STATE OF NEVADA

BIENNIAL REPORT

OF THE

STATE DEPARTMENT OF AGRICULTURE

For the Period
July 1, 1954, to June 30, 1956, Inclusive

CARSON CITY, NEVADA
STATE PRINTING OFFICE - - JACK MCCARTHY, SUPERINTENDENT
1956

1[62]

REPORT OF THE STATE DEPARTMENT OF AGRICULTURE

To His Excellency, CHARLES H. RUSSELL, *Governor of Nevada.*

SIR: In accordance with the provisions of chapter 172, Statutes of Nevada 1931, we herewith submit the eleventh report of the State Department of Agriculture, same being the twenty-first report of the State Board of Stock Commissioners, for the period of July 1, 1954, to June 30, 1956.

PERSONNEL

Administrative—

H. H. CAZIER, President, Livestock	Wells
FRED H. DRESSLER, Vice President, Livestock	Gardnerville
DELL H. ROBISON, Commissioner, General Farming	Logandale
ALFRED A. OATS, Commissioner, Dairying	Fallon
RICHARD MAGEE, Commissioner, Livestock	Austin
EDWARD RECORDS, Secretary and Executive Officer	Reno
ALICE M. HANSSEN, Associate Secretary	Reno
DORIS CERVERI, Senior Clerk Stenographer	Reno
WINIFRED MOORE, Senior Clerk Stenographer	Reno

Division of Animal Industry—

WARREN B. EARL, Director	Reno
R. A. BENNETT, JR., Veterinarian	Reno
STARR W. HILL, Senior Brand Inspector	Reno

Veterinary Inspectors Employed on Per Diem Basis—

F. H. BAKER	Gardnerville
ROBERT H. CLARK	Las Vegas
A. A. CUTHBERTSON	Elko
M. L. HOUSTON	Yerington
C. H. KENNEDY	Elko
NICK KLAICH	Reno
ROBERT G. LYNCH	Minden
FRANCIS N. NEVILLE, JR.	Winnemucca
JOHN L. O'HARRA	Las Vegas
M. H. PHILLIPSON	Las Vegas
JACK R. PITCHER	Minden
G. T. WOODWARD	Fallon

Division of Plant Industry—

GEORGE G. SCHWEIS, Director	Reno
LEE M. BURGE, Agricultural Inspector Supervisor	Reno
HARRY E. GALLAWAY, Agricultural Inspector Supervisor	Reno
ALICE M. HANSSEN, Seed Analyst	Reno
FLOYD HILBIG, Senior Agricultural Inspector	Reno
JAMES ANDERSON,[1] Junior Agricultural Inspector	Reno
ARTHUR M. FLORENCE,[2] Junior Agricultural Inspector	Las Vegas
ROBERT W. NICHOLS,[2] Senior Agricultural Inspector	Las Vegas
ROBERT PAYNE,[1] Junior Agricultural Inspector	Reno

[1]Employed by Washoe County. [2]Employed by Clark County.

PERSONNEL—*Continued*

Federal-State Agricultural Products Inspectors Employed on Per Diem Basis—

TIMOTHY LINSCOTT.....Smith
ERIC SEBBAS.....Lovelock

U. S. Department of Agriculture, Agricultural Research Service, Plant Pest Control Branch, Grasshopper Control Project, Collaborator on Insect Pest Control—

JOHN DEL CURTO.....Elko

TAX LEVIES

At a regular meeting of the board held on November 9, 1954, the special tax for the Stock Inspection Fund was set at four mills on the dollar for the year 1955–1956, in accordance with Chapter 37, Statutes of Nevada 1935. At a regular meeting held on November 8, 1955, the tax rate was again set at four mills on the dollar for the year 1956–1957.

ASSESSED VALUATION OF LIVESTOCK UNDER THE JURISDICTION OF THIS BOARD FOR THE CALENDAR YEAR 1954 AND THE FISCAL YEAR 1955–1956

(Figures from the Reports of the Nevada Tax Commission. Figures not available for January 1–June 30, 1955, due to change from calendar year to fiscal year.)

