AGRICULTURAL CROP REPORT

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COUNTY OF SAN JOAQUIN

☆

1948

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SAN JOAQUIN COUNTY
DEPARTMENT OF AGRICULTURE

HANSEN-CARTER CO., STOCKTON

SAN JOAQUIN COUNTY

Department of Agriculture

AUSTIN E. MAHONEY
AGRICULTURAL COMMISSIONER

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POST OFFICE BOX 1809
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TO THE STATE DIRECTOR OF AGRICULTURE AND

THE HONORABLE BOARD OF SUPERVISORS

Section 65 of the California Agricultural Code requires that the Agricultural Commissioner keep a record of his official acts and make an annual report to the Director of Agriculture on the conditions of the agricultural interests in his county as to what is being done to control pests and also as to quarantines against pests, and Section 65.5 requires that the Agricultural Commissioner compile a report covering conditions, acreage, production and value of the agricultural products of his county. This is the fifteenth annual report published by this Department.

Approximately one hundred commercial crops are covered in this report and for your easy reference are segregated as to their commercial use wherever possible.

Acreages of permanent crops are reported in actual bearing acreage only and other crops are reported in actual planted acreage. Production is reported in units commonly used in the marketing of crops commercially in this county. Prices are reported on an F.O.B. basis. Cost of production, harvesting, packing and other handling costs should be deducted to arrive at a true farm value.

As copies of this report are sent to a number of persons in other states, to federal, state and county agencies throughout the United States and to an increasing number of organizations and individuals within the state, the members of this Department have made every effort to make this report as accurate as possible by checking our figures with every known source of reliable information.

I wish to express my sincere appreciation to all who have assisted my inspectors and deputies by furnishing necessary information to them which has made the compilation of this report possible.

Respectfully submitted,

Austin E. Mahoney

AGRICULTURAL COMMISSIONER

1/15/49

CONTENTS

ADMINISTRATIVE AND STAFF PERSONNEL

OFFICE	ADDRESS	PHONE
Stockton	Hazelton & B Streets, P.O. Box 1809	Stockton 6-6806
Lodi	Lodi City Hall	Lodi 261
Manteca	Manteca City Hall	Manteca 44
Tracy	Tracy City Hall	Tracy 1264
Linden	Walnut Plant	Linden 18

PERSONNEL

Austin E. Mahoney	Agricultural Commissioner	Stockton Office
Lester R. Brumbaugh	Chief Deputy	Stockton Office
Aage R. Tugel	Senior Deputy	Tracy Office
Lloyd V. Braghetta	Senior Deputy	Stockton Office
Mark A. Huberty	Junior Deputy	Stockton Office
George J. Stipe	Junior Deputy	Lodi Office

AGRICULTURAL INSPECTORS

Stockton Office

Elna Benjamin	Quarantine Inspector & Office Asst.
Allen L. Bugbee	Seed Certification & Linden District
Forrest A. Darby	Quarantine & Standardization
Floyd Hutchings	Entomology and Plant Pathology
Kenneth W. Jones	Quarantine Certification
Elmer T. Pahl	Grain & Seed Inspection & Fair Exhibits
John Solari	Farmington District
D. V. Widney	Warehouse

Lodi Office

L. F. Ashley	Elliott & Victor Districts
Marvin Switzenberg	Terminous & Thornton Districts
C. W. Thompson	City of Lodi

Manteca Office

Walton Bauer	Escalon District
Jess Grisham	Manteca District
Nick J. Wolter	City of Manteca & Ripon District

Tracy Office

Wilfred McDaniel	South Tracy District

SPECIAL WEED CONTROL PROJECT

Richard R. Raney	Inspector
Walter Beck	Mechanic

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Elmer Henson	Truck Driver
Charles Posey	Truck Driver

FAIRS AND EXHIBITS

Our exhibitions of agricultural products from San Joaquin County at the California State Fair and Los Angeles County Fair not only walked off with top honors at both fairs, but excelled all previous records for this county. Our county displays were awarded over $5400 in prize money along with numerous ribbons and trophies.

AT THE CALIFORNIA STATE FAIR the theme "Out of This World" was expressed by a great revolving world surmounting the exhibit with lessor globes centered on revolving tables covered with agricultural produce of grain, fruit, and vegetables at each corner. On the central table were twelve mechanical farmers, one for each month of the year exemplifying that in San Joaquin County "Any Time is Harvest Time". A total of eleven first sweepstake prizes included almonds, walnuts, barley, root vegetables, plums, wheat, garden seeds, prunes, plant vegetables, field seed and sweet wine. Second place sweepstakes were won for melons and squash, nectarines, table grapes, wine grapes, and peaches. This exhibit was awarded 14 cups, 102 blue ribbons, 89 second place ribbons, and 39 third place ribbons. The special trophy for the outstanding exhibit for the entire show was also awarded to San Joaquin County, and a special trophy for the outstanding exhibitor of the year was awarded to Austin E. Mahoney, Agricultural Commissioner who wishes to pass on much of the credit to the other members of this department who were in a large measure responsible for the honor of winning this trophy.

AT THE LOS ANGELES COUNTY FAIR a panorama of San Joaquin County with metallic mechanical "Men from Mars" were laboring in the fertile fields of various agricultural crops. The exhibit showed the great diversification of crops which these mythical "Men from Mars" have discovered. Surrounding this were all of the products of the county arranged in systematic manner. The exhibit won first honors in Group One as being the most complete display of agricultural and horticultural products of any one county. First sweepstakes were won in grains and seeds, beans, melons, pumpkins and squash, grapes peaches, plums and prunes. This county also received 173 first, 52 second and 22 third awards.

AT THE SAN JOAQUIN COUNTY FAIR a keen competitive spirit between various districts in the county produced a colorful array of exhibits portraying the 1948 gold theme. For each entry a mural as a background or some configuration portrayed the relative value of agricultural products and gold. Awards at the county fair were as follows: In the Community Display, Section I, Linden exhibit was awarded first prize. Lodi followed in second place, Escalon third and Tracy in fourty place. In the Community Display, Section II, Ripon was awarded first prize followed by Clements in second place and Stockton in third place. In the Feature Display, French Camp took first prize, San Joaquin Delta second place and Manteca third place.

AT THE 20th ANNUAL FLOWER SHOW in the Civic Auditorium one of the brightest and most colorful floral exhibits was displayed under the sponsorship of the Stockton Garden Club. On the stage a San Francisco cable car scene portrayed the theme, "Friendship Flower Mart" arranged by this department.

APIARY

The purpose of bee inspection is to prevent the introduction and spread within the County of diseases injurious to bees. Colonies infested with American Foulbrood, a very infectious bee disease, are fumigated to kill the diseased bees and then burned to eradicate the disease.

The total number of colonies for this county range from 14,000 to 15,000 throughout the year. Approximately 6,000 are transient colonies. Upon request certificates of inspection and certificate for queens for out of state shipments are issued by this department.

This year small losses due to the application of poisonous insecticides to crops for the control of insects were experienced. The substitution of the comparatively safe DDD (Dichloro-diphenyl-dichloroethane) for the more poisonous materials was one of the important factors contributing to this low bee mortality.

HOUSEHOLD AND GARDEN PESTS

Scarsely a day passes without this office receiving at least one call from someone requesting information for the control of insect pests either inside their house or in their garden. Many times the identification of the insect is not known or only a general description of the condition of the plant can be given by the person. Under these circumstances it is necessary to call on the party in question and only after a positive identification can proper control measures be recommended. These calls are necessary not only to assist the party involved but it is never known when a new pest to this county will be found that is of a serious nature to agricultural crops. By discovering such a pest before it has a chance to become established and spread to neighboring properties methods of suppression or eradication may be effectively employed.

Many times the plants are suffering from a physiological condition. If this condition is suspicioned to be caused by soil irregularities, the soil is analysed in our laboratory for injurious salts, for deficiency of some vital plant food materials, or for the ph (acid-base content) of the soil. Armed with this knowledge soil corrections can be carried out in an intelligent manner by the application of proper fertilizers or readjusting the soil ph.

COOPERATION WITH BUREAU OF MARKET ENFORCEMENT AND BUREAU OF MILK CONTROL

Unveiling the statistics on money recoveris and money adjustments shows that many farmers in this county took advantage of the services extended by these State Bureaus. Through investigations, hearings and procedures set forth under the Produce Dealers Act, the Processor's Law and Milk Control Laws resulted in a net remittance of $104,151.30 to growers of this county.

Whenever controversies arise between growers and dealers or processors, the County Agricultural Commissioner's Office extends every possible effort to aid the Bureau of Market Enforcement by collecting necessary evidence concerning these cases. With this evidence it is

possible to offer a thorough presentation of facts on both sides which will result in a fair readjustment to all concerned. Many of these complaints are first received at this office and then all details concerning the complaint are transmitted to the Bureau.

