

CO-OPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF CALIFORNIA

UNIVERSITY OF CALIFORNIA
COLLEGE OF AGRICULTURE
AND
UNITED STATES DEPARTMENT OF AGRICULTURE
CO-OPERATING

EXTENSION SERVICE
...
FARM ADVISOR WORK
AGRICULTURE CLUB WORK
HOME DEMONSTRATION WORK

AGRICULTURAL EXTENSION OFFICE
MERCED, CALIFORNIA

NARRATIVE REPORT
OF
COUNTY AGRICULTURAL AGENT

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For Merced County

From November 30, 1925 to December 1, 1926

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IV. STATUS OF FARM BUREAU ORGANIZATION

(3) General Policies, Including Relationships to Other Organizations

The County Farm Bureau has recently drawn up and adopted a new constitution and By-Laws. The interesting factor regarding this constitution is the fact that it has been arranged to exclude all but those who are directly connected with farming from membership. In the past, many of the strongest men in this extension organization were those who, while not farming, were more or less directly interested. The organization has also included in its by-laws a clause which permits them to unseat an officer who does not express ideas in conformity with the views of the majority on the Board. Both of these above factors are an outgrowth of some ill feeling and jealousy and may lead to trouble in the future. They have also included in their by-laws a clause preventing any part of the organization from affiliating with other organizations. This clause was aimed at the tendencies of the Farm Centers to affiliate with the local community Chambers of Commerce as well as with the County Farm Bureau organization.

V. Program of Work - Methods Employed and Results Achieved

(1) Factors Determining Program

(1-1) Irrigation Districts and County Development

This County has just completed an irrigation district comprised of 180,000 acres. This district is but one of three now serving the County. The new district is operating under a bonded indebtedness of eighty-five dollars (\$85.00) per acre and is yet quite sparsely settled. The other two districts have large sections of land which are not yet well settled or developed. It is difficult for the large land holders to operate in the face of the heavy irrigation tax, which, in the Merced District, amounts to as much as fourteen dollars (\$14.00) an acre. These tracts of land are being forced on the market at very low prices and many realty settlement schemes are on foot. Some of these are very questionable and the issues developing from them places the Extension Office in a hard position.

New settlers are rapidly entering the district and much of the extension work is with these people, who, for the most part, are unfamiliar with the climate and crops as well as the local farming practices. Owing to the nature of the development, many of the farmers are severely handicapped by lack of capital. This somewhat limits the extension activities, especially in regard to buildings, equipment, etc. Project Leaders and officers for the extension organization are difficult to secure, not because the individuals are not interested in the matter, but largely because their attentions are too thoroughly taken up by their own situation to permit community work.

(2) Project Activities and Results

(a) In Development of Extension Organization During the Year

(a1) Development of Community Program of Work

(a1-1) Agricultural Surveys

With the development of the irrigation district and the subdividing of large tracts of land, many new crops have been introduced. The most recent of these is rice and the Extension Office spent approximately a week during the year in a survey of rice growing with the view of collecting data for later use. Cotton is also a new crop for this area and about 12,000 acres of this crop was grown last year. Most of the extension

activities for this crop were also of a survey nature in an effort to keep in touch with the development of the crop.

(a2) Development of Farm Bureau Departments participating in
Extension work

Departments are slowly developing in the County Extension organization. These are commodity groups which find it necessary to hold special group meetings in order to take up their individual problems because the extension organization cannot devote sufficient time at their routine meetings to individual crops. The Dairy Department and the Horticultural Department are examples of this tendency.

(a5) Development of Production Contests

The second contest year in seedless raisin growing has been completed. There was considerable lack of interest in this contest and it will not be continued. About twenty-eight growers were signed up and twenty-one of these completed with records. Production contests are of value chiefly to obtain data on cost accounting and this requires a great deal of personal attention which the office is not in a position to give.

(a6) Development of Recreation and Other Social Contests

(a6-1) Agricultural Club Encampments, Hikes, etc.

Two agricultural club encampments were held, one for boys and one for girls. The attendance of the boys camp was thirty-six and three days were spent in the High Sierras, transportation being furnished by the club leaders.

(a7) County and Community Fairs

One community fair was held in the county during the past year. The local Farm Center participated with the local Chamber of Commerce in making the matter a success.

The County Fair was also held in August. There was a total attendance of approximately six thousand people. Financially, it was almost self-supporting. While several county organizations were supposed to sponsor the affair, it was practically developed by the County Extension organization. Fifteen different communities exhibited agricultural produce, boys and girls club work, livestock, and poultry.