	1954	1955–1956
Stock cattle	$12,074,640	$10,238,765
Bulls	844,880	887,100
Milch cows	516,950	473,645
Work horses and mules	186,920	148,235
Saddle horses	264,730	268,315
Stock horses and mules	98,150	104,525
Stallions	18,660	20,850
Brood mares	13,060	
Jacks	350	400
Burros	1,660	2,145
Hogs (over 8 months)	17,020	20,330
Pigs (under 8 months)	9,285	7,255
Poultry	26,191	21,065
Chinchillas	4,090	4,855
Totals	$14,076,586	$12,197,485

STATEMENT OF EXPENDITURES AND RECEIPTS—JULY 1, 1954, TO JUNE 30, 1956

Funds[1]	Salaries	Travel	Operating expense	Equipment[8]	Total	Receipts from fees, sales, etc.	Balance June 30, 1956
Stock Inspection Fund[2]	$69,015.65	$9,579.18	$21,686.82	$576.29	$100,857.94	$168,543.87	$100,760.73
State Quarantine Officer[3]	59,648.84	6,698.77	18,486.17	3,931.21	88,764.99	17,259.63	51,312.44
Insect Pest Control[4]	5,162.01	2,284.23	4,828.98	11,340.25	23,615.47	441.67	9,440.08
Noxious Weed Control[5]	9,952.77	968.56	10,880.67	8,781.28	30,583.28	2,298.66	21,213.98
Fertilizer Control[6]	.....	.....	257.56	13.70	271.26	11,699.76	6,412.47
Economic Poisons[7]	.....	.....	75.76	.....	75.76	1,537.50	1,461.74

[1]As designated by the State Controller.

[2]A nonreverting fund derived from a special tax, not exceeding four mills on the dollar, on all livestock excepting sheep and goats. Used for the general support of the Division of Animal Industry and its varied activities. Balance includes City of Reno bonds, par value $20,000.

[3]An appropriation from the General Fund. Used for the general support of the Division of Plant Industry and its work in quarantine enforcement, grading agricultural products, seed law enforcement, and weed control.

[4]An appropriation from the General Fund. Used by the Division of Plant Industry for the control of major insect pests such as Mormon crickets and grasshoppers.

[5]An appropriation from the General Fund. Used by the Division of Plant Industry for the control of Halogeton, a poisonous weed harmful to cattle and sheep.

[6]A special fund derived from fertilizer and tonnage fees. Used by the Division of Plant Industry for the control of fertilizer sold in Nevada.

[7]A special fund derived from economic poisons fees. Used by the Division of Plant Industry for the control of economic poisons sold in Nevada.

[8]Figures include sums deposited with Purchasing Department and expended by Department of Agriculture.

CONCLUSION

Appended hereto are the reports of the Divisions of Animal Industry and Plant Industry prepared by the respective directors of the same. It is believed that these cover in sufficient detail the work of the past biennium.

We wish at this time to extend our thanks to our own personnel, the cooperating organizations and individuals, and the public at large, whose assistance and cooperation have made the results accomplished possible.

Respectfully submitted,

H. H. CAZIER,
FRED H. DRESSLER,
RICHARD MAGEE,
ALFRED A. OATS,
DELL H. ROBISON,
Commissioners.

EDWARD RECORDS, *Executive Officer.*

DIVISION OF PLANT INDUSTRY

GEORGE G. SCHWEIS, *Director*

The Legislature has passed many laws dealing with the regulation and safeguarding of the livestock and agricultural industry and vested their administration in the State Department of Agriculture. Certain of these Acts are administered by the Division of Plant Industry and each session of the Legislature has added a number of such new laws.

The Division of Plant Industry has added but one man to its personnel since World War II, despite the fact that the Legislature vests this department with authority to administer and oversee these regulatory and control activities. We now find ourselves in a position where additional personnel is needed if we are to carry out these activities in the manner provided for by law. At the present time our limited personnel is engaged in so many activities, that while we are doing a good job on all of them, any additional demands for the services of our personnel cannot be satisfactorily met.

