

1951

AGRICULTURAL REPORT



COUNTY
OF
SAN JOAQUIN

DEPARTMENT OF AGRICULTURE

SAN JOAQUIN COUNTY

Department of Agriculture

AUSTIN E. MAHONEY
AGRICULTURAL COMMISSIONER

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TO THE STATE DIRECTOR OF AGRICULTURE AND
THE HONORABLE BOARD OF SUPERVISORS

Section 65.5 of the California Agricultural Code requires that the Agricultural Commissioner compile a report covering conditions, acreage, production, and value of the agricultural products of his county, and Section 65 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. This is the eighteenth annual report published by this Department.

Approximately one hundred commercial crops are covered in this report, and for your easy reference they 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 a F.O.B. basis. Cost of production, harvesting, packing, and other handling costs should be deducted to arrive at a true farm value.

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,



AGRICULTURAL COMMISSIONER

1/25/52

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ADMINISTRATIVE AND STAFF PERSONNEL

Stockton Office Hazelton & B Streets Stockton 6-6806

Austin E. Mahoney	Agricultural Commissioner
Lester R. Brumbaugh	Chief Deputy Commissioner
Lloyd V. Braghetta	Deputy Commissioner
Mark A. Huberty	Deputy Commissioner
Elna Benjamin	Bookkeeper & Stenographer
Ralph A. Burlington	Quarantine & Standardization
Thomas E. Cheatham	Weed Control
Kenneth W. Jones	Quarantine Certification & Stockton Office
Thomas H. Ladd	Seed Certification & Seed Inspection
John R. Solari	Robert Island District
D. V. Widney	Warehouse

Lodi Office Lodi City Hall Lodi 8-1432

George Stipe	Deputy Commissioner
L. F. Ashley	Victor District
Marvin Switzenberg	Terminus & Thornton Districts
C. W. Thompson	Elliott District

Manteca Office Manteca City Hall Manteca 44

Nick J. Wolter	Supervising Inspector & Ripon District
Walton Bauer	French Camp District
Jess Grisham	Manteca District

Tracy Office Tracy City Hall Tracy 1264

Aage R. Tugel	Deputy Commissioner
Wilfred McDaniel	South Tracy District

SPECIAL WEED CONTROL PROJECT

Richard DeVol	Inspector
Richard R. Raney	Inspector
Walter Beck	Mechanic

PLANT QUARANTINE

The protection of our agricultural industry through the prevention of the introduction of detrimental insects, plant diseases, noxious weeds and animal pests existing outside of this county is indispensable. The efficiency of natural geographical barriers have been reduced extensively by the greatly expanded interchange of plant material by modern methods of transportation. Consequently, the first line of defense against the introduction and dissemination of injurious agricultural pests must be sustained by methodic quarantine inspection of all plant materials or public conveyances entering this county capable of carrying these pests.

This involves the inspection at all post offices, vessels, freight, express, and truck line offices of all incoming and outgoing shipments of plant material and conveyances which may carry injurious plant disease, insect pests, or noxious weeds or animal pests. 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 return to place of origin.

Since San Joaquin County has a great diversification of agricultural crops it is correspondingly vulnerable to a large array of plant diseases and plant pests. Under these circumstances a greater responsibility and demand has been placed upon this department to carry out the required quarantine duties.

The following table shows the amount of quarantine work completed for this year:

State Interior Quarantine Inspections

	By <u>Truck</u>	By <u>Mail</u>	By Boat <u>or Rail</u>	<u>Total</u>
No. of shipments passed	893	1,024	59	1,976
No. of items passed	13,036,956	201,167	70,503	13,308,626
No. of shipments rejected	105	5	2	112
No. of items rejected	340,372	11	79	340,462

State Exterior Quarantine Inspections

	By <u>Truck</u>	By <u>Mail</u>	By Boat <u>or Rail</u>	<u>Total</u>
No. of shipments passed	53	3,764	1,199	5,016
No. of items passed	263,478	154,990	109,720	528,188
No. of shipments rejected	3	49	600	652
No. of items rejected	6	935	11	952

QUARANTINE VIOLATIONS

<u>State Quarantines</u>	<u>Number of Violations</u>	<u>Federal Quarantines</u>	<u>Number of Violations</u>
Quarantine Proc. # 1	12	Federal Quar. # 1	1
Quarantine Proc. # 4	1	Federal Quar. # 3	4
Quarantine Proc. # 9	4	Federal Quar. #13	7
Quarantine Proc. #10	5	Federal Quar. #37	4
Quarantine Proc. #12	1	Federal Quar. #48	5
Quarantine Proc. #13	1	Federal Quar. #56	19
Quarantine Proc. #15	14		
Quarantine Proc. #20	4	B.A.I. Order #371	6
Quarantine Proc. #21	3		
Agri. Code Sec. #115	38		
Agri. Code Sec. #118	1		
Agri. Code Sec. #119	1		
Agri. Code Sec. #124	106		
Agri. Code Sec. #125	<u>575</u>		
TOTAL	766	TOTAL	46

Ship Inspections

This year 77 ships were inspected, a decrease of 31 per cent under last year. An examination was made of each ship's cargo, food stores, baggage, officer's and crew's quarters, and garbage for injurious pests or quarantine law violations. Of the 77 ships that were checked, 19 were found having contraband material aboard. Most of these quarantine materials consisted of plant foods, plants, and foreign meats. The plant food, such as fruit and vegetables usually constituted part of the ship's stores, which were then sealed in lockers or refrigeration rooms while the ship was in port. Most of the cargoes quarantine consisted of equipment having dirt adhering to the sides. Each piece of equipment was thoroughly washed before being released. In addition, 12 ships which had foreign meat in storage lockers were sealed to prevent the possible introduction of the dreaded Hoof and Mouth Disease.

Certification

Another function of plant quarantine is that of certification as to pest conditions or pest treatments 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 fees received:

Sanitary Inspection Reports - - - - -	42
Potato Fumigation Certificates - - - - -	173
Fees Received - - - - -	\$537.50

PLANT DISEASE AND INSECT SURVEY

The function of this work is to conduct surveys of crops, properties, and miscellaneous plant materials for new pests that may have been introduced into this area. In the event a potentially serious pest is found, immediate eradication or control measures are taken to prevent further spread. To determine the extent of spread of these insects or plant diseases, survey work by trapping and visual inspection is carried out. The following is a summary of the most important pest surveys conducted by members of this department.

PLANT DISEASES

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

Onion Yellow Dwarf (Virus) Survey work done on this pest was combined with two other diseases of onion, bulb nematode and smut. No characteristic symptoms of this disease were found present in the onion fields checked.

Peach Wart (Virus) Survey work was discontinued with the completion of the third survey in 1950 with negative findings. However, the orchard in which one tree with infected fruit was found in 1947 was inspected at pre-harvest time this year with negative results.

Chestnut Blight Endothia parasitica This is the seventeenth year eradication work has been carried on since the discovery of this pest. This year four infested trees were found in two orchards and were destroyed by burning to prevent further spread.

Onion Smut Urocystis cepulae No official survey was conducted this year because this disease was considered of minor importance. Observation of approximately twenty acres of onion seedlings revealed no new infested properties.

Potato Rot Nematode Ditylenchus destructor Examination was made of four packing sheds and refuse from the grading machines in the potato growing areas. No evidence of potato rot nematode was found.

Bulb Nematode Ditylenchus dipsaci In the spring approximately twenty different ranches having a total of 200 acres were inspected to determine the extent of this pest. Samples of suspected plants were taken and submitted for laboratory analysis. Four properties were found to be infested with this nematode.

Strawberry Spring Dwarf Nematode Aphelenchoides fragariae In 1947 one property was found infested with this pest. Since that time no further evidence of this pest has been found; thus survey work was discontinued in 1951. The owner of this one infested property destroyed all strawberry plants this year by plowing. The hold notice on the land has been removed.

Western X Disease (Virus) and Yellow Curl of Peaches (Virus) In cooperation with the state plant pathologists a survey was conducted in this county to determine the presence or absence of these pests. 302 trees located on twelve properties were found to be infested with Western X. A total of 78 properties with 127,963 trees was inspected in San Joaquin County. All infected trees were confirmed by State Pathologists and marked for further observation. Fortunately, no yellow curl of peach has been found within this county.

INSECT PESTS

Colorado Potato Beetle Leptinotarsa decemlineata Randomized checks were made in the large scale potato producing areas to determine whether or not this pest could be found. Negative results were obtained.

European Corn Borer Pyrausta nubilalis The finding of live borers several times this year in corn cars shipped in from the middle west prompted a survey of corn fields near the area where mills receive bulk corn from infested states. Inspection was made of 22 properties having a total of 30 acres of corn. No corn borer was taken and no evidence of injury was found in the growing corn.

Japanese Beetle Popillia japonica Fifteen traps were used in five locations for this insect from May 15 to October 15, 1951. The regulation U.S.D.A. scouting traps were used with a bait of ethol-eugenol which was furnished by the State Department of Agriculture. These traps were located at strategic points which represented the best possibilities for entry: around airfields, transportation centers, and an army base. No Japanese beetles were taken.

Mexican Bean Beetle Epilachna varivestis Muls. Representative checks of bean plantings throughout the county were made to ascertain whether or not this serious pest of beans had been introduced from infested areas. No beetles or characteristic damage was discovered.

Naval Orangeworm Myelois venipars Survey work has been discontinued since this insect was found in a number of other locations within the state. However, no appreciable spread of the naval orangeworm was observed in this county for the 1951 season.

Cherry Fruit Flies Rhagoletis cingulata and Rhagoletis fausta The finding of cherry fruit flies last year in the northern part of the state stimulated the State Department of Agriculture to conduct surveys in the main cherry producing counties. Traps and baits were furnished by the department as part of a state-wide program. Detection traps were hung in cherry trees approximately a mile apart in fifty different orchards throughout the county. The contents of the traps were collected and sent to Sacramento for determination. No cherry fruit flies were found.