(a8) Farm Bureau Membership

In spite of the fact that the financial situation has not improved during the past year, the Farm Bureau membership showed an increase of 19% over last year. No new centers were organized, though several were on the verge of organizing. There is now a total of fourteen centers which meet once each month. The Farm Bureau membership comprises of about one-third of the native-born American farmers.

(b) In Soil Improvement

(b1) Irrigation

(b1-1) Irrigation Districts

(b1-1) Irrigation Districts

As before stated, the County is served by three irrigation districts, one of which has just completed construction work. Another district organization is now being attempted to include an old district together with a considerable increased area of land. There is a total of approximately five hundred thousand acres of land under pump or gravity irrigation in the County.

(b1-2) Irrigation Demonstrations

Probably one of the most important phases of extension work has been irrigation and soil moisture studies. This subject is one which is exceedingly difficult to handle. It differs greatly from such definite material such as pruning or spraying, and thus far we have found no practical way in staging result demonstrations. Five method demonstrations were held in five different communities this season. At three demonstrations, land was irrigated in a number of different ways, after which trenches were opened up to show the penetration of moisture. At these as well as at two remaining demonstrations, charts and printed matter were handed out. It is generally admitted that these demonstrations have a very marked effect upon the use of water and more of them should be held. Owing to the fact that it requires several days of preparation and also owing to the fact that it is difficult to secure cooperators who can devote time and land to the matter, we have not held many this past year.

(b1-3) Soil Moisture Studies

The County Farm Bureau, cooperating with the Agricultural Extension Service, continued the soil moisture study campaign during the past season. The Extension organization supplied a revolving fund from which one hundred soil augers were purchased, later being sold to the farmers at a greatly reduced price. These soil augers were distributed together with printed charts for keeping record of crop moisture during the season. A number of very interesting records were secured. We have no way of knowing how many augers were purchased during the campaign, but one retail store reported twenty-three. We estimate approximately 400 are now in service.

(b2) Drainage

(b2-1) Drainage Districts

Two drainage districts are in the process of formation under the auspices of the local Farm Centers. These districts are badly needed in the communities involved but it will require some time before the matter will receive action. The effort is largely the result of educational work conducted in the communities during the past several years by the extension organization. Most of this work consisted of center meeting talks on the effect of water table on crops and soil, personal calls to analyze the crop troubles, and one field tour held two years ago.

(b3) Alkali

Two alkali reclamation tests have been located for next season. Neither of these appear in the statistical report since they were not considered as this year's activities. Sulphur organic matter and gypsum are being used together with drainage provision.

(b4) Cover Crops

The growing of cover crops has become a well established practice throughout the fruit growing sections of the county. Field peas, vetches, Burr Clover, rye and barley proving most successful. Owing to the dry Fall, most of these crops must be pre-irrigated before planting. The projects are now in the campaign stage and will be developed as such during the coming season.

A number of growers have demonstrated the value of annual cover crop planting and while no check plots were maintained, the high yield of first class fruit and desirability of the practice on the plots thus handled were evidence enough to the growers. Those growers who have not yet planted cover crops are for the most part, regarding the practice as desirable and plan on following the example as soon as plenty of fall irrigation water is available.

(b5) Commercial Fertilizers

(b5-1) On Field Crops

(b5-1-1) Cotton

Lime was applied at the rate of two tons per acre on cotton grown on Madera Silt Loam. The area of the test was one acre with an adjacent check. No increase in yield was noticed.

(b5-1-2) Alfalfa

Lime was also applied on alfalfa, together with gypsum, sulphur and rock phosphate in various combinations. The later plot is located on Hanford Sandy Loam and no results were noticed, although careful weights were made.

(b5-2) On Fruits and Vines

(b5-2-1) Vines

One vine fertilizer trial on juice grapes was continued for a second season. The results of the previous year were outstanding, potash being the material which showed the distinct advantage. The plot was carried over a second season without addition of fertilizers and the results were negative, thus indicating that it would be necessary to apply the material each season. This plot was on Fresno sand. The cost of application, together with the cost of the material itself was hardly sufficient to warrant the expenditure in view of the present price of the crop.

One new vine plot was added and the various combinations of nitrogen, phosphate, and potash were applied. Check rows were maintained and close observations were made. This plot was established on six year old Malagas. No results were obtained and we are inclined to assume that commercial fertilizers are of little value on this variety of table grape grown under similar conditions. This plot was on Madera Sand.

(b5-2-2) Peaches

One additional tree fertilizer plot was added during the season and two old plots were maintained. The results from the old plots after three years trials and observations lead us to conclude that very little can be gained by applying complete commercial fertilizers in certain sections.

In all cases, the nitrate fertilizers have proven desirable and several carloads of ammonium sulphate have been applied in the peach growing sections again this season as a direct result of these tests located several years ago.