In our budget, which will be submitted to the Legislature, we will ask for one additional senior agricultural inspector to be added to the main office; one additional technician to act as assistant to the state seed analyst and assist in entomology and botany work; a stenographer for the Las Vegas office of the department and one junior agricultural inspector to serve as an over-all inspector in the eastern part of the State operating principally in Elko and White Pine Counties. The Elko and White Pine areas have long felt the need of a regulatory agricultural inspector as much of the inferior produce now coming out of Utah and Idaho should be inspected in these areas. This need for additional personnel, their salaries, traveling and subsistence expenses will be shown in the budget. It is presumed that the Budget Director will see this need and make definite recommendations as to the amounts needed to carry out these activities.

Among the activities of the department which have increased greatly is the grading and standardization of agricultural products. Both potato and onion inspections have increased and, owing to the prolonged drought, a large tonnage of Nevada hay is moving into the drought areas of Texas, Missouri and other states. Frequently purchasers do their buying on grades issued by our personnel who are licensed Federal-State inspectors, and both buyers and sellers find this service desirable in transacting business satisfactorily.

QUARANTINES

One new quarantine was promulgated during the biennium and none of those already in effect were amended or revoked.

Quarantines in effect at the close of the biennium are:

1. Colorado potato beetle
2. European corn borer
3. Tomato russet mite
4. Khapra beetle

As mentioned in the 1952–1954 biennial report, it was anticipated that the Federal Government would take action on a quarantine on

account of the Khapra beetle against the states of Arizona, California and New Mexico. After numerous delays by the Federal Government on this action, it was decided that in order to protect the agricultural interests of the State, an immediate state quarantine was necessary. This action was taken and the Governor approved and issued a proclamation on November 19, 1954 which restricted or prohibited the importation of host materials from the infected counties of the states involved. On February 21, 1955 the Federal quarantine on Khapra beetle became effective, which placed under quarantine infested premises only. In the normal process of quarantine procedures, the states revoke their quarantine when a Federal quarantine becomes effective. However, the Department has not requested the Governor to revoke Nevada's quarantine due to the lack of full protection by the Federal quarantine.

The Federal quarantine is placed on known infested premises but there still exists the danger of infestation especially from used sacks coming from an unknown infested premise. The Department, by keeping its Khapra beetle quarantine in effect, can control the importation of this type of host material from areas in the three infested states having infestations of this destructive insect.

Nevada's present quarantine authority is restricted by law to insect pests and/or plant diseases and host materials thereof.

There is a definite need for this quarantine authority to be extended to include (1) plants and propagating parts thereof, (2) articles or containers capable of harboring or being a host to insects, diseases, plant life and viruses, that may be injurious or detrimental to the agricultural industry of Nevada.

Certification Under Quarantine Regulations.

In order to protect home agricultural industries from insect pests, plant diseases and noxious weeds, quarantine regulations are adopted by the various states that prohibit or restrict the importation of certain commodities. These restrictions may set forth the conditions under which certain commodities may be moved interstate. Such is the case on tomato plants produced in Clark County and seed cotton produced in Clark and Nye Counties.

Tomato Plants.

The field-grown tomato plants produced in the Moapa Valley of Clark County are exported to various points throughout the United States, with Colorado and Utah being the principal purchasers. All plants moving to these two states, in addition to a general nursery inspection, must be grown under certain cultural practices of insecticide application and certified as to freedom from noxious weeds. This requires supervision of soil fumigation prior to planting time and supervision and inspection of the plants at harvest. This service requires approximately one man-month each year in addition to considerable travel. Since the adoption of this program there have been no difficulties encountered in the movement of the tomato plants.

Cotton Inspection.