Oriental Fruit Fly Dacus dorsalis It is a well established fact that the oriental fruit fly now infests numerous commercial crops in the Hawaiian Islands and could be highly destructive to California crops. To detect any initial infestations in San Joaquin County, 57 traps were set throughout the county during the summer for a period of five months. These traps were visited weekly and the contents were sent to Sacramento for determination.

Sweet Potato Weevil Cylas formicarius elegantulus During the harvest season, three packing houses and several fields were inspected for this insect. No sweet potato weevils were found and no damage characteristic of this insect was found.

NURSERY INSPECTION

Inspections are made of all nurseries in San Joaquin County in order to ascertain that legal standards are being met regarding insects, plant diseases and noxious weeds. Since shipments are made to all parts of the county and to points outside of the county, the ideal place to destroy the plant pests is at the nurseries.

Nurseries (Ornamental) The inspection of nursery stock and premises in thirty-six nurseries was completed the early part of the year and did not reveal the presence of any new pests. Pests found were controlled to meet the requirements outlined in regulations governing the issuance and use of inter-county nursery stock certificates under authority of Section 123.56 of the Agricultural Code of California. All pests found were common species of aphids, scale, thrip, spider, snails, etc. It was necessary to issue a hold notice at one nursery which had dichondra infested with nematode.

Nurseries (Tree) During the winter months when the planting of fruit and nut trees is in progress, extensive inspection work is necessary. The young trees are closely inspected for injurious plant pests such as oak root fungus, nematode, and crown gall. Under our county ordinance, the roots of fruit trees are examined for split roots, crooked roots, dead roots, and freezing damage. Any plants that do not come up to specifications or are infested with pests are rejected.

Nurseries (Tomato) During the months of April, May and June extensive inspection work was conducted on all tomato beds in the county. This year it was necessary for this department to reject 16,000,000 nematode-infested plants to prevent spread to soil free of nematode. Also, one court case resulted in a \$150 fine because the owner moved tomato plants that had been rejected and were under "Hold Notice". Once the nematode becomes established, it is impossible to rid the land of this highly undesirable pest. The number of plant rejected during the past year for nematode was substantially higher than the preceding year.

TOMATO INSPECTION FOR 1951

Plant free from nematode - - - - - 80,000,000
Plants infested and rejected - - - - 16,000,000
To
Total number plants inspected - - - 96,000,000

ORCHARD AND FIELD INSPECTION

Inspections are made of orchard and field crops for the purpose of determining the extent of damage by established insects and plant diseases. Pest control methods are noted as are materials in current use and the advantages which such materials may have over those formerly used. Infestations are inspected periodically to observe control and if control measures in use are not adequate, more stringent measures may be enacted, especially when there is immediate danger of the pest spreading to adjoining properties.

Periodic inspections of orchards and field crops are also 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 measures will meet the highest degree of success, field observations of current pest control operations must be observed. Records are kept on a monthly basis of the various pests causing damage.

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 This major pest of walnuts caused very little damage where growers follow a recognized spray program. The use of better equipment, material, and proper timing of spraying were the main factors which contributed to the small percentage of worm damaged nuts this year.

Walnut Aphis Chromaphis juglandicola In the early summer a heavy population of aphid occurred throughout the walnut producing area. Many orchard men were compelled to spray, dust or smoke their trees several times to combat this pest.

Two Spotted Spider Mite Tetranychus bimaculatus Only a trace of leaf damage was observed from this mite this past season. Climatic conditions, numerous beneficial insects, and a number of other factors were responsible for the low percentage of damage.

Black Scale Saissetia oleae This scale was prevalent in the majority of olive orchards throughout the county. There was a considerable increase in the black scale over the previous year in several orchards.

San Jose Scale Aspidiotus perniciosus Increased infestations were observed in many cherry and peach orchards. This build up can probably be attributed to the inability of growers to apply dormant sprays last winter due to prolonged wet weather.

Almond Mite Bryobia praetiosa This mite showed up early; however, no extensive damage was experienced. The majority of the growers was able to spray, which kept the mite population similar to the previous year.

Grape Erinose Mite Eriophyes vitis A fair number of these mites showed up early in the spring in a number of vineyards; however, the damage to vineyards was negligible.

Grape Bud Mite Eriophyes vitis This mite was scattered throughout the main grape districts. Apparently, only a few vineyards suffered any losses.

Grape Phylloxera Dactylosphaera vitifoliae As was the case in 1950, this insect continues to be a problem in many vineyards. Growers are becoming more conscious of this insect each year due to its devastating effect on grapevine roots. Several new infestations were discovered during the year.

Grape Leafhopper Erythroneura comes This insect was evident in vineyards as usual. Growers kept the leafhopper population to a minimum by their regular dusting program of sulfur and DDT.

Pacific Mite Tetranychus pacificus Growers experienced only moderate damage this year from this mite. The mite was late in developing; thus the grapes had matured extensively before any leaf injury developed.

Beet Leafhopper Circulifer tenellus During the season while the beet leafhopper was active, weekly counts on this insect were taken and submitted to the State Department of Agriculture to aid them in their control program. The beet leafhopper population was noticeably lower as compared with the previous year and did not present any major problem this year.

Peach Twig Borer Anarsia lineatella This insect, although present, caused very little damage to orchards this year. Growers found only light infestations in their orchards.

PLANT DISEASES OF FRUIT AND NUT CROPS

Brown Rot Sclerotinia fructicola The mild, dry weather which prevailed during the past season inhibited the development of brown rot in this area. Infestations of this fungus were light, corresponding to conditions of the year before.

Peach blight Coryneum beijerinckii Only light infestations of this disease were observed in orchards of this county. Consequently, no damage occurred.

Peach leaf curl Taphrina deformans Very little evidence of this fungus disease was present this year. This may be attributed largely to the dry spring weather.

Oak root fungus Armillaria mellea Each year new infestations are discovered; this year was no exception. A number of growers are combating this fungus by treating infested areas with carbon bisulfide.

Walnut blight Phytophthora juglandis Again this year the walnut blight was very light. Growers enjoyed a dry spring which held this disease down.

Cherry diseases (Virus) Cherry growers have been faced with the introduction of a number of cherry diseases of a virus nature in recent years. As a long-range improvement program, the State Department of Agriculture is carrying out a program of selecting clean bud wood.

INSECTS AND MITES OF VEGETABLE AND FIELD CROPS

Tomato mite Phyllocoptes destructor This pest of the tomato crop first appeared on July 19, 1951. By the first of August, damage to the foliage was evident in a number of fields. The mite continued to build up especially where growers had neglected to follow recommended control programs for this area. Growers treating their fields properly suffered only small damage; however, damage as a whole was unusually high.

Corn earworm Heliothis armigera No trouble of importance was experienced this year with this insect in tomato crops, for the timely application of the insecticide DDD (Dichloro-dephenl-dichloroethane) gave splendid results; however, sweet corn fields were hit as hard as ever where control was not practiced. DDD & DDT in combination gave good control of this insect.

Tomato hornworm Protoparce quinquemaculata Were light this year.
and
Tobacco hornworm Protoparce sexta Those that did appear were effectively controlled with applications of DDD in commercial plantings.

Darkling Ground Beetle (Various species) Were quickly controlled by DDT, DDD and poisoned bran. Infestations were most noticeable in the early spring resulting in some damage to seedling tomato plants.

Flea beetles (various species) These insects were most prevalent in the early plantings of tomatoes. No damage occurred where control measures were carried out.

Grasshoppers (various species) Extensive survey work was carried out in areas most prone to grasshopper infestations. About 50 fields of alfalfa and clover were examined for the hatch of grasshoppers before outbreaks occurred. Growers with fairly heavy infestations were advised to strip cut and treat with an insecticide.

Cutworms (various species) Asparagus growers experienced some trouble with this pest in their fields. Several celery seed beds suffered some damage. Damage as a whole was light.

Celery leaf tier Phlyctaenia rubigalis Damage to celery by this insect was negligible.

Celery looper Anagrapha falcifera Infestations of this insect were light and practically no damage occurred in any of the celery fields.

Western yellow-striped armyworm Prodenia praefica This insect was virtually non-existent this year. This was a decided change over the last two years when heavy infestations occurred in a number of locations within the county.

Thrips (various species) These insects were general in beans, tomatoes, onions, and occasionally in fields of asparagus. No heavy losses were sustained due to this insect, but production in a few fields was lowered.

Serpentine leaf miner Liriomyza pusilla Leaf damage occurred in a number of tomato and bean fields. The extent of damage is difficult to determine. No control measures were carried out for this insect.

Aphis (various species) The aphis population was exceptionally high this year. Heavy flights of aphids carried a virus disease into many grain fields this year. Growers with direct seeded fields of tomatoes were attacked by heavy numbers of this insect. Also, other truck crops and ornamental plants in residential areas suffered from these pests.

VEGETABLE AND FIELD CROP DISEASES

Root knot nematode Heterodera marioni Apparently root knot nematode is being spread more each year, since newly infested land appears each year. However, the rate of spread has been substantially retarded by inspection of nursery plants both crop and ornamental. Many people are recognizing the nematode problem and carrying out precautionary measures to prevent the spread of this pest.

Bacterial Canker Phytopomonas michiganensis This bacterial organism was found infesting tomato plants in fifteen fields this year. Growers have been cautioned not to replant old tomato beds this coming year that have been contaminated by this destructive disease. Although more fields were found infested with this disease this year, no serious losses resulted to any grower, for diseased plants were spotted in fields.

Western yellow blight (virus) Only a trace of this disease showed up in the tomato fields this year. Consequently, no damage occurred to tomato crops from this virus.

Tomato mosaic disease (virus) The effects of this disease were evident in a number of fields; however, infected tomato plants outgrew the damage from this virus in most cases. Thus, very little damage resulted from this virus.

Spotted wilt (virus) Tomato fields throughout the county were found to be spotted with this disease. A few fields suffered production losses. Growers were encouraged to control the thrips that are carriers of this virus. This disease seems to be increasing each year.