One new test on Tuscan cling peaches in another community indicated that complete fertilizer as well as ammonium sulphate improved the yield and the growth. This later test was conducted in conjunction with thinning trials and yield on No. 1 peaches was 21% greater than the plot using the complete fertilizer. Where ammonium sulphate was used alone, however, the yield was almost equal to that where complete fertilizer was used and the grower has concluded, in view of the difference of cost between the application of complete fertilizer and the application of ammonium sulphate, that ammonium sulphate could be applied to the greatest advantage.

(b10) Sulphur (alone)

On the alfalfa plot above mentioned (b5-1-2), sulphur was also applied with no result. It is interesting to note that sulphur has given striking results on the Madera sands and sandy loams. Demonstrations have been carried out during the past five years until the practice of applying sulphur is quite established in certain localities. Several carloads of sulphur was thus applied during the past year. The negative result on the Hanford Sandy Loam has been quite a saving to the farmers in the community in question. It was only after considerable cautioning that many of them refrained from applying this as well as other commercial fertilizers on alfalfa during the year the test was established.

(c) In Crop Production

(c1) Field Crops

(c1-1) Cereals

(c1-1-3) Oats

Three trials of Kanota Oats with adjacent check plots of common red oats have been located for observation during the coming season.

(c1-2) Beans

(c1-2-1) Bean Clubs

One bean club has completed a contest this season. The boys, for the most part, grew the new lima bean and sold the product locally for home consumption.

(c1-2-2) Hopi Lima Bean

This lima bean was grown for the second season in the county. A sack of the white variety was purchased by the county extension organization from a cooperator who grew the crop the season previous. This sack was distributed in 10 lb. lots. Several growers reported extraordinary success. One man harvested 12 sacks on a measured half acre upon which he planted 6 1/2 lbs. of seed. He has been offered fifteen cents a pound for the crop and plans on quite an increased acreage next season. Although he is a bean grower in a section

producing a good grade of Henderson Bush Limas, he plans on giving up the growing of this bean because of the preference to the new Hopi Lima which the University introduced two years ago. This bean is drought-resistant and aphid-resistant, but quite susceptible to spider injury.

The Bean is not yet produced in quantity enough to give it a place on the market, the value being placed upon the local interest in the bean for seed purposes. It is so similar to the ordinary lima that it is probable the market will accept it as such.

(cl-6) Grain Sorghums

(cl-6-1) Heileman Milo

Heileman Dwarf Milo was introduced into the County two years ago, some certified seed being secured from the Imperial Valley Growers organization. Leaders are practically unanimous in their opinion that it is a superior yielding strain. It will not, however, be suitable as a second crop sorghum since it requires a longer growing period than White Egyptian Corn. Several yields of thirty-five sacks per acre were obtained this season and in check with White Egyptian Corn, the crop has produced from two to ten sacks per acre more. Owing to a biased market, the preference, however, is for a white corn and the growers are required to accept approximately a cent less. Those who have fed it are quite agreed that it is equal to the white corn in feed value. In sharp contrast to the white gyp corn, rows and the individual plants must be widely spaced in order to obtain the best yields.

(cl-7) Forage Crops

(cl-7-1) For Hay and Pasture

Eight demonstration plots of sweet clover for forage were conducted last year. Apparently the crop is best adapted to the sandy soils, where it has been a fairly popular crop since the establishment of the demonstration in 1919. The tests located on Yolo silt loams and similar soils were not successful.

One trial of Harding Grass, located in the range section of the foot hills, again indicated that this crop is not adapted to this area.

(cl-8) Cotton

As before mentioned, a lime trial with cotton was conducted during the past season with negative results. One cotton chopping trials was also conducted in which the cotton was chopped at several distance intervals. It was revealed that the largest yield was produced by that cotton which was spaced at twelve to fourteen inches, this of course, with reference only to the type of soil upon which the test was conducted. The practice of most growers in this section was to space the cotton from fifteen to eighteen inches.

(c-10) Vegetable Growing

One tomato variety trial was employed during the season. Three varieties of tomatoes were used, the University Marliana selection, variety 5-3 proved much earlier and more desirable than the local varieties. Seed from this successful test was saved and plots have been established for next season.

(c3) Orchard and Vineyard Crops

(c3-2) General Orchard Management

(c3-2-1) Grafting and Budding

One vine grafting demonstration was conducted during the past year, resulting in the working over of about six hundred acres of table grapes to juice varieties. This was probably a false step on the part of the growers, but the matter was carefully called to the attention of the growers at the time of the meeting and they followed the practice with complete knowledge of the situation.