All buyers of farm commodities must be licensed by the Bureau of Market Enforcement. This applies to cash buyers as well as others. The County Department assists the Bureau in seeing that all these buyers are properly licensed.

The following amounts were recovered:

	Number of Complaints	Amount Received
Produce Dealers	48	$47,173.15
Processors	35	$54,829.70
Milk Recoveries	0	$ 2,148.45
Total	83	$104,151.30

The County also maintains a special office in the Agricultural Building for State Officials for the purpose of holding hearings or any other activity which requires office space.

MISCELLANEOUS DEPARTMENTAL DUTIES

To more effectively carry out the duries of this department and in order to extend better service to the farmers in the county this department is engaged in a number of miscellaneous duties.

PHOTOGRAPHIC WORK Each year numerous pictures are taken and developed by this department. This year 48 black and white films and 400 colored slides were prepared in our laboratory. This has provided a very convenient method of securing a record of agricultural facts found in this county. By developing the pictures in our own laboratory time is saved and costs reduced. Employing the use of photographs as court evidence on several occasions this year has been most helpful. Most important of all has been the value of these pictures for visual education. At farm meetings talks supplimented with slides portraying conditions in the county has been very helpful.

GERMINATION TESTS For the benefit of farmers and other interested parties germination tests were run on forty-four lots of beans. This not only gave our department desired information but materially aided farmers that wanted to know the percentage of viable seeds.

SUGAR AND SUGAR-ACID TESTS In order to aid grape farmers at the beginning of the harvest season, grapes were given the sugar (degree Balling) or sugar-acid (Balling-acid ratio) test free of charge by this department. Since the acidity of the grapes is correlated with their eating quality as well as the sugar content, tests were so metimes run on both. This eliminated the guessing on the proper time to pick the grapes; thus premature pickings were held to a minimum. This season 75 sugar-acid tests were run.

SALINITY TESTS At the first part of this year it was deemed necessary that methodic testing for salinity of water from waterways in the delta area be undertaken. The abnormal weather conditions at the beginning of the year along with the suspicion of some farmers that damage to their crops had its source from the irrigation water prompted this action. Since the delta area relies on this water for irrigation of crops, this constituted vital information to farmers in this locality. To obtain accurate records, samples were periodically taken at ten strategic locations in the county throughout the year. The salt content of the river water reached its maximum in March at two to three hundred parts per million which is below the amount of salinity which will impair the quality of the water for irrigation. Since this time the salinity has decreased considerably.

SOIL TESTS Requests by people in rural and urban areas to diagnose the cause of sick or dead plants have been solved by running tests upon samples of the soil in the laboratory. Frequently alkali soil is found responsible for the adverse conditions that existed; other tests revealed the deficiency of some vital food material.

IDENTIFICATION OF INSECTS, DISEASES AND PLANTS Among the more important duties of this department is the proper identification of insects, diseases and plants. In many cases it is obvious that such information be available before problems dealing with these insects, diseases or plants can be solved. In case verification in the identification of these insects, diseases or plants is necessary, specimens are prepared and sent to the taxonomist at the State Department of Agriculture.

FARM BUREAU AND GRANGE MEETINGS One of the best opportunities to contact farmers and pass on information pertinent to the work of this department is through the Farm Bureau and Grange meetings. Here specific problems of that district can be discussed or educational methods employed. By having a member of the Department present, questions related to the work of the Department can be readily answered.

NURSERY INSPECTION

The nurseries in San Joaquin County are inspected annually to determine the presence or absence of insects, mites, nematodes, plant diseases or weeds which are considered to be pests. Since nursery stock is distributed to all parts of the county and to points outside of the county, the ideal time to destroy the plant pests is at the nurseries thus preventing their spread. Nurseries that were found relatively pest free were those that had carried out a recommended systematic spray and fumigation program with materials effective against a particular pest or group of pests.

NURSERIES The inspection of nursery stock and premises which was completed the latter part of the year did not reveal the presence of any new pests. There were thirty-three nurseries inspected and forty-nine different pests found and properly controlled.

All pests found are of common occurrence throughout the state with the exception of Deerweed Scale, Asterolecanium arabidis. Twenty-two pittosporum plants infested with this scale were immediately destroyed by burning. This pit making Deerweed Scale is found on wild deer weed plants throughout several areas of the state, and it is of common occurrence on pittosporum and privet plants used for ornamental purposes.

TOMATO TRANSPLANTS The tomato industry plants one of the largest crops in this county. Each year it has been necessary for the County Department of Agriculture to reject thousands of nematode infested plants to prevent the spread of this pest to soil which is free of nematode. Once the nematode becomes established, it is impossible to rid the land of this highly undesirable pest. Tomato growers should take every possible precaution to prevent the spread of nematode to their soil.

Tomato Transplants Inspected for the Year

Free from Nematode	22,501,000
Infested and Rejected	8,229,500
	30,730,500

ORCHARD AND FIELD INSPECTION

In order to more adequately protect the crops of this county, inspections of orchards and field crops for established injurious insects and plant diseases are carried out as often as it is deem advisable. Established infestations are inspected periodically to observe current control measures, and if the present control measures are not adequate, more strigent measures may be enacted, especially, when there is immediate danger of spread of the pest to adjoining properties.

Periodic inspections of orchards and field crops are necessary to guard against any new pest that may have been introduced into the county, and if present, immediate steps for the eradication or control may be undertaken. In order that such suppression measures will meet with the highest degree of success, field observations of current pest control operations must be observed.

However, if cooperation of the landowner involved is not secured and neighboring properties are menaced by these agricultural pests, measures as set forth in the California Agricultural Code are enacted. These measures include abatement or quarantine procedure. Whenever neglected or abandoned plants or crops which are hosts to detrimental pests and endanger adjoining properties, such pests are abated by eradication or other appropriate methods. Following is a brief summary of some of the important pests to crops found in this county.

INSECTS AND MITES ON FRUIT AND NUT CROPS

Codling Moth (Carpocapsa pomonella) continues to be a major pest of walnuts. Worm damage was considerable higher this year in many orchards. Heavy flight of this

moth were approximately 40 days later than normal; consequently early spraying did not give the protection for this unusually late flight which probably accounted for the severe damage.

Walnut Aphis (Chromaphis juglandicola) population was high and many growers were compelled to dust one to three times to combat this insect. Several new smoke machines were built by growers using the chemical TEPP (Tetrethyl pyrophosphate) or HETP (Hexaethyl tetraphosphate). Control from these operations in most cases gave excellent results.

San Jose Scale (Quadraspidiotus perniciosus) continues to cause some injury to fruit trees, particularly cherries and peaches. Most growers are becoming aware of this scale insect and are holding it is check through the use of oil or lime sulfur sprays.

Peach Twig Borer (Anarsia lineatella) infestations were light in most orchards and conditions were similar to that of previous years.

Almond Mite (Bryobia praetisoa) was present in many orchards; however, heavy damage did not materialize. Moderate losses occurred in nonirrigated orchards. These mites are developing into a major pest of almonds.

Grape Erinose Mite (Eriophyes species) were numerous during the spring in many vineyards, but only in a few instances did damage result to buds and leaves from this mite.

Grape Phylloxera (Phylloxera vitifoliae) continues to be a problem in many vineyards. Growers are becoming more conscious of this insect each year due to its devastating effect on grapevines. Several new infestations were discovered during the year.

Grape Leafhopper (Erythroneura comes) were late in developing due to climatic conditions. Consequently, the number of broods were decreased and with more growers using DDT in their early dusting program, damage was held to a minimum.

Pacific Mite (Tetranychus pacificus) The cool summer nights retarded the development of this mite; consequently, damage was lighter than in previous years.

Canker Worms (Alsophila pometaria & Pleacrita vernata)on cherry trees was held to a minimum by spraying with pyrethrum. In some cases growers used DDT dust applied by airplane which resulted in a good control.

PLANT DISEASES OF FRUIT AND NUT CROPS

Brown Rot (Sclerotinia fructicola & Sclerotinea laxa) caused heavy fruit loses this summer. Growers had a very difficult time grading fresh fruit

for market because of this fungus. This condition was undoubtedly caused by the rains at blossom time and spread by dews at night during the growing period.

Peach Blight (Coryneum Beijerinckii) Light damage was experienced this year except in a few apricot, peach and almond orchards where no control measures were taken or improper spray material was applied.

Peach Leaf Curl (Taphrina deformans) Most of the susceptable varieties of peach trees showed an increased amount of infection of this disease largely due to weather conditions.

Blackheart (Verticillium albo-atrum) caused considerable losses to young trees, particularly peach, nectarines and almonds. The majority of the trees attacked by this fungus were either disfigured or death resulted.