Fusarium wilt & Verticillium wilt These two fungus diseases were evident to a certain extent in some tomato fields with some damage occurring. Where tomatoes are grown on the same land several years in succession, this disease increases.

Western celery mosaic (virus) No serious losses were experienced from this disease this year. Infections were light throughout celery-growing areas of the county.

Aster yellow (virus) This virus disease, carried by the six-spotted leafhopper, Marcrosteles divisus, stunted a small percentage of celery grown. The Golden varieties of celery suffered greater losses than other varieties.

Potato diseases (various) Since growers are now using certified seed potatoes, losses from the various diseases of potatoes are negligible.

Barley yellow-dwarf (virus) The unusually large flights of aphids last spring were probably responsible for the sudden wide development of yellow-dwarf disease in the grain producing areas. The abundance of aphids, together with most grains being very young in growth at this time, undoubtedly made the damage from this disease more severe. By May 1, 1951, moderate to severe stunting of the crop was observed in the majority of the grain fields.

PEST CONTROL OPERATIONS

Successful farming operations in San Joaquin county are very much dependent upon proper pest control operations. Numerous insecticides and herbicides have been developed in recent years to meet the needs of intensive farming operations. However, the proper application of these materials has been complicated by the fact that many of these materials are highly injurious to crops, live-stock, bees and also to humans. By popular demand, numerous rules and regulations have been enacted by the State Department of Agriculture to protect the agricultural industry against the improper application of hazardous chemical insecticides and herbicides.

INSECTICIDES

Near the end of last year new regulations were enacted on

injurious materials which included some of the most poisonous insecticides in common use. First of all, a permit must be obtained from the Agricultural Commissioner's office to use these materials. In this manner, any potentially hazardous applications of these poisonous insecticides could be stopped. It also provided an opportunity to discuss in detail safety precautions, particularly for the operator. It has been found in a number of cases that the applicant had only a meager knowledge of the fundamental safety precautions. Whenever there is doubt in the advisability of the use of these insecticides, field inspections were carried out. In this manner, by installing a greater sense of responsibility upon the applicant, greater protection was maintained to neighboring crops and livestock.

The following is a list of the injurious materials with the number of acres treated and the number of permits issued:

	<u>Acres Treated</u>	<u>Permits</u>
Arsenic materials	101	3
Tetraethyl pyrophosphate (TEPP)	3,539	119
Parathion	1,822	51
Ethyl-para-nitrophenyl (EPN) thionebenzene-phosphonate	813	32

HERBICIDES

Injurious herbicides which include 2,4-D and related compounds were widely used in San Joaquin county during the year, although there are numerous restrictions in its use. Grain farmers and others, with the exceptions of those within the boundaries of the hazardous area in the northern part of the county, relied upon 2,4-D extensively for weed control. During the year 176 permits were issued by the Agricultural Department. Again, each applicant for a permit was instructed in the precautions to be observed in the application of this material. Wherever there was doubt in the advisability of issuing a permit, either field inspections were carried out or other appropriate restrictions entered upon the permit.

COMMERCIAL PEST CONTROL OPERATORS

Although many farmers carry out their own pest control operations on their farms, many are dependent upon commercial operators to treat pests with chemical materials. During the year, 63 operators registered with this department with intentions of carrying out commercial work in San Joaquin county. Of this number, 31 were qualified in aircraft operations. Throughout the year, operators were required to send in monthly reports giving information of all work done. In the use of injurious herbicides and insecticides, commercial operators were required to obtain a written authorization from the grower in order to obtain a permit. Furthermore, commercial operators were required to keep the Agricultural Department informed as to their operations by submitting monthly reports.

Acres treated in San Joaquin County by commercial operators:

Plant Diseases and Insect Pests		
Fruit Tree Crops - - - - -	5,430	
Field Crops - - - - -	25,259	
Vegetable Crops - - - - -	82,353	
Vineyards - - - - -	66,456	
Nut Tree Crops - - - - -	<u>3,745</u>	183,243
Weed Control		
2,4-D - - - - -	18,214	
Contact Material - - - - -	3,441	
Soil Sterilant - - - - -	<u>272</u>	21,927
Soil Fumigation		
DD - - - - -	972	
EDB - - - - -	<u>444</u>	1,416
Total Acres Treated - - - - -		206,586

HOUSEHOLD AND GARDEN PESTS

Numerous calls are received each day by this office from persons requesting information for the control of insect pests either inside their houses or in their gardens. Many times the identification of the insect is not known by the person calling 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. No new plant diseases or insects were found this year. The majority of pests identified in the home were of the common type, such as storage insects, termites, carpet beetles, fleas, and the common insects attacking pets. Those found in the garden were various specimens of scale insects, ants, lawn moths, mildew, molds, etc.

STANDARDIZATION

Fruit, Nut, Vegetable, Egg and Honey

This type of work has to do with the inspection of eggs, honey, walnuts, and thirty-two of the important fruits and vegetables, to see that they comply with the specific standards specified in the Code. It also includes all other fresh fruits and vegetables, as they are also regulated as to serious decay and insect damage, and all dried fruits regulated as to deception and mislabeling.

This year the enforcement of the Standardization Laws was carried out by all members of the department in addition to performing their other duties. 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 re-distribution centers, where it is more practical to maintain inspections, many hours of overtime were necessary to properly inspect this produce to maintain higher standards of quality and pack, and further to protect the consumer from fraud, mislabeling, and deception of commodities. This procedure also assisted the truckers and shippers in getting their produce into the markets without unnecessary delay by further inspections at State operated highway inspection stations.

Marketing Orders This is the second year we were requested by the Peach and Plum Marketing Order managers to undertake inspection of their commodities during the 1951 season. These marketing orders required stricter regulations upon these two commodities and increased the work load for the standardization inspectors. Certificates were issued throughout the year on each lot of freestone peaches and plums meeting the requirements of the Marketing Order.

Stockton's Marketing Center The morning wholesale market opens at 5:00 A.M. each morning and operates the year around so that farmers from all over the county can bring in their produce to be sold to retailers. To maintain fruits and vegetables of high quality, one inspector is assigned to the morning market to enforce standardization requirements. Maximum activity at the morning market is reached during the summer months at the height of the fresh fruit harvest.

The afternoon market starts operation at the beginning of the cherry season and continues on through the fruit producing months until fall. The bulk of these fruits and vegetables are transported to Los Angeles and San Francisco morning markets. An inspector is assigned to tour periodically all of the loading docks to see that fruit and vegetable standards are maintained. The majority of loads of produce are certified before leaving for their final destination.

Wholesale Markets and Retail Stores It is our policy to make daily inspections at all wholesale establishments since a number of commodities are imported into the county from other parts of the state. Furthermore, in order to assure the consumer produce of the highest quality, fruit and vegetables are periodically inspected at retail stores.

Fruit, Nut and Vegetable The quality of produce grown in San Joaquin County was very good this year. Weather conditions throughout the year were not inducive to the development of mold, rot or decay which eliminated many of the problems arising in enforcement of the standardization law.

Throughout the year in San Joaquin County, fresh fruits and vegetables are harvested and placed on the market. This requires constant inspection to insure that produce is in conformity with standardization requirements.

The first crop of major importance in this county is asparagus. There is a large number of packing sheds and numerous shipping points which require continual inspection. The beginning of the season was very slow due to cold weather. Some frost damage appeared in market "grass". From this point on, violations were the average run which was mostly deceptive packs.

The cherry harvest that follows asparagus is also a major crop of this county. This year some lots were rejected due to excess cracking, splits, sponginess and abnormal softening. This was caused by rain and wind shortly after the harvest of cherries began.

Throughout the summer months, freestone peaches for the market required continual inspection. Some lots were rejected for excess in tolerance for over ripeness and bruises. This work was carried out along with inspection for compliance of fresh peaches to Marketing Order.

The grape crop also requires considerable inspection work. However, this year only a few rejections were necessary on lots of grapes that did not comply with the standardization law.

A large portion of the celery crop is shipped to eastern markets. This celery is Federal State Inspected and has caused no trouble under standardization law.

A certain amount of trouble developed in the packing of potatoes. This has probably been intensified due to high prices and higher requirements for grade standards on potatoes. All defects generally associated with potatoes have been found in a number of lots of potatoes.

During the harvest of sweet potatoes in the southern part of the county, several packing sheds are checked daily. This year very little trouble was experienced since the quality and size were good.

Tomato pack for local consumption in some cases were not in conformity with standardization requirements. An excess amount of over-ripe, growth cracks and mold was found. Also some packs did not have proper markings. There was no trouble with eastern shipments of green tomatoes which were Federal State Inspected.

Watermelons also from the southern section of the county require continual inspection. An inspection station is maintained in this area throughout the season. This year considerable immaturity, rine rot or mosaic was found.

Eggs During this year 90 premises were inspected which included grocery stores, egg markets and any other place where eggs were offered for sale. A representative sample of 115 lots representing 10,774 dozen eggs were candled for grade, checked for size, or other defects. Of the eggs inspected 2,336 dozen were found in violation of the Standardization Egg Law.

Honey Throughout the year, a number of calls have been received by

this office for general information concerning honey grades and marketing requirements.

Grapes for By-Products The Agricultural Code under section 771 provides that wineries purchasing grapes on a sugar content basis shall have an official test made on each load delivered. This year nine wineries required the services of 15 authorized inspectors from this department. There were 50,424 soluble solids tests made and 22,668 certificates of inspection issued at these wineries. The total cost for this type of work was \$9,279.39 which was paid by the different wineries requiring this service.

Certification The certification of agricultural produce represents one of the major activities of this department in standardization work. This is exemplified by the fact that 2,665 certificates were issued during the year. The certificate is of considerable importance not only to facilitate movement of produce past state inspection stations, but it insures the recipient at destination produce that meets minimum standards of the California Standardization Law. This service is of special importance to growers and shippers alike in this county since there is a heavy export of fruits and vegetables grown in San Joaquin County.