(c3-2-4) Frost Protection

A frost protection service in cooperation with the United States Weather Bureau was established by the Extension Service during 1926. An observation station was maintained in a large commercial orchard several miles from the office and daily observations were telegraphed to the Weather Bureau at San Francisco. The forecast was returned to the Merced Extension Office where a reporter was stationed to transmit the information to those prepared to do orchard heating. No killing frosts were experienced, however, and there was no opportunity to test out the service. It will be maintained for the coming year. About 2500 acres of orchards have been provided with orchard heating equipment and interest in the matter is increasing.

(c3-3) Orchard Pruning

Eleven permanent tree pruning demonstration plots were maintained during the year in as many different communities. One of these plots was continued with a check plot of short pruned trees and is now in its fifth season. The University method of pruning has become standard and practically all commercial orchards in the county are now pruning after this system. Only a few odd lots of trees are short pruned and are generally owned by absentee land owners and pruned by commercial pruners.

(c3-3-1) Deciduous Long-Pruning

(c3-3-1-1) Thinning

Five demonstration plots on fruit thinning were established during the past year. An estimate was made of the yield the trees should produce. The trees were then thinned and a count was made of the number of fruits remaining. The drop was observed and the amount and quality of the fruit produced was taken into consideration. In every instance, the thinning demonstrations proved highly successful. The yield, however, exceeded the estimate in some cases, by as high as 20%, which meant that the fruit was larger than expected. In all of the five plots, practically no cull fruit or No. 2 fruit was to be found while in the check plots maintained in several instances, as high as 20% No. 2's and culls were harvested, and in the other check plots from seven to 10% No. 2 fruits were harvested. It was evident in our thinning demonstrations that we under-estimated the possible yield per tree. This was probably caused by the fact that we had based our estimates on previous crops without late irrigation, and since the new irrigation district provided later water, the fruit sized much better than would have ordinarily been possible.

(c3-5) General Vineyard Management

(c3-5-1) Demonstration Vineyards

(c3-5-5) Thinning

Five grape thinning test plots were conducted this year. On these plots, the grapes were pruned in several different manners and the bunches thinned at different intervals. These tests were all with table grapes, variety Malagas. The results were too indefinite to enable us to draw conclusions, though neighboring counties reported considerable success. The cause for the lack of results on the local plots is not known but they will be continued for another season. The forms were thinned (1) shortly after appearance; (2) just before blossoming; and (3) when the grapes were the size of buck-shot. In all cases, no striking results were evident.

(c3-6) Vine Pruning

Nine permanent vine pruning demonstrations were maintained throughout the season. These vineyards, for the most part, have become real demonstrations and are leading their communities in production records, all averaging well over 2 tons raisins and 8 tons table grapes per acre. With the great drop in prices for vineyard products, interest is somewhat low and demonstration meetings are not well attended.

(c3-8) Other Subtropical Fruits

(c3-8-2) Fig Culture

In cooperation with the Division of Subtropical Horticulture of the University of California, a three acre test plot on irrigation in relation to propagation of young fig trees has been maintained during the past year. *frost protection*

(c3-9) Walnut Culture

(c3-9-2) Training young trees

Three meetings were held in young walnut orchards during the season with a specialist in attendance. Training of young trees was the subject of these field meetings and considerable interest was evidenced.

(c3-9-5) Pruning

Two field meetings on the pruning of old walnut trees were also conducted during the season with a specialist in attendance. Some of these orchards may later be designated as demonstration plots.

(c4) Pest, Insect and Disease Control

(c4-3) Insect Control

(c4-3-1) Nematodes

One plot of peach trees worked on apricot root has been planted in nematode ground as a root-stock test. These trees have done very well during the present season and may lead to some very interesting evidence.

(c4-3-6) Bean Weevil

In cooperation with A. O. Larson of the Bureau of Entomology, Department of Stored Insects, a bean weevil control campaign was conducted. Posters were printed by the Extension organization and committeemen were appointed in the various communities to promote the project and place the posters about the country. Considerable interest was experienced especially after the report came out from the bean buyers that the previous season's campaign netted considerable gain over the infestations. The committees were quite active and in some cases, solicited the aid of the County Horticultural Commissioner to enforce clean-up work.

The 1926 bean season, however, proved very desirable for bean weevil development. The low price of beans during the Fall of 1925 caused a number of growers to hold over small lots of seed and a number of small warehouses had lots which were carelessly left because there were no bidders. As a result of this, bean weevils spread from these hold-over lots which, in most instances, were not found by the committeemen. Later, these lots of weevily beans, when found to be worthless, were given to unsuspecting farmers for poultry and hog feed and thus the weevil was distributed through the bean growing sections in spite of the efforts of the committees. The infestations have been very bad this season as a recent survey has revealed. The growers, however, re-resented on the committees, while quite disappointed at the result, are more determined than ever to see the matter through. They will devote some attention to warehouse lots next season.