Crown Rot (Phytophthora species) These fungi continue to be a problem in walnut orchards and individual trees in town. Most noticeable is the prevalence of this disease on trees located in poorly drained soil or where excessive surface moisture is maintained as on and around lawns.

Oak-root Fungus (Armillaria mellea) A number of new infections were discovered through inspection of suspicious trees in orchards and by specimens brought in by farmers for identification. Many growers have been duly alarmed by this destructive fungus and have taken strong measures to control and stop the spread of this serious disease through the use of the carbon bisulphide treatment.

Powdery Mildew (Uncinula necator) on grapevines was not so prevalent as in some previous years; and along with the normal sulfuring programs, damage was held to a minimum.

Walnut Blight (Phytomonas juglandis) the most destructive disease of walnuts was quite severe this year. Since weather conditions were favorable for the growth of this bacterial disease, it was especially destructive to young fruit which caused them to turn black and drop off in large numbers. Many of the mature nuts had deteriorated into blanks of unmarketable quality.

INSECTS AND MITES OF VEGETABLE AND FIELD CROPS

Tomato Mite (Phyllocoptes destructor) This pest appeared in August in formidable numbers, but growers, through applications of sulphur dust, kept their numbers down and damage to a minimum. In a few cases growers had not treated their crop soon enough and fair sized losses were sustained.

Corn Earworm (Heliothis armigera) No trouble was experienced this year with this insect in tomato crops, for the timely application of the insecticide DDD (Dichloro-diphenyl-

dichloroethane) gave splendid results; however, corn fields were hit as hard as ever where control was not practiced.

Tomato Worms (Protoparce sexta & P. quinquemaculata) were few in number. The ones that did appear were effectively controlled with applications of DDD.

Darkling Ground Beetle (various species) were quickly controlled by DDT, DDD, and poisoned bran. In some cases where large numbers of these beetles were found, control measures were undertaken before the planting of the crop.

Flea Beetles (various species) had a general distribution. In a few cases damage to new transplants of tomatoes were sufficient to warrant replanting.

Grasshoppers (Melanoplus devastator & Melanoplus marginatur) In some cases infestations were serious enough to warrant taking control measures which covered approximately 1000 acres. Trap strips and fence lines were sprayed with DDT and chlordane which gave splendid results.

Wire Worms (various species) Farmers in the county found it advisable to treat more land than in previous years for this pest. In most cases the soil fumigant D-D (Dichloropropene) was used; however, some farmers used EDB (Ethylene dibromide) soil fumgant material. A number of acres in sweet potatoes were treated with BHC (Benzene Hexachloride) with satisfactory results. There were several cases of improper uses made of the BHC which resulted in destruction of new transplanted tomato plants.

Celery Leaftier (Phlyctaenia ferrugalis) damage to celery by this insect was negligable.

Celery Looper (Autographa falcifera) Infestations of this insect were light this year. This may be attributed to the many parasites present.

Cut Worms (Various species) These pests were prevalent in many localities this year. They took their toll in new plantings of tomatoes and other miscellaneous truck crops. Large numbers appeared in vineyards early in the season, but applications of DDT held them in check. For the first time in many years these pests showed up in asparagus fields in three locations covering a large acreage.

Armyworms (various species) There was a sharp contrast in the intensity of infestations this year as compared with previous years of abundance. Farmers were greatly relieved when only a few appeared.

VEGETABLE AND FIELD CROP DISEASES

Bacterial Canker (Phytomonas michiganesis) This bacterial organism caused greater distress among tomato growers this year than in previous years. This can only be attributed to careless treatment of tomato seed which will carry this disease. Unfortunately, there is no cure for plants infected with this disease. Growers have been cautioned not to replant old tomato beds this coming year that have been contaminated by this destructive disease.

Western Tomato Blight (virus) This tomato disease which plays havoc in some tomato areas has not caused any appreciable losses here. Only one percent or less of the tomato plants in the county were infected with this disease.

Tomato Mosaic Disease (virus) The effects of this disease were evident in numerous fields in the county, but apparently the tomato plants are able to hold their own against this disease, for losses to production of tomatoes was negligible.

Spotted Wilt (virus) This disease was found spotted throughout tomato fields in the county. Several fields suffered extensively from the scourages of this virus. One 30 acre field was a complete loss. The disease appears to be building up in this area, for it was more destructive this year than at any time in the past. If this condition continues, it may be necessary for growers to take more stringent control measures against the thrips that carry this virus.

Fusarium Wilt & Verticillium Wilt These two fungus diseases were evident to a certain extent in most tomato fields. Fields planted for the second time or in some instances old alfalfa fields plowed under followed by tomatoes showed greater losses than the average. This can probably be accounted for by a build-up in the soil of these diseases.

Pink Root (Phoma terrestris) This fungus disease which causes a curious pink condition of the onion roots was found in a number of fields. Since the onion sluffs off many of these infected roots, the growth of the onion is stunted. However, even in infested fields the reduction in production was not too noticeable. Rotation of crops has been effective in keeping this disease to a minimum.

Western Celery Mosaic (virus) No losses were experienced from this disease this year. Infestations were light.

Aster Yellows (virus) This virus disease which is carried by the six-spotted leafhopper (Macrosteles divisus) stunted a high percentage of celery in some fields. Some losses were estimated at fifteen to twenty percent. The Golden variety of celery suffered greater losses than the Utah variety.

Potato Ring Rot (Phytomonas solanaceara) Due to the strict enforcement of quarantine provisions which prohibit the use of infected seed and by the wise selection of certified seed potatoes by growers along with a better concept among growers of this disease losses from this destructive bacterial disease are nearly non-existant in this county.

PEST CONTROL OPERATORS

This year intensified pest control programs were carried out by farmers in this county. The gradual introduction of numerous plant diseases and insect pests along with noxious weeds now requires energetic measures of suppression or eradication to keep these pests from interfering with profitable crop production. Many farmers employed the help of commercial pest control operators for this work. Under section 150 of the Agricultural Code are provisions for examination and certificatic of these operators in the business of agricultural pest control work. Also, included in the Agricultural Code are regulations for governing their operations.

This season 45 persons were certified for pest control work, of which 21 were for airplane spraying and dusting, 8 for orchard spraying and dusting, 6 for fumigation, 2 for shade tree spraying, 4 for weed control, 1 for fog machine and 3 for cattle or barn spraying.

Acres treated in San Joaquin County by Commercial Operators

Plant Diseases and Insect Pests		
Fruit and Nut Crops -------	50,505 acres	
Field Crops ----------	6,492 acres	
Vegetable Crops ----------	29,287 acres	
		86,284 acres
Weed Control		
2, 4-D ----------	18,916 acres	
Contact Material ----------	1,921 acres	
		20,837 acres
Soil Fumigation		
D-D ----------	417 acres	
EDB ----------	528 acres	
		945 acres
Miscellaneous ----------	4,433 acres	
		4,433 acres
Total Acres Treated ----------		112,499 acres

PLANT DISEASE AND INSECT SURVEY

The purpose of this program is to find if possible the presence of any new pests to agriculture or any major pest which may have been introduced and established in this county. If any incipient infestation of a serious pest exists, eradication or control measures were taken whenever possible. To determine the extent of spread of these insects or plant diseases, survey work by trapping and visual inspection was carried out. The following is a brief summary of the most important pest surveys conducted by this department.

PLANT DISEASES

Peach Wart (Virus) The finding of one diseased tree in 1947 necessitated the starting of an annual survey for this disease. A tree to tree inspection was made at pre-harvest time of twenty-six different plantings of Candoka peach trees that had originated in Oregon. No further diseased trees have been found.

Blister Disease of Cherries (Virus) A spot inspection was made of fifty-two different cherry orchards. No blister disease was found, although several suspicious leaves were found on several trees.

Grape Mosaic (Virus) The introduction of contaminated experimental nursery stock made necessary the inspection of four different properties where this rootstock had been planted. Six diseased vines found in one location were destroyed by burning.

Chestnut Blight (*Endothia parasitica*) This is the fourteenth year that eradication work has been carried on since the discovery of this introduced pest. This year in three infected orchards, five trees were found contaminated and were destroyed by burning to prevent further spread.

Strawberry Spring Dwarf Nematode (*Aphelenchoides fragariae*) Since Strawberries are the only known host plant of this pest, all commercial plantings of strawberry plants were inspected for the possible presence of this new nematode. Only one premises was found infected with this pest. Under authority of Section 128 of the Agricultural Code a Hold Notice was placed on 80 acres of strawberry plants.