Standardization Statistics

	1950	1951
Number of Containers Inspected - -	7,034,462	8,220,458
Certificates Issued - - - - -	3,716	2,665
Fees Received - - - - -	\$2,193.70	\$5,612.92
Violation Notices Issued - - - - -	411	487
Number of Containers Rejected - -	24,760	19,387
Court Cases - - - - -	1	3
Amount of Fines - - - - -	\$25.00	\$265.00

RODENT AND BIRD CONTROL

Ground Squirrels (Citallus species) During the year, 3,003 calls were made on squirrel control work by members of this department. In many cases not only were properties inspected and information given on the control of squirrels, but inspectors demonstrated the use of equipment and precautions warranted in the handling of poisonous or inflammable rodenticides. The campaign against the ground squirrel is continuous throughout the year. Inclement weather is the only factor in any suspension of field work. During the months of March, April, and May the most effective period for ground squirrel control in this area, operations reach their peak. On large projects the Sheriff's Department supplies county prisoners as low-cost laborers who work under our supervision.

Gophers (Thomomys species) The gopher continues to be a nuisance to both residential and rural areas. The widespread trouble with this rodent has been evident by a number of requests for information on the control of this pest. The main type of service performed by this office throughout the year was educational whereby instructions on placing out traps, baits and various other methods used were given.

Rats (Rattus species) Unfortunately, rats frequent both farm and city dwellings. Numerous residents have come to this department for help to control these vermin. The new poison warfarin has proved to be exceptionally effective in the control of rats, much to the relief of many farmers and city residents. This material was prepared in ready-to-use baits by this department and sold at cost to persons upon request.

Field Mice (Microtus species) This vole appeared in large numbers in a number of fields in San Joaquin County this year. This represented the heaviest infestation in the history of the county. These rodents multiplied to proportions far in excess of normal and constituted a very destructive agent in alfalfa and clover fields. It was found that oat groats treated with zinc phosphide was the best bait for the control of these mice. During the season 6,076 pounds of poison bait was prepared by this department for farmers with infested property.

Muskrat (Ondatra zibethica) This aquatic rodent has appeared in several localities in the county. It apparently is more prevalent in the delta area where a more desirable habitat is located. These rodents are under observation to keep a check on their progress lest they become a problem in irrigation ditches by burrowing holes.

Coypu (Myocastor coypus) This large aquatic rodent commonly called nutria, has been found adjacent to the southern boundary of San Joaquin County. This year a survey was made of the San Joaquin River and its tributaries in this county. The results of the survey were negative. It is a very good possibility that this rodent, once established, could cause considerable damage to banks of irrigation ditches.

Rabbits (Sylvilagus species & Lepus species) During the year, a few requests were made at this office for advice on the best way to control rabbits which were causing some damage to crops. Previous experience has proved the organized rabbit drive to be the most effective weapon against this pest.

Bird Control A number of complaints have been received by this department concerning damage to crops by birds. Trouble with the hornlark was rather extensive in southwestern portions of the county. Young pinto bean plants, tomato plants, and onion seedlings were attacked by these migrating birds. In one field of seedling tomatoes, 40 acres were destroyed by the hornlark. Bird poison used was not successful; thus farmers kept them out by shooting with various degrees of success. A number of complaints were filed against the sparrows as a general nuisance around barns, garages, and in gardens. In some cases, control measures with poisoned baits were used for sparrows. However, results varied and in many cases methods to scare the offending birds were employed.

WEED CONTROL

Since weeds represent one of the most undesirable competi-

tors of agricultural crops, it has been the policy of this department to help to promote in every way possible an effective weed control program throughout the county. Over the last few years, farmers have shown an encouraging increase in interest in weed control work, especially on the control or eradication of perennial noxious weeds. Many farmers have come to realize that valuable farm land is being wasted wherever such weeds are allowed to grow. Furthermore, if effective control work is not undertaken, these infestations will most likely spread and envelop more productive land causing even greater losses.

Special Weed Control Program Since 1947, a special weed control program has been under way in this county. This year farmers have carried on more extensive control work than ever before on noxious weeds. Foremost under suppression and eradication are perennial noxious weeds. Much of this work is carried out during winter months with the application of soil sterilants.

To further promote this program, county spray rigs have been made available free of charge to farmers who do not have their own equipment. County spray rigs have patrolled county and state roads throughout the growing season for weed pests. To supplement this special weed control program, farmers in a number of cases are able to secure partial financial help through the Production Marketing Administration on cost of material and labor.

Educational Work To develop an interest in this weed control program by farmers, it has been necessary to carry on an extensive educational program. This has been accomplished by disseminating information through the radio, newspapers and local journals on the most effective methods of noxious weed control. Also, where applicable, farm meeting lectures on this subject were given.

County Equipment The recognition of the fact that many farmers do not have the necessary equipment to treat infestations of noxious weeds on their property, the county through this department has made available powered spray rigs to apply the herbicidal materials. The farmer pays for the operator's wages while on the job.

ANNUAL WEEDS

Puncture Vine *Tribulus terrestris* The most offending of annual noxious weeds within San Joaquin County is puncture vine. This pest has infested a large part of the southern portion of this county. In contrast, the northern portion of the county is relatively free of this pest. Unfortunately, this weed has obtained a toe-hold on some of the roadsides and on some private property in this area. Special effort has been expended to control the puncture vine and prevent further spread in areas of relatively light infestations.

Yellow Star Thistle *Centaurea solstitialis* This annual weed which has proved to be of special nuisance in pasture lands is more prevalent in the north and less evident in the southern portion of the county. Farmers have also found it to have the provoking habit of establishing itself in difficult to get at locations such as fence lines and ditch banks. Fortunately, control of this weed is much easier as compared with Puncture Vine

since it does not produce viable seed in such a short time and its presence is more evident by its tall growth.

Milk Thistle Silybum marianum Has proved to be disagreeable in some localities within the county especially when it acquires its mature growth. A number of farmers have requested that this weed be controlled on roadside infestations.

These annual weeds are controlled effectively with contact sprays. Control work starts in the early spring for milk thistle and yellow star thistle. As the season advances to early summer, puncture vine makes its appearance. In each case, control work is started as soon as it is possible to detect their presence. At this point, maximum kill is obtained with minimum cost.

PERENNIAL WEEDS

Johnson Grass Sorghum halepense Has proved to be the most widespread and most troublesome to farmers. Throughout the year, 807 infestations were treated with borax-chlorate spray material. Of this number, 250 infestations were eradicated. Follow-up work will continue on remaining infestations. Almost without exceptions, more than one treatment was required to obtain the desired results. The importance of follow-up work cannot be over-emphasized for this generally is the determining factor in the degree of success in controlling weeds.

Russian Knapweed Centaurea repens There are 46 infestations in the county. Of this number, 8 have been eradicated.

Canada Thistle Cirsium arvense This noxious weed is found in only one location within the county. Fortunately this plant does not produce viable seed since it is represented by the male sex only. It spreads either by natural root expansion or cultivation. Treatment of this infestation with 2,4-D was continued this year.

Horsenettle Solanum species Only a few small infestations of this weed occurred in this county. Of the 4 infestations found, 2 have been eliminated.

Hoary Cress Cardaria species Has proved to be one of the most difficult of the perennials to control. With persistent effort, 6 infestations out of an original 32 were eliminated.

Pepper Cress, Perennial Lepidium latifolium This deep rooted perennial is not of wide distribution in this county. During the year, 3 out of 5 infestations have been eradicated. One infestation was eliminated this year with soil sterilant and several others were treated with 2,4-D.

Klamath Weed Hypericum perforatum Out of 4 infestations 2 have been eliminated by the use of soil sterilants. The Klamath Weed Beetle was released on one small infestation of this weed.

Wild Heliotrope Heliotropium curassavicum Has been found to be a nuisance, especially in vineyards. Carbon bisulphide has been used on 3 small infestations in vineyards without regard to the vines. Results have been very good.

Bermuda Grass Cynodon dactylon Infestations, found in locations that would be adverse to agricultural interest, have been treated. Of the 34 infestations treated with Borax-Chlorate sprays, 16 have been eliminated.

County Roads It is an established fact that roadways are notorious for spreading weeds onto adjoining property. To suppress such infestations before they have the opportunity to spread, it has been the duty of this department to patrol all county roads at intervals with power spray rigs and treat these infestations.

To prevent such weeds as Yellow Star Thistle and especially Puncture Vine from going to seed, spray rigs patrolled each road at 2 to 3 week intervals. An additional spray rig was added this year for this work.

During the winter months perennial noxious weeds were treated with soil sterilants. Results from this work have been very encouraging. A number of infestations have been eradicated.

State Highways In order that all roadsides may be included in the county weed program, an agreement has been made between the State Highway Department and this Department that this Department patrol the 207 miles of state highways in San Joaquin County for noxious weeds. The program on State Highways has been carried out in the same manner as for county roads.

Railroads Five of the six railroads within San Joaquin County have agreed to control noxious weeds on railroad right of ways. This control work will be carried out with our equipment and our crews. The costs of the material and the labor will be paid to the County Department of Agriculture by the railroad. However, negotiations are still pending with the one railroad. It is possible that they, also, will request us to do the work on their right of ways. In the past, railroads have been chiefly interested only in vegetation growing between the tracks and a narrow strip on each side, but very little work has been done on noxious weeds found growing between the railroad track area and their right of way fence line. The work that will be done by our equipment will be on the entire railroad right of way and will include such weeds as Johnson Grass, Russian Knapweed, Hoary Cress, Perennial Pepper Cress, White Horsenettle and any other weed of a serious nature.

Materials Used In Weed Control Program The treatment of the annuals, puncture vine and yellow star thistle were sprayed with oil emulsion composed of 10 to 30 gallons of oil, one quart of dinitro general, detergent and water to make a 100 gallon mix. Larger proportions of oil were used during the cooler weather conditions and was decreased to a minimum during the warm summer days. Also, borax-chlorate compound was used extensively as a contact and weed sterllant material on these annuals with good results.

The treatment of perennial noxious weeds was with sodium-chlorate and borax-chlorate, the borax-chlorate was used exclusively by our spray crews. Most of this work was carried out during the fall and winter months. Satisfactory results were obtained by applying this material at approximately 15 pounds per square rod.