(c4-4) Weed Control

(c4-4-1) Puncture Vine

Some fifteen years ago, this weed made its appearance in the county. Since that time, it has been gradually spreading, mainly on the automobile tires, until it is quite well established in most communities. It has not yet made its appearance in many of the cultivated fields, however, though it has been found in these in enough instances to awake the banking interests and farmers to the seriousness of the pest. In view of the general interest in the matter and the lack of organized effort, the Extension Office, cooperating with the County Horticultural Commissioner and the County extension organization, launched a puncture vine campaign during the year of 1926. Committeemen were appointed in each Farm Center, in each Chamber of Commerce and other commercial and civic organizations. Funds were supplied and the campaign was launched.

The first problem was to acquaint the people with the nature and the menace. Each committeeman was therefore given a large botanical weed mount containing a puncture vine. Posters were printed in large numbers and placed in conspicuous places throughout the county. Standard recommendations for the control measures were adopted and this material was broadcast through the press and through the county committeemen. The result was surprisingly good and the puncture vine was an uncommon sight this season with one exception. The State Highway organization was not sufficiently active and though they made some attempts to clean up, their efforts were too infrequent to be entirely effective.

The two above campaigns demonstrated to the interested people the necessity of united community action on common weed and insect pests.

(d) In Livestock Production

(d1) Dairy Improvement

(d1-1) Cow Testing

During 1926, the number of cows on test has increased from 3500 to 4500 and four testers instead of three are in the employ of the Dairy Department of the County Farm Bureau. The demand for testing is on the increase, principally due to the fact that the men who have tested the longest are now showing the results and the organization problems are becoming less and less difficult.

The following data was obtained on the first 14 herds to complete a second year of testing and shows, that although they vary greatly in size, the average increase in butterfat per herd per year amounted to over 1000 lbs.

Herd No.	No. of Cows	Lbs. B.F. yearly per cow first test- ing year	Lbs. B.F. yearly per cow first test- ing year	Increased total B.F. production for herd per yr.
1	18	289	318	522
2	45	272	311	1755
3	61	267	301	2064
4	42	239	314	3150
5	16	260	319	944
6	36	291	321	1090
7	24	257	263	144
8	24	277	306	696
9	40	313	317	160
10	31	318	334	496
11	94	240	266	2444
12	92	277	291	1288
13	18	335	342	126
14	29	339	348	261
		276	303	15130

A total of 567 boarder cows have been culled out during the year on the basis of cow testing records and a large saving in feed and labor has resulted from this weeding out of unprofitable producers.

(d1-2) Better Stock

(d1-2-1) Better Sires

The increased size of the Cow Testing Association has resulted in more effective work on the purebred sire campaign. With 110 dairymen in the Testing Association, the number of dairymen with whom the Extension Office is in close contact has greatly increased and in this way when a dairyman wishes to purchase a purebred sire, the Extension Office hears of it within a short time. Thirty-four Merced County dairymen have purchased well bred herd sires since December 1st, 1925 and since most of these dairymen are in the Testing Association, we hope to obtain some excellent local

data on the value of good purebred sires within the next few years. It is estimated at the present time that there are about 1100 dairy herds in Merced County and that 90% of these herds are headed by purebred sires.

The purebred sire campaign, as such, can now be considered nearly completed since in general, the dairymen throughout the county realize the value of a well bred herd sire. This project has now taken on more of the phase of assisting dairymen to replace one purebred sire with another of breeding and individuality equally as good or better.

(dl-2-2) Better Females

Cow testing plays an important part in improving the standard of dairy cows in Merced County. A large number of the dairymen who are testing are keeping only the heifers out of their highest producing cows, and by good purebred sires.

(dl-3) Better Feeding

(dl-3-2) Balanced Rations

There has been a pretty general practice in this county to feed some concentrates during the winter months, principally with the object of saving hay. This concentrate feeding has been very wasteful in method and no attempt has been made to corralate the amount of concentrates fed with the amount of butterfat produced by the individual cows.

A series of eight feeding meetings was held this Fall and the importance of feeding each cow according to her butterfat production was stressed. Results obtained from feeding in this way by some of the men who are testing will probably lead to continuous grain feeding throughout the year on several demonstration ranches.

(dl-4) Dairy Calf Clubs

Dairy calf club work, along with all other agricultural club work, has increased greatly in volume during 1926. Five calf clubs were organized and out of the 41 members who enrolled, 34 completed the calf feeding contests held. The calf clubs have served a very valuable purpose in obtaining cost of production data on the raising of dairy heifers in this section. There has always been a decided feeling against raising young dairy stock owing to the fact that most of the product is sold in the form of whole milk. It has been demonstrated that good calves can be raised on a minimum of 40 days on milk by substituting certain concentrates.