Corky Spot (unknown cause) In our regular routine inspection work a new malady condition of almonds was found which was identified by our State Pathologists as corky spot of almonds. Immediately a survey was started in the surrounding properties and other commercial plantings to determine the possible area involved. A number of sick trees were found at several different locations, and until further information is available concerning this condition, we will continue to place these trees under observation.

Big Bud Disease (Virus) Late in the season of 1947, four tomato plants were found affected by this disease. No official survey was made this year since it is the opinion of experts not to be of a serious nature. However, in our regular routine inspection work a few infected plants were found and destroyed.

Onion Yellow Dwarf (Virus) This onion disease caused by a virus is characterized by mottling of the leaves. Spot surveys were conducted in all onion growing sections of the county disclosing no diseased plants.

INSECT PESTS

Japanese Beetle (Popillia japonica) Survey work was carried on between May 15 and October 1, 1948. Fourteen United States Department of Agriculture Japanses Beetle scouting traps were used with anethol-eugend bait. These traps were located at strategic points around Stockton Field airport and the Lathrop Army Base as possible introduction places for this beetle. No Japanese Beetl were taken; however, a large number of insects were collected in which bees and other Hymenoptera predominated.

Mexican Bean Beetle (Epilachna varivestis) Survey work was done by checking 80 commercial bean fields and 160 home gardens in and around the towns of Stockton, Lodi, Linden, Manteca, Lathrop, Ripon, Escalon, and Tracy. No specimens of Mexican Bean Beetle were found.

Sweet Potato Weevil (Cylas formicarius) A thorough inspection of sweet potato fields, storage sheds, packing houses, and home gardens around Manteca, Ripon and Escalon were checked. No sweet potato weevils or indications of weevil damage was found.

Hall Scale (Nilotapis halli) With the discovery of Hall's scale in another part of the State, it became important to trace host material, both trees and scions, which had moved from that locality. According to the list furnished by the United States Department of Agriculture, thirteen lots of trees and scions were moved into San Joaquin County. With the assistance of the U.S.D.A., a careful check was made of recipient properties. In numerous instances the original trees had been removed, but other hosts in the immediate vicinity were examined. No Hall Scale was found.

Colorado Potato Beetle (Leptinotarsa decemlineata) Part of an air shipment of plants into an adjoining county contaminated with live Colorado potato beetle prompted the chacking of the gardens around Escalon, Ripon, and Manteca. No beetles or infested plants were found.

Grape Leaf Skeletonizer (Harrisina brillians) In checking grape vines for 2, 4D damage our survey crew was instructed to watch for any new pests. 162 ranches were inspected and no evidence of the grape leaf skeletonizer was found.

PLANT QUARANTINE AND CERTIFICATION

In order to prevent introduction and dissemination of detrimental agricultural pests, methodic procedures of inspection on all nursery stock, seeds and other plant material shipped into this county is maintained.

This involves the inspection of all post offices, freight, express, and truck line offices of all incoming and outgoing shipments of plant material that may carry injurious plant disease, insect pests, or noxious weeds. All such shipments are held for inspection by the common carrier. Most of these places are visited daily by inspectors, and containers of all shipments subject to quarantine are opened and examined for the presence of pests or prohibited material. Whenever shipments are found in violation, disposition of such plant material is either by treatment, destruction under the supervision of the inspector or returned to place of origin.

Inspection of Shipments of Plant Material

	Interstate	Intrastate
Number of shipments passed	13,150	6,950
Number of plants passed	1,700,772	6,996,213
Number of shipments rejected	528	168
Number of plants rejected	4,984	194,907

Certification

Another function of plant quarantine is that of certification as to pest conditions or pest treatment when such is officially required on out-going shipments. In addition to certification of shipments, shipping permits and certificates of inspection of nursery stock after thorough inspection were placed on interstate shipments.

The following certificates were issued and monies received:

Sanitary Inspection Reports	31
Potato Fumigation Certificates	1092
Fees Received	$2,730.00
Hay Inspection Reports	16

Boat Inspection

Since Stockton is a deep water port, it is necessary to inspect foreign and domestic vessels arriving at Port Stockton and at the United States Naval Annex for plant material. This year 31 ships were boarded and the plant materials examined for possible pests.

Out of these 31 ships that were inspected, 10 ships were found with either food stuff or cargo in violation of quarantine regulations. The food stuff consisted of fruit and vegetables from foreign lands or other states that were under quarantine. This food which

usually constituted part of the ships store was sealed in the store room or the ships refrigerator until the ship had left port. The cargo consisting of equipment with adhereing dirt was thoroughly cleaned off before released. In addition, three ships which had foreign meat in storage lockers were safe-guarded to prevent the possible introduction of the dread Hoof and Mouth disease.

RODENT AND BIRD CONTROL

Ground Squirrel Control Most of the rodent control work by the County Department of Agriculture is concentrated against the devastating ground squirrel. Recognizing the extreme importance of controlling the ground squirrel population, farmers, irrigation districts, reclamation districts and railroad companies have actively and effectively engaged in freeing this area from this pest. Such stringent measures have substantially reduced the numbers of ground squirrels to a prewar level. The availibility of poison material and resumption of almost a normal personnel complement in the Department has been responsible for this encouraging response.

Commencing in the early spring and as weather permitted a vigorous campaign was enacted. Special emphasis was placed upon control of these rodents before the period of reproduction. Consequently, many areas that suffered substantial losses in the past are now comparatively free of this rodent. Generous measures of carbon bisulphide, and grain poisoned with strychnine, zinc phosphide, "1080" (Sodium flueroacetate) and thallium were generally employed to control these rodents. Since "1080" and thallium under the state law are poisons required to be handled and distributed under the direct supervision of this department, strict observance of this section of the code was adhered to.

Bird Control As in every other year a certain amount of crop damage was experienced by farmers in the county from birds. In the southern part of the county blackbirds and crows caused extensive damage to almond crops on a number of ranches. The almond meat apparently is a favorite food of these birds, for they will pick the shells clean. Many almonds were knocked to the ground prematurely which requires additional labor of hand picking from the ground. In several cases as a last resort, poison bait was used to control these pests.

SEED INSPECTION

One of the duties of this office is to prevent the introduction of noxious weeds into this county. This is carried out by close examination of seed brought into the county for planting purposes. All carloads of grain are inspected and upon notification by common carriers of arrival of seed lots into the county, inspections of this seed are conducted. Also, labeling information is checked for any discrepancies. All lots of seed found in violation of the seed or quarantine laws are rejected, and close tab is maintained on rejected lots of seed contaminated with noxious weed seed.

This year a total of 1,082 carloads of grain were inspected which included 902 interstate and 180 intrastate. Of this total 261 carloads were found contaminated with noxious weed seeds such as Johnson Grass, White Horsenettle, Klamath Weed, Yellow Star Thistle, Canada Thistle, etc. These infested carloads of grain were promptly rejected and held for proper disposition. Likewise, all other seed which consisted of 299 lots entered this county designated for propagation was inspected for the presence of noxious weed seeds. Furthermore, the labeling information was checked to see whether all requirements of the California Seed Law were met.

SEED CERTIFICATION

In order to maintain and make available to the public seed of high quality for propagating purposes many growers in the county presented their seed crop for certification. Growers now depend almost exclusively on seed that meets the high standards required in certification. They recognize the advantages in planting such superior seed which will provide permanent improvement of crop quality and yield.

Unfortunately, due to certain discrepancies many lots of seed were either rejected or growers failed to follow required procedures for certification. In some cases growers moved seed out of the county without notifying the County Agricultural Department; so the identity of the seed lot was lost. Warehouses were not notified that seed was for certification; thus seed was run through cleaners before the machinery was inspected by this Department which is required.

A large percentage of seed sent in for certification was rejected when seed standard tolerances were exceeded for splits and cracks, weed seed, inert material, foreign material, etc. There is no doubt that a number of these rejections could be eliminated if growers would be more careful of work in the field during the harvest, and fields were not neglected after field inspection which permits a build-up of undesirable weeds. Precautions in the field at harvest time would minimize cleaning problems later on.

STANDARDIZATION OF FRUITS, NUTS, VEGETABLES AND EGGS

As in every year problems in the field of standardization of agricultural products for market arise. However, only part of these problems are generally evident each year. The others are specific to the year under consideration. One of the main factors is the weather which is indirectly responsible for specific problems of a given year. This season the late wet weather in the spring delayed the maturing of some fruits and vegetables, and farmers desiring to reap the profits by placing their products upon the market early frequently came into conflict with maturity standards of the Agricultural Code. Also, conditions for the development of certain plant diseases was more favorable than normal. These factors delayed harvesting and made the proper packing of fresh fruit and vegetables for market difficult. Many growers, despite conscientious efforts to prepare a desireable pack had their produce rejected because of defects in excess of the tolerance which resulted from unusual difficulties involved in grading and packing. Some growers rather than suffer the additional reconditioning costs, preferred to dump the fruit since the compensations received would be nullified by the costs of labor and materials involved.