Selective and General Weed Spraying Selective weed spraying is steadily gaining popularity in eliminating weeds from such crops as grain, rice, celery, carrots, and alfalfa. Commercial pest control operators and individual farmers owning their own spray equipment have sprayed thousands of acres of crop land in this county this year. Many of these selective weed spraying practices have eliminated cultivation for weed growth entirely. General weed spraying has been steadily increasing in popularity because weeds growing in areas where cultivation was difficult or impossible could be eliminated through chemical treatment. Weeds growing along fence lines, ditch banks and on cultivated areas were found to harbor insects as well as a means to disseminate weed seeds into crop lands. Controlling weeds of this nature has proved to be profitable to the farmer. In a number of cases, unsightly weeds growing in yards around packing sheds and other buildings in farming districts have been treated with soil sterilants, reducing fire hazards and the cost of hoeing. The economy of properly controlling weeds whether they be of noxious nature or just general vegetation, has been proved time and again and the farmers, land owners and other agencies are becoming more interested in this type of work.

Experimental Work Since this department is engaged in extensive chemical weed control work both on private and public land, it is of paramount importance to use the most effective materials and methods to obtain maximum results with minimum cost. Although, there is a substantial quantity of literature written on these herbicides, many pertinent facts concerning their value to specific conditions found in this county are not available. Furthermore, each year finds a number of new chemicals placed upon the market for weed control of which even less is known of their weedicial properties. Thus, it is evident that only through experimental work can a more accurate conclusion be acquired to further the most successful weed control program possible.

This year test plots were made using the following materials or combination of materials:

Borax Compounds	Oil Emulsions	Sulphur
Sodium Chlorate	Dinitro Compounds	Thalic Acid
I.P.C.	Oil and Penta	Malic Hydrazide
T.C.A.	Chloro-phenol	2,4-D
C.M.U.		
Soda Ash		

The test plots of these materials, in many cases, are still being observed as to results. Also, a special burner was constructed to determine its value in the use of oil or butane. Up to the present time, 176 test plots have been made using the materials listed above on various noxious weeds throughout the county.

SEED INSPECTION

Under Chapter 5, Section 125 of the State Agricultural Law and under the California Seed Law, lots of agricultural and vegetable seed are inspected to see that they meet the provisions of these laws. This is accomplished by inspection of all seed brought into this county for planting purposes or for any other purpose which may disseminate weed seeds. Shortly after notification by common carriers of the arrival of seed lots into the county, inspection is conducted for the presence of noxious weed seed or insect pests.

Agricultural and Vegetable Seed Inspection One of the important duties of this office is to prevent the introduction of noxious weed seeds into this county. Periodic inspection of seed houses is maintained throughout the year, especially to check the germination date since it is effective only for a given length of time. This year, 345 lots of agricultural and vegetable seed were inspected in this county. Of this number, only 3 lots were rejected due to mislabeling.

Grain Inspection During the year, numerous shipments of grain, both bulk and sacked, is brought into the county for stock feeding or seeding purposes. Quarantine samples are drawn for noxious weed seed content, and the general condition of the lot is inspected for foreign material such as cotton, corn cobs, or any other debris that may be capable of harboring insect pests. Grain lots found infested with pests are disposed of by appropriate methods of cleaning, grinding, burning, or fumigating.

	<u>Lots Passed</u>	<u>Lots Rejected</u>	<u>Total Lots Inspected</u>
Interstate Lots Inspected	1,050	574	1,624
Intrastate Lots Inspected	411	9	420

Lots Rejected in Tonnage:

<u>Tonnage</u>	<u>Reason for Rejection</u>	<u>Disposition</u>
100 tons	Canadian Thistle	Recleaned or diverted
50 tons	Yellow Star Thistle	Recleaned & ground
850 tons	European Corn Borer	Fumigated, diverted, shipped out of state, cleaned & ground & debris burned
22,150 tons	Johnson Grass	Cleaned & ground or burned
6,300 tons	Johnson Grass & White Horsenettle	Cleaned & ground or burned

Screenings Throughout the year, screenings at the 4 warehouses were inspected for noxious weed seeds. Those lots found infested were rejected and the required sixty days was given to the owner to dispose of the lot by recleaning, grinding, or burning. Out of the 16,179 sacks of screenings inspected, 10,325 sacks were rejected for noxious weed seeds. These rejected sacks of screenings were disposed of by recleaning and grinding or dehydration.

The following weed seeds were present in lots rejected:

<u>Number of Sacks</u>	<u>Kind of Noxious Weed Seed</u>	<u>Disposition</u>
545	Morning Glory	Ground
81	Puncture Vine	Ground
7,815	Johnson Grass & White Horsenettle	Ground or burned
1,884	Morning Glory, Yellow Star Thistle, Johnson Grass, & Bermuda Grass	Dehydrated & ground or burned

Seed Certification The purpose of seed certification is to maintain and make available to the public, high quality seed and propagate materials of superior crop plant varieties so grown and distributed as to insure genetic identity and purity. Only those varieties that contain superior germ plasm are eligible for certification.

This office has complete authority to safeguard by suitable measures, the identity of seed intended for certification.

To insure proper identity, this office inspected harvesters wherever necessary for the presence of any foreign seed; also all processing equipment must be cleaned thoroughly, to avoid contamination of the certified seed, and approved by this office before cleaning operations on certified seed starts.

Wherever a request is made to move seed, subject to certification prior to final tagging, this office issues an intercounty permit with the necessary information to the commissioner at destination. This county also requires a permit whenever seed, subject to certification, arrives into this county.

After a lot has met all preliminary requirements, a sample is drawn in the same manner as an official sample is drawn, with one sealed portion going to the California Crop Improvement Association and one sample is retained by this office. Upon notification from the California Crop Improvement Association that the lot has met the requirements of certified seed, the lot is tagged and sealed under the supervision of this office.

These tags and seals are furnished by the Crop Improvement Association.

Many lots of certified seed grown last summer have not been processed. However, 178 samples have been drawn this year consisting of beans, clover, alfalfa, sudan grass, barley and wheat. Beans and ladino clover are the two main seed crops of this county.

APIARY INSPECTION

The purpose of bee inspection is to prevent the introduction and spread, within the county, of diseases injurious to bees, maintain a registration list of apiaries, issue certificates of inspection, and properly dispose of all American Foulbrood colonies. This year, through the cooperation of the State Department of Agriculture, a Deputy State Bee Inspector was assigned to this area for two months. This Deputy worked with all District Inspectors checking colonies in the various districts. Below is a report disclosing the amount of work done in this field:

<u>Type of Work</u>	<u>Number of Apiaries</u>	<u>Number of Colonies</u>
Registered	1	6
Entering California	1	200
Leaving California	2	393
Entering County	11	628
Leaving County	7	609
Moving within County	25	1,279
Inspected	95	2,037
Infected with American Foulbrood	13	44
Infected with European Foulbrood	9	13
Burned for American Foulbrood	13	44

FAIRS AND EXHIBITS

The fair activities of this department were curtailed extensively this year, since San Joaquin County did not enter the State Fair. However, an entry was made at the San Bernardino National Orange Show early in the year which won first place. At the County Fair, members of this department assisted the different communities in gathering and displaying their agricultural commodities.

COOPERATION WITH BUREAU OF MARKET ENFORCEMENT AND BUREAU OF MILK CONTROL

Investigations, hearings, and procedures set forth under the Produce Dealers Act, the Processor's Law and Milk Control Law resulted in a net remittance of \$43,444.55 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, and also maintains a special office in the Agricultural Building for State Officials for the pur-

pose of holding hearings or any other activity which requires office space.

Recoveries effected by the Bureau of Market Enforcement for the benefit of San Joaquin County growers during 1951 are as follows. These recoveries consist of amounts paid by licensees following complaints by growers of failure to pay or failure to perform in accordance with contracts.

	<u>Number of Participants</u>	<u>Amount Received</u>
Produce Dealers	61	\$32,734.36
Processors	14	7,606.04
Milk Recoveries	<u>75</u>	<u>3,104.15</u>
Total	150	\$43,444.55

MISCELLANEOUS DEPARTMENTAL DUTIES

There are a number of activities carried out by members of this Department as supplemental to our regular duties. These activities are designed to facilitate the operations of this department and extend to the farmer a more complete service.

Identification of Insects, Diseases, and Plants The proper identification of insects, plant diseases or plants is often vital in the performance of many duties. Quarantine and Nursery Inspection, Field and Orchard Inspection, Plant Pest Control, and Weed Control are all directly concerned. In case positive identification cannot be made, or it is desirable to obtain verification, then specimens are submitted to either State Department of Agriculture Insect Taxonomists, Plant Pathologists or Plant Taxonomists respectively.

Farm Meetings A closer observance of farmers' needs has been carried out in the various districts in the County by personnel of this Department who attend farm meetings. In this manner, any matters pertaining to this Department may be discussed on the spot by a representative of this Department. This also gives our Department an opportunity to carry out an educational program in any pest control work sponsored by this office.

Photographic Work A convenient method of recording agricultural information concerning this county has been through the use of photographs. These pictures are taken by members of this Department and developed in our own dark room, which has proved to keep costs to a minimum. This year, 288 black and white and 520 color slides were produced by this Department. One of the most important values of these pictures is in their use for visual education at farm group meetings.

Soil Tests The causation of subnormal plant growth or the death of a plant is not always apparent. When insect or plant diseases are not evident, the trouble may be found in the soil. In-

spectors, confronted with such problems, often resort to a laboratory analysis of the soil, performed at this office, for a satisfactory answer. During the year, 35 samples of soil were tested. Many times alkali soil has been found responsible for the adverse plant growing conditions, or a surplus salt concentration is the offending material. At other times, a deficiency in a vital food material is responsible. This information is of vital help to inspectors in making recommendations for correcting the trouble.