The average cost of raising a heifer to the age of six months, as shown by calf club record books, will average in this section, about \$40.00. Adding on two dollars a month for the remaining 18 months before the heifer will freshen, means that the average dairy heifer in this county would represent an outlay of about \$75.00. The advantages of raising young heifers as compared with that of purchasing new stock can readily be seen when young stock was selling this year for as high as \$115 a head, and when the great possibilities of introducing disease into a herd is also considered.

(d2) Beef Cattle Improvement

(d2-2-2-1) Harding Grass

Despite the fact that Harding Grass proved a failure in 1925, it was given another chance in 1926 and again failed on the West Side of the County. One of the reasons probably for the failure this year was a shortage in rainfall. This grass is to be given one more chance and a plot of 15 acres has been laid out by a cattleman on the East Side.

(d3) Swine Improvement

(d3-4) Pig Feeding Clubs

Two pig feeding clubs were carried to completion and this type of agricultural club contest proved to be most profitable to the club members taking part in it. The average return resulting from their efforts netted the club members on the average of eight dollars apiece. The scope of this type of contest was limited through the shortage of feeders on the market. This shortage in feeders resulted directly from the great decrease in amount of hogs in Merced County, there now being less than 20% of the hogs that were in this county four years ago.

(d6) Poultry Housing

(d6-1) Poultry Housing

The shed roof type of poultry house as recommended by the Agricultural Experiment Station has been discussed at center meetings on poultry and they were constructed during the past year at approximately 400 running feet of this type of house in the County.

(d6-2) Poultry Feeding

Poultry feeding has been discussed at a number of center meetings and also at poultry field meetings. Also, a number of calls have been made where corrections in feeding processes have been recommended.

(d6-3) Poultry Breeding

(d6-3-2) Poultry Culling

Poultry culling is now a generally recognized practice. However, the constant influx of new-comers in the poultry game make the continuance of method demonstrations advisable, and a series of four meetings were held with a total attendance of 107.

(d6-4) Poultry Brooding

As usual, a series of seven field meetings were held at which the principles of poultry brooding were demonstrated. The total attendance was 148.

(d6-5) Poultry Clubs

(d6-5-3) Brooding Clubs

Three agricultural club contests in the brooding of baby chicks were carried to completion with as many local leaders sponsoring the work. Out of the 14 club members starting in the contest, nine completions were recorded. Poultry club work is gaining in popularity owing to the small amount of capital required to enter the contest and since this phase of poultry extension work has exceptional demonstrational value, it will be continued during the coming year. The need for diversification is also apparent in some of our fruit growing sections and as a means of accomplishing this diversification, poultry clubs have proved important.

(d6-6) Poultry Disease

(d6-6-1) Chicken Pox

Chicken pox is a seasonal disease and every Fall, the Extension Office can count on considerable activity in assisting poultrymen in its control by demonstrating the method of vaccination, obtaining vaccine, lending hypodermic outfits, etc.

(d6-6-2) Blackhead in Turkeys

The cooperator in the blackhead control work this year again brooded his turkeys artificially with good success. This project is now past the trial stage and will be placed in the demonstration stage next year.

(e) Farm Economics

(e1) Farm Accounts

The value of accurate cost account records is becoming more and more apparent to farmers each year. Twelve alfalfa growers were asked to cooperate in keeping costs of production of this crop in 1926. Of this number, six complete records will be obtained. Owing to the importance of the information just received from this cost account work, an effort will be made to greatly increase its scope during 1927.

(e2) Farm Building Plans

The trend of the dairy industry in Merced County is toward market milk and it can be predicted with reasonable surety that the next ten years will see numerous dairies change their buildings and equipment so that they can meet the requirements of market milk production. In anticipation of this change, the Extension Office secured the assistance of H. L. Belton, of the Agricultural Engineering Division, with the result that a demonstration market milk layout is now being erected in the McSwain District.

(f) In Marketing (Buying and Selling)

(f1) Buying and Selling Associations

(f1) Buying and Selling Associations

Several local Farm Centers have made a practice of pooling their orders for the purchase of materials in car lots or in large quantities. Fence posts, lumber, coal, feed and seed has thus been purchased. In every instance, local merchants have been given the benefit of the doubt when prices are quoted, so no ill feelings have developed.

(f2) Organization of Marketing Facilities

The County Farm Bureau has recently made an attempt to market better farm produce in Yosemite Valley. In the past, the concessions in charge of the markets of this National Park have never given much attention to supplying fresh fruits or vegetables to their trade. What little material was obtained very often went through a number of hands before it reached its destination. In numerous instances, it was purchased locally, sent to distant wholesale markets and later re-shipped into the Valley, to arrive in a poor condition and to be sold at relatively high prices. The concession interests together with the County Farm Bureau are now working on a method of improving the situation. The meetings were arranged by the Extension Service.