Recurring standardization problems as deceptive pack or improper markings on containers manifested themselves in the same proportions as inprevious years. After reasonable warning, growers that failed to heed the regulations were taken to court which resulted in a number of fines. During the shipping season a number of crops demanded a large number of inspectors to be on the job. Since commodities were delivered throughout the day and into the late evening to redistribution centers, where it is more practical to maintain inspections, many hours of overtime was necessary to properly inspect this produce.

Fruits, Nuts and Vegetables Most growers and shippers are extending all possible means to prepare and present to the ultimate consumer agricultural produce that is a credit to the county. However, certain difficulties were experienced with some of the crops. Early lots of asparagus were rejected, for frost damage and numberous crooks prevented the packing of high quality "grass". A few of the packers started the season by facing their packs with stalks of asparagus superior to stalks on the interior. There was some trouble with variations of packs in lettuce. A number of retail stores were found selling potatoes marked U.S. #1 grade with an excess in defects for this grade. Packers of tomatoes for local markets were involved in such discrepancies as preparing deceptive packs or improper labeling information.

The late spring rains caused considerable damage to some crops. Growers of certain varieties of peaches had considerable trouble with split pits and brown rot. On cherries, growth cracks and brown rot were prevalent. In order to prepare a pack within the tolerance for these defects taxed the energy and patience of both the packer and grower. Consequently, a number of lots were rejected. Coloration on plums did not develop at a normal rate; thus maturity standards were difficult to meet. The sustained cool summer weather tended to retard proper sugar development ingrapes. Therefore, a number of lots were below required standards when tested for sugar content.

Eggs Periodic inspections of eggs in retail stores were cnducted throughout the year. Many times retailers had inadvertently held these eggs in storage for a period of time longer than considered advisable. Checking these eggs by portable candler revealed a number of eggs that did not meet required specifications of the grade indicated on the containers. In some cases producers were found to be at fault when they delivered eggs which did not meet the requirements of size or quality standards for the grade given on the containers.

Statistics for the year on egg inspection show the following:

Number of calls	153
Eggs inspected-----	24,678 dozen
Eggs rejected -----	1,288 dozen

STANDARDIZATION STATISTICS

Number of containers inspected	6,719,798
Certificates Issued	1,850
Fees Received	$1,347.25
Violation Notices Issued	417
Number of containers rejected	354,896
Hearings Held	3
Court Cases	5
Amount of Fines	$1,225.00
Jail Sentences	1 - 10 days

WEED CONTROL

One of the foremost problems in pest control work in this county has been suppression and eradication of noxious weeds. Farmers have found it necessary to expend both time and money liberally to maintain a sufficient degree of control, especially, on deep rooted perennials and several objectionable annual weeds.

In order to give maximum protection to the agricultural interests of this county, this department has guarded against the introduction and spread of these weed pests by carrying out vigorous quarantine measures (see Seed Inspection), field surveys and actual participation in weed control work.

With the rapid advancement in the development of new weedicides and methods of application, educational programs have been undertaken to facilitate effective control of weed infestations in rural and urban areas. Throughout the year talks at farm meetings and numerous individual calls by the inspectors of this Department have been utilized to encourage more and better weed control measures.

Further suppression measures were employed on roadside infestations with spray rigs maintained by the County Highway Department. During the season 1691 miles of county roads were patrolled with special emphasis on the control of puncture vine and yellow star thistle. During the fall the County Agricultural Department carried out a survey on Johnson Grass and other noxious perennial weed infestations to which appropriate soil sterilization chemicals will be applied during the winter months.

In an effort to further stimulate the interest of farmers in the control of highly undesirable weeds and to aid materially, a weed control program has been adopted making spray equipment available to those with infested properties. Three new sprayers have been built on

skids and are transported on Dodge power wagons with four wheel drive. Hitherto farmers with infested properties who were not able to stand the expense of necessary spray equipment may now solve their problems by using this equipment without cost. The only expense involved is the wage of the truck driver and that of the weed killing material. Since the farmer is required to operate the sprayer and actually apply the spray material, an educational program in the operation of powered spray equipment and best methods in the application of weed killing chemicals is maintained.

WINERIES - SUGAR TESTS

Due to adverse weather conditions this season which retarded the development of the sugar in the fruit, growers experienced certain difficulties. Where remunerations were based upon percentage of sugar present, growers, especially at the beginning of the season, did not receive as much for their product as anticipated since the sugar content was much below that of other seasons. Section 771 of the Agricultural Code provides that wineries purchasing grapes on which the price paid is based on the sugar content shall have an official test made on each load delivered by an authorized inspector from this department. This work was carried out with the aid of 23 extra men who made 66,108 official sugar tests and issued 33,054 certificates at 12 wineries in the county. The cost for these inspections is paid by the wineries by a scale set up by this Department. The following chart shows the wineries having inspections, the number of certificates issued and the cost of each certificate.

NAME OF WINERY	NO. OF CERTIFICATES	COST	AVER. COST PER CER
Acampo Winery	1,983	$ 769.83	$ .3882
Cherokee Vineyard Assn.	3,998	1,095.66	.2740
Community Grape Corp.	5,857	1,355.68	.2314
Del Rio Winery	4,322	1,705.15	.3945
Franzia Bros. Winery	1,552	579.99	.3737
Lockeford Winery	3,210	823.77	.2566
May & Sons	10	23.63	2.763
Petri Wine Co.	2,967	1,200.10	.4044
Roma Wine Co.	2,716	1,205.75	.4439
Sebastiani Winery	2,153	762.63	.3542
Shewan-Jones	3,160	1,091.09	.3452
Village Winery	1,126	520.80	.4625
	33,054	$11,138.08	$ .3369

FINANCIAL REPORT SUMMARY
CALENDAR YEAR - 1948

CLASSIFICATION

Administrative	$20,137.11	
Plant Quarantine	10,800.85	
Fruit, Nut, Vegetable, Honey and Egg Standardization	9,532.40	
Field, Orchard and Nursery Inspection	10,574.74	
Rodent Control	8,672.52	
Weed Control	5,652.00	
Crop Statistics	6,928.41	
Office Personnel	5,500.00	
Fairs and Exhibits	4,258.69	
Maintenance and Operation	26,672.61	
Capital Outlay	1,489.80	
GRAND TOTAL EXPENSES		$110,299.13

COLLECTIONS REMITTED TO COUNTY TREASURER

Special Agricultural Inspection	$ 2,718.00	
Wine Grape Inspection	5,341.43	
Fairs and Exhibits	5,478.50	
GRAND TOTAL CREDITS		$ 13,537.93

CROP SUMMARY
SAN JOAQUIN COUNTY
YEAR - 1948

Since crop productivity is related so closely to weather conditions and its fluctuations, it is only logical that a brief summary emphasizing this subject be given. A drought at the beginning of the year followed by continuous cold weather in the spring was responsible for retarded crop growth resulting in a late harvest in many crops. A number of fruit crops suffered from the prolonged dampness which was conducive to the development of plant diseases resulting in a lower quality and a reduction of crop production. The weather in the latter part of the year progressed close to normal.

January went on record as one of the warmest and driest months. Total precipitation for the month was far below normal with an all time low of .23 of an inch. The irregular high temperature broke the dormancy of some of the almonds and fruit trees which formed buds prematurely. The continuation of this drought through February with a decided drop in temperature seriously effected the growth of most crops. Many farmers irrigated their parched orchards and vineyards in order to maintain a normal moisture content in the soil. Anxiety of farmers was increased with the rationing of electrical power due to the severe shortage of snow fall and water reserve in the mountains. Grain that had managed to germinate was scarcely holding its own for existance. Forage on pasture lands was of poor quality, and in the southern part of the county, ranchers were forced either to supply feed for sheep and cattle or move them off the range. Strong winds the latter part of the month caused damage to spinach, peas and sugar beets by virtually blowing newly planted seeds out of the ground.

Finally the drought was broken and the generous welcomed rains during March and April brought the total precipitation up to normal for this time of the year. However, frosts continued up to the latter part of March which retarded crop growth extensively, but from this time on vegetable and field crops, vineyards and orchards raced against time to an abundant harvest.

Sporadic rainfall continued into May causing extensive damage to such crops as fresh cut hay, grain, onions, cherries and strawberries. Through the summer months close to normal weather prevailed and crop conditions were correspondingly good. However, due to the late spring, crops were approximately two weeks behind schedule in development. In addition, nights were cool which kept crops from growing at a normal rate. The sugar content of grapes, peaches, and sugar beets was subnormal. However, such cool weather did have beneficial effects, for the red spider and some other pests did not develop at the normal devastating rate.