Special Agricultural Reports Throughout the year, numerous requests are received by this Department for statistical information on various crops grown in this County. These requests may include one crop or a number of different crops. This, in turn, may be for a given section of the County. Since farmers and a host of agencies connected with the handling and processing of farm commodities are vitally interested in the production fluctuations of various crops, statistical information is of prime importance in planning for the future.

Spraying of County Shade Trees This year a number of county sycamore trees were sprayed by this department for sycamore scale. A total of 580 sycamore trees were treated, using 3,200 gallons of spray mix.

Shop Work Throughout the year, there has been continuous activity in the department's shop. Here the repair and maintenance of spray rigs used in connection with the county's special weed control program is carried out. Also new equipment is assembled for this specialized type of work in the shop. Also in the shop, fair exhibits are designed and constructed. All of the mechanical and electrical devices required in running the moving objects are assembled in the shop. Since most of the parts that make up the construction of many of the exhibits are not available through commercial channels, it becomes the responsibility of the shop personnel to plan and build the necessary parts.

Staff Meetings Periodically throughout the year, meetings are held by members of the department. These meetings are convened to discuss problems of the department with reference to standardized methods of inspection and changes in the laws. Also, reports are given by inspectors of activities in their respective districts. These meetings have been of vital importance in dissemination of information of departmental policies and county activities.

Weather Reports During the year, weather reports on crop growing conditions in the county are filed with the United States Weather Bureau. These reports are submitted each week in the summer and once each month during the winter.

FINANCIAL REPORT SUMMARY
 FOR FISCAL YEAR ENDING JUNE 30, 1951
 AGRICULTURAL DEPARTMENT & SPECIAL WEED CONTROL

CLASSIFICATION

Administrative	\$ 20,280.79
Plant Quarantine, Seed and Nursery Inspection	17,364.20
Fruit, Nut, Vegetable, Honey, and Egg Standardization	14,999.25
Field and Orchard Inspection	13,147.50
Apiary Inspection	504.59
Rodent Control	8,694.50
Weed Control	14,962.23
Crop Statistics	11,511.37
Office Personnel	6,181.63
Fairs and Exhibits	6,257.78
Maintenance and Operation	5,800.74
General	<u>3,766.84</u>
	\$ 123,471.42

SPECIAL WEED CONTROL

Salaries and Wages	\$ 35,494.83
Maintenance and Operation	24,316.51
Capital Outlay	<u>3,806.17</u>
	\$ <u>63,617.51</u>

GRAND TOTAL EXPENSES \$ 187,088.93

COLLECTIONS REMITTED TO COUNTY TREASURER \$ 16,184.32

CROP SUMMARY
SAN JOAQUIN COUNTY
YEAR - 1951

Since climatic conditions are one of the all important factors in the growth progress of agricultural crops, a more comprehensive understanding of crop developments may be obtained by a review of the weather conditions of the year. As there are decided fluctuations in temperature, humidity and rain fall in various sections of the state at a given time, the same is true within the boundaries of San Joaquin County. Thus, only general trends in the growth progress of any given crop may be stated within the scope of this report.

The first part of 1951 did not represent the best weather for crop production. It was not until the last two weeks of January that the prolonged warm winter temperatures were broken. Frosts and freezing temperatures were especially welcomed by growers of deciduous fruit crops which finally started the dormant period. Due to the prolonged wet weather during this period, farming operations were drastically curtailed. Seed bed preparations, winter planting of crops and pruning operations were held up.

During February, rains, frost, overcast skies with some clear days were intermingled throughout the month. Due to the intermittent rains, it was extremely difficult for farmers to prepare the soil for spring crops. However, by the end of the month most of the pruning of grapes and fruit trees was completed, and plantings of spinach, peas, onions and tomato hot beds was evident in the county. The asparagus harvest started the latter part of February; however, the cold weather curtailed production extensively.

By the first of March, almond orchards were in bloom, peach and plum orchards were in the popcorn stage, and the buds on the cherry trees were swelling. Tomato growers had, by this time, managed to obtain a fair stand of young tomato plants in their hot beds. On March 2nd, the temperature dropped to an exceptionally low point in many locations within the county. As a result, a number of tomato hot beds suffered extensively. Miraculously, orchards escaped with virtually no damage except some damage which was experienced in almond orchards. Frosts and cold weather expired mid-March and excellent growing weather prevailed for the rest of the month.

With almost complete absence of rainfall from early March until nearly the end of April, non-irrigated crops were seriously set back. This condition was especially evident in dryland grains and native pastures; however, irrigated crop progress was excellent. Growers took advantage of the good weather to prepare land for seeding of rice, planting of sugar beets, tomatoes and melons. The first cutting of alfalfa and grain hay was started during April and the harvesting of cherries, lettuce, asparagus, peas and spinach was in progress. The heavy rains at the end of April caused considerable damage to hay cut or piled in the fields and to early varieties of cherries.

May and June found fair to good weather for the growth of most crops due to variable temperatures. Blossom set on tomatoes was slow at first due to the cool nights.

In the first part of July, temperatures of over 100 degrees caused a fair amount of sunburn damage to grapes and walnuts. From this time on, favorable growing conditions were enjoyed by farmers of San Joaquin County until the first part of November.

With the excellent fall weather, farmers were able to harvest a high percentage of their crops without losses. The ideal conditions permitted the harvesting without trouble, late maturing crops, such as sugar beets, celery, grapes and rice. Furthermore, an exceptionally large acreage of ground has been prepared for next year's crops; also farmers are well along in their planting of field crops such as grain, alfalfa and ladino clover.

The following is a report covering a general summary of the important crops in San Joaquin County for 1951:

FRUIT AND NUT CROPS

Almonds There was some damage to early blooming varieties of almond especially in orchards that did not have adequate frost protection by wind machines or smudge pots. The size and quality of the nuts was good this year. The tonnage increased 1,461 tons over the year before which, in part, was due to a 576 acre increase in the county.

Apricots Growers enjoyed a good apricot season. There was an increase of 604 tons to the processor; also, there was a substantial increase in price. No pit burns occurred this year.

Cherries There was considerable loss and drop in quality in the early varieties of Chapmans and Burbanks due to wind and rain. Otherwise, quality and size of other varieties was very good. The adverse weather conditions at the beginning of the season is probably the largest contributing factor to the 143 car decrease to eastern markets. The first carload of cherries left this county May 6th and shipments continued until June 20th. There was an increase over the year before of 298 tons of black cherries to the processor. Most spectacular was the increase in Royal Anns of 1558 tons. Also, there was an increase of \$80.00 per ton on both black and white cherries going to the processors.

Chestnuts A severe heat spell during the summer while the nuts were filling reduced the size of the nuts. Consequently, tonnage was lower. The major portion of the crop was sold within the state eliminating eastern shipments. The large size nuts sold at fairly high prices but the demand for small nuts was poor.

Figs There were no eastern shipments. The tonnage remained about the same as the year before. There was a decrease of \$140.00 per ton on dried figs.

Grapes (Table) The grape crop was good in all respects. Color was normal and berries were of good size and good sugar content. This year, there was a 66% increase in package Tokay grapes with a 20 cent increase over the year before. There was also an increase of 39,053 tons of Tokay grapes to the wineries; however, there was a 59% decrease in price.

Grapes (Juice) High production was also evident in the juice grapes. Shipping grapes increased by 25% and the tonnage to wineries increased by 54%. However, the price of juice grapes fell 53% under the year before.

Olives The acreage of this crop remains constant, but the production tonnage dropped 23%. This decreased tonnage was offset, in part, by an increase in price. About 2/3 of the olives go to the canneries and the remaining 1/3 for oil.

Peaches (Freestone) Early varieties produced a small crop. Consequently, there was a 41% decline in packages of peaches shipped. There was a 211 ton decline of peaches to the processors; however, there was an increase of 127 tons to the driers. Dried peaches dropped \$140.00 per ton under the year before.

Peaches (Cling) The cling peach season started August 1st and extended until September 16th. Size and quality was good with no trouble from mildew. The 13,810 ton increase represented a 28% increase over last year. Also, growers enjoyed a \$17.50 increase per ton.

Pears Most of the pear crop went to the canners. The 470 tons to canners was 118 tons under the year before. This lower production was offset by a \$25.00 per ton increase.

Plums The plum market throughout the season was weak. The price per crate declined 80 cents. Furthermore, the packages dropped 25,043 under 1950.

Walnuts The acreage of this crop remained constant. The quality and size of the crop was good. The tonnage increased 1,435 tons or 18% over last year. Furthermore, the price increased \$40.00 per ton.

FIELD CROPS

Alfalfa Hay Prices were higher this year with strong demands for hay throughout the season. The yield was good, producing excellent quality throughout all five cuttings. The most outstanding factor about the alfalfa crop was the acreage reduction of 11,279 acres from the previous year.

Beans Acreage increased 7,095 acres over last year with the largest acreage gain in blackeyes, light red kidneys and dark red kidneys. Yields and quality remained about the same as last season. Bean growers enjoyed favorable weather conditions at harvest time.

Field Corn The quality and yield were normal, with the price advancing \$15.00 per ton over last year. Acreage increased approximately 2,500 acres above the previous year.

Grain Barley farmers suffered heavy acreage losses since there was a drop of 27,467 acres under last year. Adverse weather conditions during planting time were largely responsible for the reduction. Quality of barley, wheat and oats was below normal; however, market demands were good with prices advancing throughout the season.

Hay The acreage of volunteer grain hay remained about the same as last season. Prices continued to rise considerably throughout the year. Yield and quality were normal this past season.

Pasture The acreage growth of irrigated pastures in San Joaquin County has been phenomenal these past few years. In 1940, ladino clover acreage was 17,898 acres. This crop has continued to increase to the present peak of 76,559 acres. This is an increase of 8,728 acres over last year. Range pasture conditions were above normal with feed value being excellent.

Potatoes Market prices advanced steadily throughout the harvest period. However, the bulk of the potatoes was sold before the sharp rise in prices. Quality and yield were good. There was approximately a 500 acre increase over 1950 plantings.