(g) In Farm Home Betterment

(g1-1-1) Septic Tanks

Twenty-eight plans for the construction of the Farm Septic tank has been distributed during the past year and seven tanks have been installed in accordance with these plans. It is probable that many more have been built, but there is no method of obtaining these figures.

(h) In Boys and Girls Club Work

The outstanding development in club work during the past year was the great increase in the number of local leaders who assisted the Extension Office in carrying on this project. The number of local leaders in the county increased from two in 1925 to 22 in 1926.

The quality of club work which was carried on maintained an excellent standard. Two agricultural club encampments were held, one for the girls and one for the boys and at the boys camp, the total attendance was 36.

The number of delegates from Merced County to the Annual Club Convention at Davis was greatly increased and a total of 57 club members, local leaders, and chaperones visited the convention.

(3) Character and Scope of Office and Field Service

The Merced Extension Office consists of three Agents: Farm Advisor, Assistant Farm Advisor, and Home Demonstration Agent. In addition to these agents, there is one stenographic secretary for the Extension forces and one secretary for the County Extension Organization (Farm Bureau).

The Farm Advisor devotes his attention to administration and horticultural, field crop, and irrigation matters. He also devotes considerable time in aiding the Extension organization in their administration work.

The second agent devotes his entire time to dairy, poultry, and Agricultural Club activities.

The Home Demonstration Agent devotes her time to Household Science and other allied subjects.

The possible extent of extension activities is so great that with the present force, only a small portion of the field can be reached. The County has two thousand square miles, ~~one-third~~ of which is cultivated land. All of the remaining portion is used for grazing purposes. Almost every crop grown commercially in California is also grown commercially in this county. The first danger is, with the small extension force available, that we will divide our interests and attempt activity in too many fields. In fact, this is the tendency at present.

(4) Analysis and Interpretation of Tabular Summary

This year's summary shows of the considerable increase in club activities. There were fifty junior members in Agricultural Clubs, exclusive of those supervised by the Home Demonstration Agent, as against ~~twenty-two~~ *thirty-two* members last year. These members were aided by eleven adult club leaders, when two adults functioned last year. The male members of the Extension force spent fifty days of the entire year on club work this season in contrast in twenty-two spent last year. It would appear, from this statement, that adult club leaders are not a great saving in the Extension Agent's time. However, the matter is in its infancy and leaders developed this year may be able to enroll more club members for next year's activities. It will be noted that for double the amount of the Agent's time, only twenty more or about 60% was added to the club enrollment.

Office calls increased 7.3%, or from 1598 to 1718. Phone calls increased 30.4%, or from 1398 to 1812. The total number of days in the office remained identically the same, 212. The total number of days in the field decreased from 381½ to 353. This was largely due to the fact that a year ago, an itinerant assistant served the office while the County Agent was away, following the death of his wife. This season, during a leave period, no itinerant was present. In addition to this, the Assistant County Agent took a slightly longer vacation this year than last. The number of letters written increased from 1598 to 1999. The number of result demonstration plots remained practically the same, there being in 1925, 117 and in 1926, 115. This number might be increased by a large figure since there are many plots established by farmers which are under observation but which are not considered as demonstrations or demonstration plots since the Agents themselves were not instrumental in locating them, although they are often called to observe them and sometimes make suggestions regarding their establishment.

The meetings at result demonstrations and total attendance decreased sharply over that of 1925, but about equals that of 1924, there were 56 meetings with a total attendance of 1360 and an average attendance of 24.3; in 1925, there were 86 meetings with a total of 1830 in attendance and an average attendance of 21.5; in 1926, there were 58 meetings with a total attendance of 1340, and an average attendance of 23.1. The great drop in the number of result demonstration meetings is difficult to analyze, but is chiefly due to the lack of interest in meetings along horticultural lines. This, in turn, is due to the economic situation of fruit crops. These horticultural demonstrations were easily arranged and made ideal field meetings: pruning, spraying, wire bracing, etc.

The number of farm visits increased 32.6% from 1895 to 2514. This increase was largely in the field of the Assistant Farm Advisor. Directors meetings increased in average attendance, but there was one less meeting held during the year. In 1925, there were thirteen meetings with a total attendance of 225, and in 1926, 12 meetings were held with a total of 233 in attendance. County committee meetings decreased considerably. In 1925, there were a total of 32 meetings with an attendance of 254 while in 1926, there were a total of 20 meetings with an attendance of 210. This shows increased attendance per meeting. The center meetings remained approximately the same. During 1925, there were 134 meetings with a total attendance of 7564 and an average of 56 at each meeting. During 1926, there were a total of 130 meetings with a total attendance of 7023, or an average of 54 in attendance.