The fall rains started with a short deluge on October 11 of about one inch. Damage to grapes, tomatoes and new cut hay was sustained by some farmers. Tokay shipments practically stopped due to the high percentage of slipskins, mold, and decay. The appearance of frost the first part of November sharply heralded the approaching winter. Not until the first part of December did rains boost the newly germinated grass on pasture and rangeland.

Following is a report covering a general summary of the important crops in San Joaquin County:

FRUITS AND NUTS

Almonds Frost damage last spring resulted in spotted crop production in some orchards. Production was decreased in non-irrigated orchards due to the increase in almond mite and lack of water. In general, there was a wide variation in yield and prices. The husks of the almonds were usually adherent to the shells which caused some trouble in husking.

Apricots This year a number of old trees were removed which decreased the county acreage by 113 acres. The late damp weather in the spring stimulated the development of shot-hole fungus which produced a lower quality of fruit. Tonnage of shipments to the cannery increased considerably over the previous year. Prices in general were lower than the year before.

Cherries In some varieties loss to growers was exceptionally high this season due to the adverse weather conditions. This was especially true with the Bing variety which suffered from growth cracks created by rains; also brown rot was prevalent. Eastern shipments were reduced by 216 cars under that of the previous year with most of the fruit going to the canneries. The abundant crop of Royal Anns at high quality along with high prices boosted the total compensation to growers for cherries over that of 1947.

Chestnuts The chestnut crop was normal; however prices were lower than the previous year.

Figs Both the yield and the price was down on figs. A heat wave during the summer caused some damage to the crop.

Grapes Harvest season started late this year, for the cool weather retarded the maturing of the fruit. Neither the sugar content nor the color developed as in previous years. Rains came before growers had the opportunity of completing their harvest; consequently, undesirable qualities developed in market grapes. Due to slipskins and mold, growers had to divert the remaining grapes to the wineries. Tokay grape shipments dropped 1,947,252 packages and winery deliveries increased approximately 36,800 tons. In juice grape shipments, there was a drop of 20,437 tons with an increased tonnage to wineries of 68,742 tons.

Olives The crop was heavy, but due to the shortage in soil moisture the size was small except in irrigated orchards. Most of the crop was processed for oil. Prices were low.

Peaches, Cling The yield was lower than the year before and the quality was only fair, but size was good. Growers enjoyed a good price. The acreage in the county increased by 221 acres.

Peaches, Free There was a large drop in tonnage as compared with the year before; also shipments to markets were curtailed extensively. Heavy losses due to brown rot were responsible for much of the reduction in marketable fruit and caused considerable trouble in preparing high quality packs. Much of the freestone peaches went to the processors.

Pears Production was below normal, and as in the past the majority of the crop went to the cannery.

Plums Due to the prolonged cool weather maturity of plums progressed slowly. Quality for most varieties was only fair; however, growers did experience a good Eastern market.

Walnuts Crop production was above normal, and there was a slight increase in the county's acreage of walnuts. Growers enjoyed an increase in price over the previous year. Quality however, was impaired by blight, worms and sunburn which was evident by the large percentage of culls delivered to the processors.

FIELD CROPS

Alfalfa Although adverse drought conditions at the beginning of the year made the advisability of new plantings dubious, there has been an increase of 551 acres in the county. Crop production throughout the season was averaged out to normal. However, the first cutting was foul with weeds, and the late rains lowered the quality. Most noticeable was the absence of alfalfa caterpillars and armyworms that plagued the crop the year before.

Beans There was a sharp increase in bean acreage in the county. As contrasted with the year before the acreage rose 7,026 acres among the 12 varieties that are grown here. Yields were high and quality exceptionally good. Unfortunately, bean growers had sharp reverses in market prices. Varieties topping the list in acreage are Red Kidneys, 7,366 acres; Blackeyes, 6,164 acres; Baby Limas, 4,148 acres; Dark Red Kidneys, 1,443 acres; and Pintos with 1,283 acres.

Field Corn A decided decline in acreage of field corn was evident by 1,498 acres. Growers enjoyed a good production and quality, but an average drop in prices of $30 per ton held anticipated profits down.

Grain Sorghum Although there was an increase in acreage of 2,479 acres, the acreage for the county was below normal. Yield was down some, and along with the drop in market prices, farmers' returns were lower than in the 1947 season.

Grain The grain crop outlook at the beginning of the season was very dark. In some planted fields seeds were unable to germinate, and those which did germinate were stunded by the drought. In one area 11,400 acres were completely lost. However, with the abundance of rain during the sprin good yields and excellent quality grain was produced. With the 2,951 acreage increase, the over all production exceeded the previous year; however growers did not enjoy as high a price.

Hay Again as the year before, hay crops were below normal with poor quality. This undoubtedly was the direct result of the adverse weather.

Grain Hay Acreage in the county dropped sharply to the tune of 15,009 acres. Most of this grain hay acreage was pastured instead of being cut for hay.

Pasture The grass on pastures was held back by the drought. However, spring rains stimulated the growth; so an overall growth was fair.

Ladino Pasture The rapid development and interest in ladino pasture has been extraordinary in this county. This year alone there was an increase of 6,371 acres which boosted the county's total acreage up to 50,449 acres. This is a remarkable acreage considering that the records in 1935 showed there was only 6,016 acres of ladino pasture in the county. It is evident that cattlemen, sheepmen and dairymen are relying on this crop more all the time for its rapid production of forage.

Rice This year rice acreage in the county reached an all time high with the boost of 2,163 acres over the year before. Although cool weather held back the rice development at the beginning of the season, yields and quality were good. Prices dropped slightly this season.

Sugar Beets Both the yield and price was slightly under that of last year. During the planting period strong winds destroyed 490 acres in one area which required replanting. The low temperatures which prevailed during the growing period held the sugar content to a low percentage.

Sunflowers Acreage for this crop was decreased about a third under last year. Yield was about the same and prices were stronger.

Sweet Potatoes This year a shortage of plants during the planting period held the acreage down. Yields and quality were good this year.

VEGETABLE CROPS

Asparagus Although cannery "grass" received a price higher than the previous year, the tonnage dropped 4,770 tons. During the season growers experienced numerous difficulties. The prolonged cold weather held back the "grass". The early cuttings were of poor color and with numerous crooks. Even some losses occurred due to freezing. Between the adverse weather conditions and labor troubles in cutting and harvesting, the market dropped over 425,000 crates.

Carrots There was a slight increase in acreage. Yield was normal with demands strong in the spring.

Celery Acreage in this county decreased by 503 acres. Yield per acre was slightly lower; also the price declined some. The cool weather retarded the growth of the celery and frosts in the fall caused extensive damage to the crop which was still in the field. At the end of the year as estimated 120 carloads of celery still remained in the field. Very little worm damage occurred during the season; however, a few fields suffered large losses around head gates due to blackheart.

Melons The melon crop developed close to normal. Yield was only slightly lower, and market prices were fair. The acreage decreased by 455 acres.

Onions Acreage in the county was steady, and yields were a little higher than usual. Perhaps, the yield could be attributed to the large percentage of jumbo size. Rains at harvest time caused high losses due to the development of stem rot. Also, the ease in which onions broke down in storage was a very disturbing factor. Market prices during the early season were strong, but as the harvest period progressed prices deteriorated to complete loss.

Peas In many cases pea growers had more than their share of trouble. Unirrigated fields during the drought were a complete loss. Damage from wind was severe; in one case a field of 125 acres was virtually brown out of the ground resulting in a complete loss. Consequently, acreage in the county declined by 789 acres.

Spinach Farmers growing spinach experienced similar difficulties as those of the pea growers. The drought and wind took their toll. In one area 300 acres had to be replanted due to the onslaught of the strong winds. Acreage in the county decreased by 371 acres.

Strawberries This year production was good although some losses were experienced by growers due to rain and hail. The acreage in the county increased by 139 acres. Although demands were strong, market prices were only fair.

Tomatoes The lack of water at the beginning of the year discouraged many potential tomato growers. Perhaps, this accounts for the sharp decrease in round tomatoes of 10,587 acres. Pear tomatoes, however, did increase by 281 acres over the previous year. Development of the fruit was retarded by the cool weather, but fall rains held off until growers had ample opportunity to harvest all but negligible amount. The better producing areas of the county gave an excellent crop. Prices were fairly good. A total of 32 canneries received tomatoes from this county.