As the cotton acreage and yield in Nevada is not sufficient to support a gin, it is necessary that seed cotton be sent to California (Bakersfield area) for ginning. In order for this seed cotton to enter California it must be certified by this department as being grown in Nevada and the

fields found free of certain major insect pests of cotton. Inspections and surveys conducted by the department have enabled it to issue such certification, and this allows the free movement of the cotton to California. The southern areas of the State must be constantly on guard against introducing the cotton boll weevil and pink bollworm from the infested areas of Arizona and Texas in order to protect this small but important industry.

As the population growth of the State has increased very rapidly in recent years so has the number and type of establishments doing business in nursery stock. With this increase the job of checking imported stock and inspecting outgoing stock has become very difficult.

The Nursery Act of the State requires that all imported stock be inspected at point of origin and certified as free of insect pests and plant diseases. It is necessary for the Department to inspect shipments in compliance with this Act, but personnel limitations greatly reduce this service. In order to protect the agricultural interests and homeowners of the State, this activity needs greater emphasis placed upon it. It is recommended that a new nursery licensing and inspection Act be adopted to cover this important work.

INSECT PEST CONTROL

The Memorandum of Understanding between the state agencies involved and the United States Department of Agriculture, Crops Regulatory Programs, Agricultural Research Service, was continued during the biennium with the Director of the Division of Plant Industry designated as State Leader. This Memorandum of Understanding is in regard to insect pest control work with emphasis on Mormon crickets and grasshoppers, and this is very important to the State of Nevada, which has approximately 87 percent of its lands under the administration of various federal agencies. The Elko office of the Crops Regulatory Programs was maintained with Mr. John Del Curto, Area Supervisor, in charge.

Mormon Crickets.

The 1954 adult survey showed the Mormon cricket population to be at the lowest point during the past 15 years. Only one area in the State, Diamond Mts. of Eureka County, had a cricket population requiring control measures in 1955. As portrayed by the 1954 adult survey, this area was baited during the period of May 5 to July 15 by use of ground equipment on 3,000 acres at a cost of $3,978.42.

In general, the program called for the private individual or, in the case of Federal lands, the Federal agency to provide insecticides for control work with the Crops Regulatory Programs, U. S. Department of Agriculture, and the Division of Plant Industry, Nevada Department of Agriculture making the application. During the biennium control treatment was given to 10,020 acres in 1955 and 16,300 acres in 1956.

County Acreages Were—

	1955	1956
Elko	6,120	14,900
Esmeralda	600	
Humboldt	500	1,400
White Pine	2,800	
Total acres	10,020	16,300

As the above-named grasshopper is very migratory in habit it is important to do the control work on the egg bed. During 1956 the hatch was very spotted. At one time a number of the infestations contained adult hoppers and first instar nymphs at the same time. This spotted hatch was due to the abundant moisture of the winter and spring. As the water receded on the meadows the hatch occurred, greatly handicapping the program.

Alfalfa Weevil.

The alfalfa weevil continues to be one of the major pests of the alfalfa-producing areas of central and northern Nevada. The year 1956 was a particularly severe one even with the control methods that are now available. The tendency to make the adult control application of insecticides too late in the season to give good control still exists and during 1955 resulted in many failures that required additional control on larvae infesting first-crop alfalfa.

Spotted Alfalfa Aphid.

This serious pest of alfalfa made its first appearance in the United States near San Diego, California, in February 1954. From this point it has spread rapidly until it now infests all the southwestern states, extending east as far as the Atlantic Coast states and north to South Dakota in the central states.

During September 1954 the spotted aphid was found in Moapa, Warm Springs, and the Virgin Valley of Clark County, and the Pahrump Valley of Nye County. During 1955 the spread continued northward along the eastern side of the State into the Lund-Preston and Baker areas of White Pine County. During 1956 the infested area continued to spread on the eastern side of the State north into Eureka County through the Newark Valley and as far north as the Harrison Pass-Jiggs area of Elko County. On the western side of the State the insect was first found in Fish Lake Valley during midsummer. From there the spread rapidly followed north to Hawthorne, Schurz, Fallon, Lovelock, Smith, Mason Valley and into the Truckee Meadows. We now have the principal alfalfa-producing areas of Lyon, Mineral, Pershing, Churchill, Washoe, Esmeralda, Clark, Nye, Lincoln, White Pine, Eureka and southern Elko Counties infested.