Rice Yield and price were very similar to last year. The acreage increase was 1,954 acres over last season.

Sugar Beets Due to the difficulties experienced in 1950, together with adverse weather conditions at planting time, there was a reduction of 2,167 acres this season. The yield remained about the same; however, there was a price raise of 90 cents per ton over last year.

Sunflowers Yields of sunflower seed varied from field to field with good quality predominating. The average yield of 11 sacks per acre was an increase of 3 sacks over the previous year. Also, the price increased \$2.00 per hundred weight.

Sweet Potatoes The acreage decreased 571 acres this year. Market demands during the harvest period were strong. The \$3.00 per bushel basket this year represented a \$1.40 increase over the previous year. The quality, size and yield were normal.

VEGETABLE CROPS

Asparagus Production of this crop was lower this year than it was last season. Since the asparagus did not go into dormancy until the latter part of the winter months, coupled with a cool spring, harvest of this crop was late in starting. Along with the lower production of market "grass" the asparagus acreage in the county decreased 1,450 acres under last year. With a strong market demand throughout the season, total valuation surpassed that of the previous year.

Carrots Most of the carrots went for fresh market produce. There was a slight decline in acreage; however, market demands were good with high prices.

Celery Market demands for celery this year has been poor resulting in low prices. The frosts from December on, required packers to trim more on the celery. By the end of the year, 280 acres was still in the field. Celery acreage increased 348 over the year before.

Melons Again melon growers enjoyed good yields and prices. The melon acreage remained about constant. Some mosaic (Rind rot) appeared this year.

Onions Due to the poor onion year of 1950, the county's acreage dropped sharply over a thousand acres. With the wet weather of November and December, early onion yields were low. However, late onion growers enjoyed high yields. Market conditions were fair. This year a large percentage of the crop was harvested by the shipper.

Peas The acreage decreased 220 acres under the 1,265 acres of last year. Cannery prices increased considerably this year.

Spinach The spinach acreage remained about the same; however, there was an increase in tonnage per acre.

Strawberries The acreage increased 200 acres over the previous year. There was a decided drop in price. A larger percentage of strawberries went to the freezers this year. Growers experienced some trouble with frost in the spring.

Tomatoes A record crop of tomatoes was harvested in San Joaquin County this year. The 43,586 acres of tomatoes which was an 87% increase over last year represented the largest acreage in the history of the county. Of this acreage, 41,549 acres were rounds with an average tonnage of 16 tons per acre. The remaining 2,037 acres of pears gave an average tonnage of 16.95 per acre. The entire tomato crop gave a total valuation of over 23 million dollars. Tomato growers did have a little trouble at the beginning of the season. A frost destroyed some tomato beds. Then the cool nights at the beginning of the blooming period caused a heavy blossom drop. From this time on, good fortune was with the growers. Mexican Nationals helped to solve the labor problem and an extraordinarily long harvest season permitted growers to harvest a very large percentage of their total crop. Tomato pests were at a minimum.

FRUIT AND NUT CROPS
SAN JOAQUIN COUNTY
YEAR - 1951

CROP	BEARING ACREAGE	PRODUCTION			F.O.B. VALUE		
		PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL	
Almonds	8,801	.68	5,985	Ton	\$480.00	\$ 2,872,800	
Apricots	1,161	10.18	11,819	Pkg.	1.50	17,728	
		3.77	4,377	Ton	105.00	459,585	
		.03	35	Ton	500.00	17,500	
Cherries	Royal	1,036	4.18	4,330	Ton	300.00	1,299,000
Other	Ship	2,553	1.71	4,366	Ton	518.50	2,263,771
Cherries	Proc.		.50	1,276	Ton	300.00	382,800
Chestnuts	116	1.18	137	Ton	440.00	60,280	
Figs	410	.04	16	Ton	150.00	2,400	
		1.11	455	Ton	144.00	65,520	
		.20	82	Ton	200.00	16,400	
Grapes	32,992	.95	31,342	Ton	110.00	3,447,620	
		3.94	129,988	Ton	28.50	3,704,658	
Grapes	22,613	252.26	5,704,355	Pkg.	1.75	9,982,621	
		6.47	146,306	Ton	20.60	3,013,904	
Grapes	1,758	33.04	58,084	Pkg.	1.70	98,743	
		7.60	13,361	Ton	23.50	313,983	
Misc'l Orchards	118			Acre	200.00	23,600	
Nectarines	86	250.00	21,500	Pkg.	2.50	53,750	
Olives	348	1.17	407	Ton	254.00	103,378	
Peaches	2,185	110.00	240,350	Pkg.	1.50	360,525	
		3.71	8,106	Ton	60.00	486,360	
		.30	655	Ton	300.00	196,500	
Peaches	5,634	11.14	62,763	Ton	77.50	4,864,132	
			8	Ton	160.00	1,280	
Pears	90	5.22	470	Ton	125.00	2,500	
				Ton	100.00	47,000	
Plums	1,088	168.95	183,818	Pkg.	2.20	404,400	
		.08	87	Ton	45.00	3,915	
Prunes	101	246.90	24,937	Pkg.	2.00	49,874	
		1.74	176	Ton	160.00	28,160	
Walnuts	11,745	.80	9,396	Ton	450.00	4,228,200	
TOTAL						\$38,872,887	

FIELD CROPS
SAN JOAQUIN COUNTY
YEAR - 1951

CROP	BEARING ACREAGE	PRODUCTION			F.O.B. VALUE		
		PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL	
Alfalfa Hay	54,376	6.50	353,444	Ton	\$ 27.50	\$ 9,719,710	
Barley	69,915	16.50	1,153,597	CWT	3.10	3,576,151	
Beans, Dry	19,780	15.10	298,678	CWT	9.90	2,956,912	
Corn, Grain	11,555	1.25	14,444	Ton	75.00	1,083,300	
Corn Husks			283	Ton	600.00	169,800	
Grain Sorghum	4,091	18.00	73,638	CWT	3.25	239,323	
Hay, Grain	7,243	1.50	10,864	Ton	23.50	255,304	
Hay, Wild	14,009	1.25	17,511	Ton	22.00	385,242	
Oats	8,053	8.00	64,424	CWT	2.90	186,830	
Pasture	Range	210,638		Acre	2.50	526,595	
	Clover	76,559		Acre	45.00	3,445,155	
	Sudan Grass	1,597		Acre	35.00	55,895	
	Stubble	91,342		Acre	1.25	114,177	
Potatoes	4,935	317.00	1,564,395	CWT	2.35	3,676,328	
Pumpkin	Canning	918	7.00	6,426	Ton	7.50	48,195
	Stock		10.00	9,180	Ton	3.00	27,540
Rice	8,194	35.00	286,790	CWT	4.70	1,347,913	
Silage, Corn	1,156	16.00	18,496	Ton	5.00	92,480	
Sugar Beets * **	10,961	17.20	188,529	Ton	12.90	2,432,024	
Sunflowers	1,897	11.00	20,867	CWT	9.00	187,803	
Sweet Potatoes	1,281	190.00	243,390	Bskt	3.00	730,170	
Wheat	5,180	8.00	41,440	CWT	3.60	149,184	
					TOTAL	\$31,406,031	

* Includes Federal Subsidy

** 4,001 Acres planted in 1950, harvested in 1951

VEGETABLE CROPS
SAN JOAQUIN COUNTY
YEAR - 1951

CROP	BEARING ACREAGE	PRODUCTION			F.O.B. VALUE			
		PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL		
Asparagus	Ship. Proc.	53,572	18.42	986,796	30# Pkg.	\$ 4.35	\$ 4,292,563	
			.79	42,322	Ton	244.00	10,326,568	
Beets, Table		43	15.25	656	Ton	25.00	16,400	
Broccoli		29	3.00	87	Ton	140.00	12,180	
Cabbage		71	300.00	21,300	Pkg.	1.60	34,080	
Cauliflower		33	300.00	9,900	Pkg.	1.50	14,850	
Carrots		379	12.00	4,548	Ton	75.00	341,100	
Celery		3,727	410.00	1,528,070	Pkg.	2.40	3,667,368	
Corn, Sweet		531	185.00	98,235	Pkg.	2.00	196,470	
Cucumbers		133	6.00	798	Ton	51.50	41,097	
Garlic		3	90.00	270	CWT	10.00	2,700	
Lettuce		137	220.00	30,140	Pkg.	2.00	60,280	
Melons		Cranshaw	138	8.00	1,104	Ton	37.50	41,400
		Cantaloupe	422	174.00	73,428	Pkg.	2.40	176,227
		Casaba	724	8.00	5,792	Ton	25.00	144,800
		Honeydew	315	7.50	2,362	Ton	25.00	59,050
		Persian	48	7.50	360	Ton	25.00	9,000
Watermelon		1,842	12.70	23,393	Ton	19.60	458,503	
Onions	Early Late	1,606 724	500.00	803,000	Sk.	1.35	1,084,050	
			575.00	416,300	Sk.	1.35	562,005	
Peas	Ship. Proc.	398 647	115.00	45,770	Tub	2.00	91,540	
			1.94	1,255	Ton	74.00	92,870	
Peppers		180	11.00	1,980	Ton	35.00	69,300	
Spinach		898	5.06	4,544	Ton	25.00	113,600	
Squash		293	10.00	2,930	Ton	18.00	52,740	
Strawberries		408	1,195.00	487,560	Bskt 12 32#	2.25	1,097,010	
Tomatoes	Ship. Round Pear	41,549 2,037	26.28	1,091,908	Pkg.	2.50	2,729,770	
			16.00	664,784	Ton	30.00	19,943,520	
			16.95	34,527	Ton	37.00	1,277,499	
Truck Garden		814			Acre	200.00	162,800	
TOTAL						\$47,171,340		