The increase in membership in the county extension organization was 19% or from 643 to 767.

I believe this analysis indicates a healthy growth of extension work with the exception of meetings at result demonstrations. There will be an attempt made to increase these next year.

VI. OUTLOOK AND RECOMMENDATIONS (including SUGGESTIVE PROGRAM OF WORK FOR NEXT YEAR)

The field of the Extension work is continually increasing, but in order to cover it thoroughly in a county of this size, 2000 sq. miles, additional agents will soon have to be added. The County Farm Bureau, at a recent meeting, voted to make an effort in this line.

The Extension Program and the County Farm Bureau program for the ensuing year is as follows:

Extension Program

1. Irrigation and Drainage Improvement

- (a) By irrigation and drainage field meetings
- (b) By a school for irrigation project leaders
- (c) By securing cooperators to measure water used
- (d) By aiding to organize drainage districts on the West Side

2. Soil Improvement

- (a) By a Green Manure Crop campaign
- (b) By continuing to observe results with Commercial Fertilizers

3. Dairy Improvement

- (a) By maintaining Cow Testing Units
- (b) By talking better feeding to dairymen
- (c) By aiding in purchase of purebred sires
- (d) By holding meetings on successful dairies, showing results

4. Education on Agricultural Economics

- (a) Better understanding of markets and marketing processes
- (b) Better understanding of production trends
- (c) Cost Accounting of Certain crops

5. Agricultural Club Work with Boys and Girls

- (a) To maintain Calf Clubs
- (b) " " Pig Clubs
- (c) " " Girls Sewing Clubs
- (d) " " Chick Brooding Clubs
- (e) " " Egg Production Clubs
- (f) " " Bee Clubs

6. Plant Disease and Pest Control

- (a) To conduct Puncture Vine Education and Campaign
- (b) " " Bean Weevil Education and Campaign

7. Poultry Improvement

- (a) To hold Brooding meetings
- (b) " " Culling meetings
- (c) " " Feeding meetings
- (d) " " Poultry Pest and Disease meeting

8. Miscellaneous Crop Trials

- (a) To conduct trials of Hopi Lima Beans
- (b) " " " " Better Milo Seed
- (c) " " Kanota Oats Tests
- (d) " " Sweet Clover for Forage campaign
- (e) " " Tomato Variety Tests

9. Horticultural Improvement

- (a) To demonstrate tree pruning; Peach, Prune, Apricot, Almond, Fig, etc.
- (b) " " vine pruning
- (c) " conduct vine variety tests
- (d) " " tree " "
- (e) " " rootstock tests and observations
- (f) To hold tree bracing meetings
- (g) " " walnut tree training meetings
- (h) " " grafting and budding meeting

Farm Bureau Program

1. Continue Activities on Legislative Matters:

- To include the butter substitute regulation
- Commission merchant regulation
- Standardization of fruits, vegetables, etc.

2. To hold an Annual meeting and picnic

3. To maintain a Farm Bureau Monthly

4. To support a County Fair

5. To maintain the membership and extend the organization of Farm Centers

6. To maintain a home Department

7. To maintain a Public Utilities Department

8. To continue activities on the tax problems

9. To make an effort to establish better marketing of farm products in Yosemite

VII. SUMMARY

During 1926, more attention was given to the Farm Bureau organization than for some time in the past. This was reflected in the membership drive and in the programs of the various Farm Centers. There was more individual work with farmers in the field as indicated by the great number of increase in farm calls. All this activity resulted in less time to organize and hold demonstration meetings and may be one reason for the dropping off of this activity.

There is also more club work. I believe the outstanding accomplishment of the extension work in this county during the past year has been the gradual awakening of the farmers to certain economic facts and production trends. This work was commenced several years ago and it is quite common now to hear farmers talking about these matters among themselves.

Soil moisture studies have also been an outstanding feature of the extension work. It is probable that this is one of the most important phases since it affects more lines of farming than any other project. There has been a decided increase in the knowledge of irrigation and a growing realization that extreme care must be used in the application of water. The interest and knowledge on soil improvement work, another leading project, has not been quite so great. It seems difficult to give the average farmer the knowledge of the factors back of soil improvement. He feels that he should be able to renew his soil by laying in a supply of commercial fertilizer. This fact is evident in spite of the effort made by the office during the past several years. Although there is a growing interest in the growth of green manure crops as previously mentioned in the report, it is by no means considered by the average farmer as the leading feature of soil improvement work.

I believe the three above mentioned projects will be the first ones engaging the interest to the Extension Service during the coming year.