The principal means of spread of this insect is by flight moving with the air currents. This aphis is primarily a pest of alfalfa where its damage is great. It destroys the leaf by sucking the plant juices and secretes a toxin which speeds up the killing of the plant (young seedling alfalfa being killed very rapidly), resulting in a killout of alfalfa stands. This insect secretes a "honey dew" on which a sooty fungus develops reducing the hay quality and the sticky "honey dew" often makes haying operations difficult if not impossible.

It appears at this time that this insect is capable of overwintering throughout our principal alfalfa-producing areas and will require control measures during the second and third crop of alfalfa. In southern Clark and Nye Counties rapid build-up of populations started during February 1955 and 1956, generally requiring control measures for each crop. For the next few years, until better control material and the seeds of resistant strains of alfalfa become more abundant, this

insect will probably develop into the number one enemy of alfalfa producers.

Miscellaneous Insects.

During the biennium infestations of the usual economic insects, lygus bug, thrip, cutworm, alfalfa caterpillar, onion thrip, onion maggot, nematode, corn earworm (on corn and cotton), leafhopper, mites, animal parasites (flies, ticks, grubs and lice), termites, earwigs, ants, webworms, elm leaf beetles and saw flies, required attention and control. During the fall of 1955 the fall armyworm was damaging in many areas throughout the State, while during the spring of 1956 the black cutworm and yellow striped armyworm caused considerable damage.

Insect Survey.

During 1954 a special agreement was entered into between this Department of Agriculture and the Crops Regulatory Programs branch of the U. S. Department of Agriculture for cooperative work on insect surveys. Under this work agreement, the Department will conduct general and special insect surveys throughout the State during the active insect season (April through September) and will furnish a weekly report to interested agencies and the Economic Insect Survey section of the U. S. Department of Agriculture. This program is designed to gather insect information that is of value to other agencies and to intercept and report on new insects at an earlier date than would probably otherwise occur. Special surveys were conducted on the following:

Beet leafhopper (in connection with the tomato plant industry of Clark County and the new sugar beet industry of Churchill County).

Khapra beetle survey (in this survey 55 establishments considered likely to become infested with this serious insect were surveyed and 62 repeat inspections were made).

Cotton insects—The cotton fields of the Pahrump and Moapa Valleys were surveyed for the presence of serious insect pests of cotton.

Grasshopper and Mormon cricket—The annual adult survey reaching into every county in the State.

General survey and observations are conducted throughout the year to gather information, which is badly needed for the State.

Injurious and Noxious Weeds.

Market value of Nevada crops is being influenced by weed seed content from some growing areas to such an extent that farm people and shippers alike have started to be more concerned about weed control. Individual farmers have, in many instances, made strides toward the control of perennials. One large operator at Fallon has finished a 4-year program on a 600-acre farm. The over-all cost, except for equipment, has been approximately $12 per acre in addition to normal cultural practices. White top has been eliminated to the extent that all fields are now in a normal crop free of contamination. Such a program enables the producer to make money and guarantees the free movement of crops without danger of quarantine regulations. Growers

of grain spend an estimated $3–4 per acre annually on weed control; many fields being treated only for annual weeds capable of reducing crop yields, while others are treated for the control of perennial noxious varieties.

In the Lovelock Valley, the County-State effort has been the backbone of a demonstration program for the past three years. Department of Agriculture equipment was used in cooperation with Pershing County for controlling weeds on public roads and on county lands.

In a 3-year period many badly infested roadways and ditches have been practically made free of injurious weeds. The demonstration has definitely had its effect upon the farm people who now have started many control programs on ditch banks, levies, spot spraying in alfalfa, and a general clean-up.

