch of breeding stock placed in pig clubs, partly due to County Agent efforts. Vocational teachers were assisted in putting on programs at hog days. Boys judging contests, awards of prizes and talks on hog management featured the days. There was a combined attendance of about 375. No work of importance has been done along other livestock lines.

No home or club work has been done by the County Agent, such matters being ably handled by other workers.

Success in numerous instances has been attained locally in staging what may be called farmers' institutes. These gatherings savor strongly both of institutes and extension schools. It is the policy of the local office to stage such affairs when proper local backing can be secured, and when there is especial interest in one line of work. Most institutes held throughout the year have already been reported under previous headings. Three institutes were held and were reasonably successful in December 1920, dealing with the general agricultural situation. Speakers for such institutes are obtained wherever those best fitted for the particular topic may be found. Local farmers, organizations and State Institutions have very generously responded with assistance on such occasions.

The policy of the Arizona Extension Service has always encouraged agents assisting at fairs. The Arizona State Fair, annually held in Phoenix,

mittee to put up a suitable agricultural display. Accordingly a competitive display was arranged. The amount and quality of produce entered was very satisfactory. About 30,000 people saw the display.

Beginning with spring, plans have been made with the Lehi district Farm Bureau to stage a two-day community fair in that locality. The fair was held in late November 1921, was wonderfully well attended and was a marked success in every way. A farmers institute program was arranged to run concurrently with the fair.

The County Farm Bureau has appointed a pure seed committee to work out plans for perfecting a pure seed supply for the benefit of Maricopa County farmers. Effective plans have been in operation for several years to insure the purity, perpetuation and distribution of Pima cotton seed. A similar committee last year to further strengthen the existing plan made arrangements for certifying 3,500,000 pounds of such seed. This was done by the County Agent on behalf of the Pure Seed Committee. Substantially the same plan has been arranged for by the present committee for the next planting season and it is hoped to install similarly effective methods of maintaining and distributing seed of many other crops. Pure seed of various sorts, especially alfalfa has been located for individuals in numerous instances.

ASSISTANTS

Need for help in the local County Agent's office has been stressed in several annual reports. The range of work demanded, the size of the County and the inclusiveness of agricultural industry in the County add to the problems of a County Agent. More than half the agriculture of the State is in

Growers' Association gave to this office sufficient money to hire an Assistant County Agent for a year. The Assistant, Mr. C. K. Wildermuth, began services late in November 1920. Shortage of immediately available funds for part of his salary payments began in April. It had been hoped that the University could add enough to the Supervisors' appropriations to make the office permanent but this seemed impossible. Therefore, upon receiving other offers Mr. Wildermuth tendered his resignation, effective September 1, 1921. Slight indisposition rendered the County Agent less active in July and August, than would otherwise have been the case. Hence, practically all field work was turned over to Mr. Wildermuth during the summer of 1921. During the spring months of this year the County Agent's activities in organization caused the routine work largely to be turned to Mr. Wildermuth. The Assistant Agent handled the bigger share of the poultry culling work of the year. He also worked with the Agent on poultry on the majority of the institutes. Aside from such instances, Mr. Wildermuth's work is not reported herein, since funds supporting his office were from sources other than those contemplated by the Smith-Lever law.

OUTLOOK.

The outlook of County Agent work in Maricopa is dependent almost entirely on whether an organization is built here sufficient to handle the work. Injury has already been caused by inability to cover necessary work. The problem becomes increasingly difficult.