FRUIT AND NUT CROPS
SAN JOAQUIN COUNTY - 1948

CROP	BEARING ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	PRODUCTION UNIT	F.O.B. VALUE PER UNIT	F.O.B. VALUE TOTAL
Almonds	7,693	.64	4,924	Ton	$ 500.40	$2,463,970.
Apricots (Shipping)	1,777	.69	5,308	25 lb. pkg.	1.25	6,635.
Apricots (Processed)		3.50	6,219	Ton	51.42	319,781.
Apricots (Dried)		.14	249	Ton	440.00	109,560.
Cherries (Royal Ann)	1,035	4.02	4,161	Ton	280.00	1,165,080.
Other Cherries (Shipping)	3,084	.74	2,282	Ton	445.90	1,017,544.
Other Cherries (Processed		.85	2,621	Ton	280.00	733,880.
Chestnuts	139	1.43	199	Ton	400.00	79,600.
Figs (Shipping)	500		12	Ton	120.00	1,440.
Figs (Processed)		.78	390	Ton	96.50	37,635.
Figs (Dried)		.20	100	Ton	152.50	15,250.
Juice Grapes (Shipping)	33,444	.85	28,427	Ton	65.00	1,847,755.
Juice Grapes (Wine)		4.29	143,475	Ton	24.56	3,523,746.
Tokay Grapes (Shipping)	19,686	183.25	3,607,459	28 lb pkg	1.42	5,122,592.
Tokay Grapes (Wine)		7.77	152,960	Ton	19.00	2,906,240.
All Other Grapes (Shipping)	2,100	31.95	67,095	28 lb pkg	1.17	78,501.
All Other Grapes (Wine)		10.92	22,932	Ton	19.00	435,708.
Misc'l. Orchards	653			Acre	200.00	130,600.
Nectarines	184	297.20	54,685	28 lb pkg	1.20	65,622.
Olives	348	1.37	477	Ton	123.10	58,719.
Peaches Free (Shipping)	3,079	158.16	486,975	20 lb crate	1.05	511,324.
Peaches Free (Processed)		2.80	8,621	Ton	48.00	413,808.
Peaches Free (Dried)		.19	585	Ton	320.00	187,200.
Peaches Cling (Processed)	5,428	8.18	44,401	Ton	65.00	2,886,065.
Peaches Cling (Dried)			5	Ton	160.00	800.
Pears (Shipping)	142	.14	20	Ton	100.00	2,000.
Pears (Processed)		3.51	498	Ton	125.00	62,250.
Plums (Shipping)	1,113	203.15	226,106	28 lb crate	2.40	542,654.
Plums (Processed)		.07	78	Ton	67.23	5,244.
Prunes (Shipping)	688	101.06	69,529	Ton	2.00	139,058.
Prunes (Dried)		.19	132	28 lb crate	180.00	23,760.
Walnuts	9,720	.75	7,290	Ton	480.00	3,499,200.
				TOTAL		$28,393,221.

FIELD CROPS
SAN JOAQUIN COUNTY - 1948

CROP	BEARING ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	UNIT	F.O.B. VALUE PER UNIT	F.O.B. VALUE TOTAL
Alfalfa Hay	54,774	6.10	334,121	Ton	$ 25.00	$ 8,353,025.
Barley	86,627	15.00	1,299,405	Cwt.	2.77	3,599,352.
Beans, Dry	21,399	16.03	343,026	Cwt.	8.37	2,871,128.
Bean Straw	3,100	1.00	3,100	Ton	13.00	40,300.
Corn, Grain	10,053	1.25	12,566	Ton	60.00	753,960.
Corn Husks			250	Ton	600.00	150,000.
Flax Seed	200	10.08	2,016	Cwt.	11.16	22,499.
Grain Sorghum	5,290	15.50	81,995	Cwt.	2.60	213,187.
Hay, Grain	12,764	1.20	15,317	Ton	22.00	336,974.
Hay, Wild	10,335	1.00	10,335	Ton	20.00	206,700.
Mint	600	50.00	30,000	lbs.	5.00	150,000.
Oats	9,390	9.00	84,510	Cwt.	2.85	240,853.
Pasture: Range	234,124			Acre	2.00	468,248.
Pasture: Clover	50,449			Acre	50.00	2,522,450.
Pasture: Sudan Grass	1,599			Acre	35.00	55,965.
Pasture: Stubble	120,340			Acre	1.50	180,510.
Potatoes (Market)	6,434	279.00	1,795,086	Cwt.	2.27	4,074,845.
Potatoes (Processed)		59.00	3,796	Ton	30.00	113,880.
Pumpkins (Canning)	440	15.60	6,864	Ton	8.00	54,912.
Pumpkins (Stock)	165	20.00	3,300	Ton	6.00	19,800.
Rice	6,195	35.00	216,825	Cwt.	4.65	1,008,236.
Silage, Corn	615	14.10	8,671	Ton	5.54	48,037.
*Sugar Beets	7,976	16.33	130,248	Ton	12.04	1,568,186.
Sunflowers	1,052	9.10	9,573	Cwt.	9.00	86,157.
Sweet Potatoes	1,630	150.00	244,500	50 lb crate	2.87	701,715
Wheat	13,826	10.16	140,472	Cwt.	3.50	491,652.
				TOTAL		$28,332,571.

* Includes Federal Subsidy

VEGETABLE CROPS
SAN JOAQUIN COUNTY - 1948

CROP	ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	PRODUCTION UNIT	F.O.B. VALUE PER UNIT	F.O.B. VALUE TOTAL
Asparagus (Shipping)	45,130	16.29	735,168	30 lb crate	$ 3.45	$ 2,536,330.
Asparagus (Processed)		.67	30,237	Ton	167.50	5,064,698.
Beets, Table	35	11.00	385	Ton	60.00	23,100.
Broccoli	4	147.00	588	42 lb crate	3.20	1,882.
Cabbage	76	285.00	21,660	Crate	1.25	27,075.
Cauliflower	88	230.00	20,240	Crate	1.46	29,550.
Carrots	626	12.50	7,825	Ton	65.00	508,625.
Celery	3,950	260.00	1,027,000	Crate	2.30	2,362,100.
Corn, Sweet	446	200.00	89,200	Crate	1.70	151,640.
Cucumbers	248	6.00	1,488	Ton	52.50	78,120.
Garlic	20	105.00	2,100	Cwt.	18.25	38,325.
Lettuce	81	261.00	21,141	Crate	1.55	32,769.
Melons Cranshaws	121	210.00	25,410	Crate	1.50	38,115
Melons Cantaloupes	570	230.00	131,100	Crate	1.85	242,535.
Melons Casabas	285	7.90	2,251	Ton	12.40	27,912.
Melons Honeydews	199	8.50	1,691	Ton	25.30	42,782.
Melons Persians	42	8.00	336	Ton	22.90	7,694.
Melons Watermelons	1,288	10.97	14,129	Ton	18.65	263,506.
Onions (Early)	2,094	500.00	1,047,000	50 lb. sk.	.75	785,250.
Onions (Late)	330	525.00	173,250		1.50	259,875.
Peas (Shipping)	80	68.00	5,440	30 lb tub	2.00	10,880.
Peas (Processed)	833	1.25	1,041	Ton	67.00	69,747.
Peppers	70	11.80	826	Ton	40.00	33,040.
Spinach	560	3.10	1,736	Ton	22.50	39,060.
Squash	212	7.00	1,484	Ton	26.60	39,474.
Strawberries	212	1200.00	254,400	12 basket crate	2.30	585,120.
Tomatoes (Shipping)		24.87	556,715	32 lb lug	2.30	1,280,444.
Tomatoes (Round)	22,385	14.58	326,373	Ton	25.00	8,159,325.
Tomatoes (Pear)	2,276	12.09	27,517	Ton	29.00	797,993.
Truck Garden	707			Acre	200.00	141,400.
				TOTAL		$ 23,678,366.

SEED CROPS
SAN JOAQUIN COUNTY - 1948

CROP	ACREAGE	PRODUCTION PER ACRE	PRODUCTION TOTAL	UNIT	F.O.B. VALUE PER UNIT	F.O.B. VALUE TOTAL
Asparagus Roots	171			Acre	$275.00	$ 47,025.
* Beans (Blackeyes) (Certified)	66	11.00	726	Cwt.	6.50	4,719.
* Beans (Cranberry) (Certified)	6	10.30	62	Cwt.	8.95	555.
* Beans (Dark Red Kidney) (Certified)	216	13.20	2,851	Cwt.	9.60	27,370.
* Beans (Pink) (Certified)	74	11.00	814	Cwt.	8.40	6,837.
* Beans (Red Kidney) (Certified)	2,086	18.00	37,548	Cwt.	9.60	360,461.
Harding Grass	30	150.00	4,500.	lb.	.75	3,375.
Ladino Clover	1,108	125.00	138,500	lb	1.75	242,375.
Nursery (Grape Vines)						13,500.
Nursery (Others)						130,600.
Nursery (Trees)						90,000.
Onion	10	400.00	4,000	lb.	.95	3,800.
Perennial Rye Grass	60	183.00	10,980	lb.	.12	1,318.
Potato (Certified)	766	244.00	186,904	Cwt.	3.25	607,438.
Sudan Grass	140	10.00	1,400	Cwt.	5.00	7,000.
Squash	15	256.00	3,840	lb.	.35	1,344.
Watermelon	9	300.00	2,700	lb.	.40	1,080.
					TOTAL	$1,548,797.