Cooperative programs have been extended to other cities, counties, and in some instances, to individuals; the latter only where the weed involved is not generally spread in the community. Such weeds as yellow star thistle, Klamath weed, leafy spurge, and a few cases of puncture vine, have been attacked on a cooperative basis. In the southern counties of Nevada, knapweed and white top are being controlled by means of a cooperative county-individual program.

During the period covered by this report, programs have been jointly carried on by the Department and the following counties, cities, and other agencies:

Agency	Weed problem
Bureau of Land Management	Halogeton.
Indian Service	Halogeton.
Railroads (Western Pacific, Union Pacific, and Southern Pacific)	Halogeton, puncture vine and knapweed.
Cities (Reno, Las Vegas, Fallon and Winnemucca)	Puncture vine and star thistle.
School systems (Reno, Sparks, Las Vegas)	Puncture vine.
Counties—	
Churchill	Puncture vine and Halogeton.
Lander	Halogeton, white top and star thistle.
Lyon	Puncture vine, Halogeton, white top and star thistle.
Pershing	Halogeton, puncture vine, white top, knapweed and star thistle.
Washoe	Star thistle, Klamath weed, white top and puncture vine.
Division of Highways (Reno and Las Vegas)	Puncture vine.
Weed Control Districts—	
(Walker River)	Star thistle and Halogeton.
(Douglas County)	Star thistle, puncture vine, and Canada thistle.
Individuals	Miscellaneous noxious or injurious weeds.

Halogeton Control.

The Halogeton control program has required the cooperation of many interested agencies, companies, counties, and individuals. During the past two control periods, an effort has been made to (1) prevent spread to new areas, (2) prevent contamination of nonmetallic soil deposits, and (3) protect livestock shipping yards at railroads.

Five counties participated financially in the control program with work being done in eight counties by state units. In addition, the Bureau of Land Management furnished equipment for work in several other counties. The Department of Agriculture cooperated in the above-described programs by furnishing equipment, labor and materials. This departmental equipment and personnel applied a total of 388,000 gallons of spray solution on an estimated 9,500 acres.

Weed Control Districts.

The two weed control districts, Walker River District in Lyon County, now in its fifth year of operation, and the Douglas County Weed District, in its first control work year, have made very good progress toward the eventual control of serious weed problems on their respective lands.

Meetings have been held in Humboldt County and present indications point to the organization of two new weed control districts.

It is only through the organization of weed control districts that a community problem such as the control of noxious and injurious weeds can be given the maximum effort necessary to protect the agricultural industry of the State.

Standardization and Grading.

Acreages of Nevada's basic row crops have decreased, due primarily to low volumes of irrigation water during the 1955 season. Producers in areas that were supplied by storage water were reluctant to plant normal acreages, but new pump-water developments produced a respectable acreage and should continue to increase production. Underground water developments are progressing in Douglas, Lyon, Nye, Esmeralda, Washoe, Humboldt, and Eureka Counties; the most recent of these being in western Humboldt County where a number of wells producing 3,000 gallons per minute and over have been developed.

The sprinkler system of irrigation promises to become a common practice in potato production on sandy soil, or on land not level enough for row irrigation. The quality of potatoes produced with this system of irrigation has been good and acre yields high.

Dehydrators continue to utilize the major tonnage of Nevada's dry onion crop. Shippers and buyers use the grading service for this crop, which is inspected in the field and certified to on a percentage of the Nevada Process Grade.

AGRICULTURAL PRODUCTS INSPECTED

	July 1, 1954 to June 30, 1955	July 1, 1955 to June 30, 1956	Total (tons)
Potatoes	5,960.5	4,571.5	10,532
Onions	4,349	3,166	7,515
Hay	310	266.4	576.4
Turkeys	18,237 pounds	.....	18,237 pounds

Custom Pest Control.

Legislation providing for bonding and licensing of airplane operators was extended to all agricultural applicators by the 1955 Legislature. The following were licensed to do pest control work in Nevada.