SEED CROPS
SAN JOAQUIN COUNTY
YEAR - 1951

CROP	BEARING ACREAGE	PRODUCTION			F.O.B. VALUE	
		PER ACRE	TOTAL	UNIT	PER UNIT	TOTAL
Alfalfa Seed	421	429.00	180,609	Lb.	\$.26	\$ 46,958
Asparagus Roots	125			Acre	420.00	52,500
Asparagus Seed			22,000	Lb.	1.00	22,000
Beans Blackeyes Certified Seed	100	14.50	1,450	CWT	10.25	14,862
Beans *Light Red Kidney Certified Seed						960,165
Beans *Dark Red Kidney Certified Seed						218,547
Beans White Red Kidney Certified Seed	35	17.14	600	CWT	15.00	9,000
Cantaloupe Seed	12	250.00	3,000	Lb.	.45	1,350
Gourd Seed	10	240.00	2,400	Lb.	.35	840
Harding Grass Seed	30	93.00	2,790	Lb.	.75	2,092
Ladino Clover Seed	2,666	145.00	386,570	Lb.	1.00	386,570
Millet Seed	70	814.00	56,980	Lb.	.05	2,849
Nursery Grape Vines						6,000
Nursery Other						180,000
Nursery Tree						134,000
Onion Seed	28	600.00	16,800	Lb.	1.00	16,800
Popcorn Seed	65	10.76	699	CWT	8.00	5,592
Potato, Certified	688	261.00	179,568	CWT	4.30	772,142
Red Clover Seed	28	215.00	6,020	Lb.	1.25	7,525
Safflower Seed	728	880.00	640,640	Lb.	.047	30,110
Squash Seed	10	300.00	3,000	Lb.	.35	1,050
Sudan Grass Seed	480	10.95	5,256	CWT	7.00	36,792
Tomato Seed	3	705.00	2,115	Lb.	4.00	8,460
Watermelon Seed	30	250.00	7,500	Lb.	.31	2,325
					TOTAL	\$2,918,529

* Accurate prices and production figures are not available at this time. Total income for these two crops is estimated.

PERMANENT CROPS IN SAN JOAQUIN COUNTY
YEAR - 1951

CROP & VARIETY	NON BEARING		CROP & VARIETY	NON BEARING	
	ACREAGE	ACREAGE		ACREAGE	ACREAGE
ALMONDS			GRAPES (Raisin)		
Drake	1	358	Muscat	12	189
Eureka	0	1	Thompson Seedless	66	650
I X L	0	112	Zante Currant	0	8
Jordanolo	288	541	Total	78	847
Mission	432	3,172	GRAPES (Table)		
Ne Plus Ultra	83	527	Cardinal	39	0
Non Pareil	695	3,706	Concord	0	6
Peerless	48	342	Emperor	0	213
Other	5	42	Malaga	0	109
Total	1,552	8,801	Ribier	0	150
APPLES			Tokay	247	22,613
White Astracaan	0	10	Other	0	433
Golden Delicious	0	1	Total	286	23,524
Other	0	1	GRAPES (Wine)		
Total	0	12	Alicante	3	5,306
APRICOTS			Burger	0	933
Blenheim & Royal	1	649	Carignane	207	7,836
Moor Park & Hemskirk	0	8	Colombar	0	30
Tilton	2	503	G. Reisling	0	10
Other	0	1	Golden Chasselas	0	80
Total	3	1,161	Grenache	2	982
CHEERRIES			Matero	0	19
Bing	272	1,457	Mission	0	1,822
Black Republican	1	27	Palomino	1	1,164
Chapman	18	148	Petite Sirah	0	397
Lambert	14	263	Sauvignon Blanc	0	23
Royal Ann	226	1,036	Zinfandel	27	13,547
Tartarian	52	583	Other white	0	153
Other	12	75	Other dark	30	690
Total	595	3,589	Total	270	32,992
CHESTNUTS (All)			NECTARINES (All)		
	6	116		10	86
FIGS			OLIVES		
Black	0	31	Ascolano	5	69
Kadota	0	379	Manzanillo	52	71
Total	0	410	Mission	25	192
FILBERTS (All)			Other	0	16
	0	1	Total	82	348

CROP & VARIETY	NON BEARING		CROP & VARIETY	NON BEARING	
	ACREAGE	ACREAGE		ACREAGE	ACREAGE
PEACHES (Cling)			PLUMS		
Andora	25	101	Beauty	0	3
Carolyn	7	66	Burbank	0	10
Cortez	56	36	Climax	0	8
Fortuna	25	147	Duarte	11	101
Gaume	71	1,055	Grand Duke	0	9
Gomes (Stuart)	96	405	Kelsey	0	11
Halford	73	1,314	President	3	118
Johnson	0	125	Santa Rosa	19	240
Libbee	0	54	Tragedy	6	231
Palora	126	1,078	Wickson	0	3
Peak	4	215	Other	60	354
Phillips	9	477			
Sims	0	68	Total	99	1,088
Walton	0	56			
Other	79	437	PRUNES		
Total	571	5,634	French	0	41
			Imperial	0	2
			Robe De Sergeant	0	9
			Sugar	1	49
			Total	1	101
PEACHES (Free)			QUINCES (All)		
Babcock	1	4		0	11
Crawford	0	3	WALNUTS		
Early Elberta	7	21	Concord	3	47
Elberta	159	915	Eureka	169	2,866
J. H. Hale	23	164	Franquette	291	3,097
Lovell	1	289	Hartley	482	149
Muir	0	170	Mayette	15	738
Salway	1	21	Payne	324	4,561
Other	119	598	Placentia	0	87
Total	311	2,185	Other	67	159
			Seedling	129	41
PEARS			Total	1,480	11,745
Bartlett	1	85	BLACK WALNUTS		
Beurre Hardy	0	5		575	86
Total	1	90	ASPARAGUS		
				6,590	53,572
PERSIMMONS (All)					
	0	8			

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

BEARING ACREAGE

CROP	YEAR 1936	YEAR 1941	YEAR 1946	YEAR 1951
Almonds	3,667	4,354	6,976	8,801
Apples	32	33	36	12
Apricots	1,794	1,572	1,958	1,161
Cherries	4,434	4,113	3,987	3,589
Chestnuts	224	164	150	116
Figs	538	520	510	410
Grapes, Juice	33,930	31,707	31,764	32,992
Grapes, Raisin	845	991	988	847
Grapes, Table	1,770	1,386	1,231	911
Grapes, Tokay	17,338	17,198	18,471	22,613
Nectarines	114	129	186	86
Olives	365	350	351	348
Peaches, Cling	3,483	3,205	5,133	5,634
Peaches, Free	2,853	2,922	3,239	2,185
Pears	603	127	142	90
Persimmons	5	13	14	8
Plums	1,322	1,287	1,134	1,088
Prunes	1,432	880	725	101
Walnuts	9,062	9,197	9,591	11,745

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

BEARING ACREAGE

CROP	YEAR 1936	YEAR 1941	YEAR 1946	YEAR 1951
Alfalfa Hay	39,282	44,756	47,632	54,376
Barley	104,496	54,683	86,116	69,915
Beans, All	34,907	30,165	18,128	19,780
Corn, Grain	29,568	26,418	14,373	11,555
Flax Seed	321	0	55	0
Grain Sorghum	12,270	13,173	4,220	4,091
Hay, Grain	36,693	14,043	20,355	7,243
Hay, Wild	615	33,341	23,892	14,009
Oats	16,907	2,526	10,432	8,053
Pasture, Range	252,298	240,000	229,358	210,638
Pasture, Ladino Clover	8,047	18,211	37,585	76,559
Pasture, Sudan Grass	3,652	3,693	2,638	1,597
Potatoes	10,389	7,978	4,661	4,935
Pumpkins	343	763	1,147	918
Rice	2,565	3,086	3,242	8,194
Silage Corn	1,800	2,357	836	1,156
Sugar Beets	12,113	14,671	6,894	10,961
Sunflowers	5,950	5,467	2,440	1,897
Sweet Potatoes	1,152	2,055	1,760	1,281
Wheat	45,546	29,101	18,642	5,180

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

BEARING ACREAGE

CROP	YEAR 1936	YEAR 1941	YEAR 1946	YEAR 1951
Asparagus	17,625	34,192	45,521	53,572
Beets, Table	20	0	56	43
Broccoli	10	153	21	29
Cabbage	100	100	92	71
Cauliflower	50	100	42	33
Carrots	320	533	1,029	379
Celery	7,950	5,286	6,687	3,727
Corn, Sweet	350	428	246	531
Garlic	30	20	5	3
Lettuce	207	134	97	137
Melons, All	2,199	2,279	3,152	3,489
Onions	1,651	1,449	2,413	2,330
Peas	2,244	2,304	3,336	1,055
Peppers	94	44	43	180
Spinach	663	734	1,270	898
Squash	260	178	326	293
Strawberries	96	166	67	408
Tomatoes, Round		5,982	28,664	41,549
Tomatoes, Pear	14,375	11,727	2,204	2,037

SAN JOAQUIN COUNTY
YEAR - 1951

APIARY PRODUCTS

Honey	759,000	Lbs.	@	.10		\$ 75,900.00
Bees Wax	4,246	Lbs.	@	.50		2,123.00
Queen Bees	10,556	Queens	@	.86		9,078.00
Pollenization	6,250	Colonies	@	2.90		<u>18,125.00</u>
Total						\$ 105,226.00

DAIRY PRODUCTS

Milk and Milk Products	\$ 12,850,100.00
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LIVESTOCK

Beef Cattle and Calves	\$ 18,570,285.00	
Hogs	2,197,019.00	
Sheep and Wool	<u>3,242,805.00</u>	
Total		\$ 24,010,109.00

POULTRY

Chickens	\$ 707,037.00	
Eggs	2,124,657.00	
Turkeys	<u>1,246,320.00</u>	
Total		\$ 4,078,014.00

SUMMARY

Fruit and Nut Crops	\$ 38,872,887.00	
Field Crops	31,406,031.00	
Vegetable Crops	47,171,340.00	
Seed Crops	2,918,529.00	
Apiary Products	105,226.00	
Dairy Products	12,850,100.00	
Livestock	24,010,109.00	
Poultry Products	<u>4,078,014.00</u>	
Grand Total		\$161,412,236.00