* Certified Seed Beans meeting requirements as of January 15, 1949. No price extablished, so Government Support Price was used.

THE TREND OF PERMANENT CROPS IN SAN JOAQUIN COUNTY
YEAR - 1948

CROP & VARIETY	NON BEARING ACREAGE	BEARING ACREAGE
ALMONDS		
Drake	6	562
I X L	2	208
Eureka		2
Jordanolo	89	489
Ne Plus	42	413
Nonpareil	604	3,080
Peerless	84	189
Mission (Texas)	550	2,604
Other	2	146
Total	1,379	7,693
APPLES (All)		36
APRICOTS		
Blenheim & Royal	50	915
Tilton	32	852
Other		10
Total	82	1,777
CHERRIES		
Bing	266	1,618
Black Republican	1	99
Chapman	9	148
Lambert	5	290
Royal Ann	114	1,035
Tartarian	38	799
Other	28	130
Total	461	4,119
CHESTNUTS (All)	2	139
FIGS (All)	6	500
FILBERTS (All)		6
GRAPES (Raisin)		
Muscat	6	85
Thompson Seedless	2	786
Zante Currants		14
Total	8	885

CROP & VARIETY	NON BEARING ACREAGE	BEARING ACREAGE
GRAPES (Table)		
Concord		10
Emperor		255
Malaga		91
Ribier		172
Tokay	734	19,686
Other	21	687
Total	755	20,901
Grapes (Wine)		
Alicante	88	6,779
Burger	18	688
Carignane	262	7,250
Golden Chasselas	10	695
Grenache	41	419
Mission	91	1,722
Petit Sirah		578
Zinfandel	458	14,549
Other	129	764
Total	1,097	33,444
NECTARINES (All)	23	184
OLIVES (All)	12	348
PEACHES (Cling)		
Gaume	35	1,003
Halford	63	1,120
Paloro	88	1,396
Peak	8	214
Phillips	15	690
Tuscan		57
Walton		89
Other	307	859
Total	516	5,428
PEACHES (Free)		
Elberta	146	681
J. H. Hale	22	330
Lovell		529
Muir	3	371
Salway		49
Other	134	1,119
Total	305	3,079

CROP & VARIETY	NON BEARING ACREAGE	BEARING ACREAGE
PEARS (All)		142
PERSIMMONS (All)		14
PLUMS		
Burbank		51
Climax		7
Duarte	64	47
Grand Duke		34
Kelsey		87
President	6	181
Santa Rosa	85	179
Tragedy	18	306
Wickson		25
Other	54	196
Total	231	1,113
PRUNES		
French		209
Imperial		53
Robe de Sargent		56
Sugar	1	363
Other		7
Total	1	688

CROP & VARIETY	NON BEARING ACREAGE	BEARING ACREAGE
QUINCES (All)		8
WALNUTS		
Concord	1	15
Eureka	32	2,240
Franquette	108	1,935
Mayette	20	682
Payne	109	4,609
Other	185	239
Total	545	9,720
WALNUTS (Black) (including roadside trees)	445	597
ASPARAGUS	5,792	45,130

For the year of 1948 plantings of new orchards showed some change over 1947. There was an increase in the acreage of almonds, cherries, cling peaches, plums and black walnuts. Apricots, raisin grapes, table grapes, juice grapes and prunes showed a slight decrease.

There are large acreages of almonds, table grapes, juice grapes, cling peaches and English walnuts not yet in production.

THE TREND OF FRUIT & NUT CROPS IN SAN JOAQUIN COUNTY
AT FIVE YEAR INTERVALS

BEARING ACREAGE

CROP	YEAR 1930	YEAR 1935	YEAR 1940	YEAR 1945	YEAR 1948
Almonds	2,697	3,613	4,221	6,502	7,693
Apples	36	28	32	36	36
Apricots	1,422	1,732	1,621	1,876	1,777
Cherries	1,942	4,417	4,352	4,102	4,119
Chestnuts	60	193	245	182	139
Figs	2,088	547	458	510	500
Grapes, Juice	32,600	33,932	33,893	32,400	33,444
Grapes, Raisin	852	702	979	1,003	885
Grapes, Table	2,064	1,707	1,499	1,276	1,215
Grapes, Tokay	17,041	17,255	17,925	18,110	19,686
Nectarines	52	115	126	195	184
Olives	286	318	364	351	348
Peaches, Cling	3,102	3,413	3,273	4,124	5,428
Peaches, Free	2,640	2,802	2,781	3,181	3,079
Pears	837	672	285	141	142
Persimmons	2	7	5	13	14
Plums	2,077	2,426	1,572	1,280	1,113
Prunes	543	655	1,244	822	688
Walnuts	5,284	8,818	9,084	9,229	9,720

THE TREND OF FIELD CROPS IN SAN JOAQUIN COUNTY
AT FIVE YEAR INTERVALS

CROP	YEAR 1935	YEAR 1940	YEAR 1945	YEAR 1948
Alfalfa Hay	38,633	47,822	50,505	54,774
Barley	137,725	92,483	91,199	86,627
Beans	36,316	25,090	11,469	21,399
Corn (Grain)	27,650	16,583	14,564	10,053
Flax Seed	416	1,276	520	200
Grain sorghum	11,832	14,057	4,187	5,290
Hay (Grain)	25,493	22,966	22,101	12,764
Hay (Wild)	2,817	10,839	24,573	10,335
Oats	16,611	10,043	7,480	9,390
Pasture (Range)	242,916	238,381	219,625	234,124
Pasture (Ladino Clover)	6,016	17,898	30,313	50,449
Potatoes	12,657	9,404	7,491	6,434
Pumpkins	425	540	617	605
Rice	1,640	2,507	3,168	6,195
Silage corn	1,933	1,698	1,463	615
Sugar Beets	10,245	20,485	4,597	7,976
Sunflowers	3,523	3,182	3,175	1,052
Sweet Potatoes	818	2,186	1,330	1,630
Wheat	47,353	38,392	21,661	13,826

THE TREND OF VEGETABLE CROPS IN SAN JOAQUIN COUNTY
AT FIVE YEAR INTERVALS

CROP	YEAR 1935	YEAR 1940	YEAR 1945	YEAR 1948
Asparagus	15,931	31,499	43,681	45,130
Beets (Table	30	22	63	35
Broccoli	12	125	10	4
Cabbage	30	11	26	76
Cauliflower	10	15	20	88
Carrots	308	786	1,386	626
Celery	6,401	5,885	5,482	3,950
Corn (Sweet)	541	345	432	446
Garlic	11	5	27	20
Lettuce	415	308	63	81
Melons (All)	2,900	3,161	1,907	2,505
Onions	1,968	1,280	2,464	2,424
Peas	1,958	2,310	5,365	913
Pepper	80	43	29	70
Spinach	1,656	534	1,365	560
Squash	461	320	351	212
Strawberries	120	156	15	212
Tomatoes (Round)	11,580	5,036	18,595	22,395
Tomatoes (Pear)		10,557	7,507	2,276

SAN JOAQUIN COUNTY

YEAR - 1948

APIARY PRODUCTS

Honey	662,300	lbs.	@	.085	$ 56,295.00
Bees Wax	12,265	lbs.	@	.42	5,151.00
Queen Bees	8,800	queens	@	1.15	10,120.00
Pollenization	7,050	colonies	@	1.00	7,050.00
Package Bees	400	one pound	@	2.00	800.00
					$ 79,416.00

DAIRY PRODUCTS

Milk and Milk Products	$ 13,139,605.00

LIVESTOCK

Beef Cattle and Calves	$ 11,365,080.00
Hogs	1,801,065.00
Sheep and Wool	2,506,060.00
	$ 15,672,205.00

POULTRY

Chickens	2,404,655 lbs.	$ 841,893.00
Eggs	3,574,216 doz.	1,965,818.00
Turkeys	2,406,860 lbs.	1,083,087.00
		$ 3,890,798.00

SUMMARY

Fruit and Nut Crops	$ 28,393,221.00
Field Crops	28,332,571.00
Vegetable Crops	23,678,366.00
Seed Crops	1,548,797.00
Apiary Products	79,416.00
Dairy Products	13,139,605.00
Livestock	15,672,205.00
Poultry Products	3,890,798.00
	$ 114,734,979.00