Name	Address
Ace Extermination Company	1701 Linn Lane, Las Vegas, Nevada
Agair, Inc. (L. Morgan, Lovelock)	Dos Palos, California
A-I Spray Service	2070 Fife Drive, Reno, Nevada
Dewey Products & Service Company	3711 Beverly Blvd., Los Angles, Calif.
Edgar L. Christensen	Pahrump, Nevada
El-Aero Services	Elko, Nevada
Farm Service Co., Inc. (Bruce Barnum)	Yerington, Nevada
Martin Kronberg	2075 McCloud Ave., Reno, Nevada
Morgan Pest Control	1925 Santa Paula Drive, Las Vegas, Nevada
Pied Piper Pest Control (Peter C. Ting)	1221 Skyline Blvd., Reno, Nevada
Al Russell Pest Control	721 Evans Ave., Reno, Nevada
Schopper Nursery	530 E. 2d St., Reno, Nevada
Superior Exterminating Co. (Wm. L. Saxton)	Box 1885, Las Vegas, Nevada
Eric Sebbas	Lovelock, Nevada
Henry Seeman	Minden, Nevada
Southern Nevada Disposal Service, Inc.	1300 N. A St., Las Vegas, Nevada
Williams Exterminating Co. (A. G. Williams)	1116 Fremont St., Las Vegas, Nevada

Many requests are being received to include termite and interior building pest operators in the provisions of the law. Such operators are now excluded.

Custom pest control operators treated a total of 24,618 acres of agricultural lands for weed and insect control during the 1955 and 1956 control season. During the first half of 1956, custom operators treated 6,939 homes and commercial establishments.

Agricultural Seed.

Seed samples submitted to the seed laboratory declined during the biennium. This decline was due to a number of causes.

1. During 1955 the shortage of water reduced the planted acreages.
2. During 1956 due to the short crops of the previous year, it was necessary for seed dealers of the State to import most of the seed sold. As this seed was moved in interstate commerce it was tagged in compliance with Federal laws and did not require a new analysis. Much of this seed was of the certified blue tag class.
3. Personnel demands on the Department for other duties necessitated that most of the inspections of seed being offered for sale be restricted to a visual inspection of the seed and tag rather than drawing an official sample to check tag analysis.
4. The testing equipment in use by the Department has, in the most part, been in constant use for 25 years. Much of this equipment must be replaced for efficient operations.

Samples tested during the biennium were as follows:

Alfalfa	7
Barley	25
Clover	22
Corn	1
Grasses	30
Oats	23
Rye	3
Wheat	19
Total	130

Certified Seed.

During 1954 the department made application to and was accepted for membership in the International Crop Improvement Association,

which is an organization of seed certifying agencies in Alaska, Canada, and the United States.

Membership in the ICIA will be of great assistance to certified seed growers in the State as their seeds are produced in agreement with the minimum standards for production, storage and handling of seed as established by the association.

It is our belief, that in the future development of agricultural lands in the State, the production of certified seed can play an important part. Certified seed can be an important cash crop to our isolated valleys and underground water development.

Due to the drought conditions that were present in 1955, seed production dropped to a low point. However, during 1956 numerous requests were made for inspections of annual crops and many new plantings were made that will produce seed in 1957.

The following acreage was produced:

1956	Acres
Alfalfa	391
Clover	60
Grass	30
Grain	262
Potatoes	61
Total acreage	804

Commercial Fertilizers and Agricultural Minerals.

This Act requires registration of brand name and reports on tonnage sold for all commercial fertilizers and agricultural minerals sold in the State. In addition, the Act provides for the inspection and analysis of fertilizers and minerals sold, and establishes a monetary penalty to the consumer where merchandise is found to be deficient in the guaranteed analysis.

There is a need for increased sampling and inspection work in this activity. However, the department is handicapped in the high cost of commercial laboratory analysis. An analytical laboratory is vital to the department for the orderly enforcement of this Act.

During the biennium the following number of brands of commercial fertilizer and agricultural minerals were registered for sale:

1954–1955	42 brands
1955–1956	53 brands

Information concerning brands registered and consumption statistics are available from the department on a semi-annual basis.

Economic Poisons.

The 1955 Legislature enacted a new law governing the distribution, labeling, and sale of economic poisons. As defined in the Act an "Economic poison" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any insect, rodent, fungi, weed, or other forms of plant or animal life or viruses, except viruses on or in living man or other animals. The purpose of this Act is to protect the users of these materials and the public in general from physical injury or economic loss resulting from the purchase or use of economic poisons.

Work in connection with this Act requires the review of all labels, recommended dosages, uses, registration of brand and inspection on

the retail and wholesale level to see that the requirements of the law are complied with.

As this is a new law placed in effect during 1956 we are still in the process of educating and informing manufacturers and distributors concerning the requirements they must meet.

To date, 573 brands of economic poisons have been registered for sale.

County Agricultural Inspection.

Two counties in the State employ personnel to do agricultural inspection and weed work. Both Washoe and Clark Counties now employ two men each that work under the supervision of this department.

Clark County.

Clark County and the City of Las Vegas have identical ordinances which provide for the inspection of produce and require that the produce meet certain minimum standards before being offered for sale. These ordinances have greatly improved the quality of perishable produce and merchants and consumers alike have expressed satisfaction with this service.

The weed control programs in Clark County have met with good cooperation from most individuals; the cities of Las Vegas, Henderson, Boulder City; the unincorporated towns of Overton, Logandale, Bunkerville, and Mesquite, and the school districts.

The following table lists some of the work accomplishments by the Clark County agricultural inspectors to date during 1956:

Weed control	21,825	gallons of spray material
Inspection service	1,707	inspections of nurseries and produce (wholesale and retail)

Washoe County.

The two inspectors in Washoe County divide their time between weed control work and shipping point inspection of potatoes and onions. The principal weed problems in Washoe County are yellow star thistle, puncture vine, Canada thistle, white top, and control of isolated spots of Russian knapweed and Halogeton. Work on the noxious weeds was done in cooperation with private individuals, cities of Reno and Sparks, school districts and the State Highway Department.

Excluding the Halogeton control work in which Washoe County cooperated, 23,550 gallons of spray solution was applied to noxious weeds and 373 shipping point inspections of onions and potatoes were made.

Recommended legislation needed for the better protection of Nevada's agriculture:

1. Amend the quarantine authority to authorize the State Quarantine Officer to establish quarantines and regulations (both interstate and intrastate) on plants and propagating parts thereof and articles and containers capable of harboring or being a host to or carrier of insect pests, plant diseases, injurious plants and/or parts thereof or viruses detrimental to the general agriculture of the State.

2. Enact a new nursery inspection and licensing law that will provide increased protection to the agricultural industry and the consumer in trade channels.

3. A new statute requiring the bonding and licensing of all buyers of agricultural produce and livestock.

4. Amendment to the Agriculture Seed Control Act to require each lot of seed to bear a label showing the germination percentage within the previous nine months.

MEETINGS AND CONFERENCES ATTENDED

November 10–11, 1954—Agricultural Standardization meeting, Klamath Falls, Oregon.

November 30–December 3, 1954—Meeting called by Federal Government to establish Khapra Beetle Quarantine, Denver, Colorado.

December 9–10, 1954—Meeting of California State Association of County Agricultural Commissioners, Sacramento, California.

January 4–5, 1955—Meeting to compile Halogeton bulletin, Salt Lake City, Utah.

February 15–16, 1955—Meeting of Executive Committee of Western Plant Board, Salt Lake City, Utah.

March 22–25, 1955—Weed research meeting, Boise, Idaho.

April 11–22, 1955—Federal Seed-testing conference, Corvallis, Oregon.

June 7–9, 1955—Meeting of California State Association of County Agricultural Commissioners, Feather River Inn, California.

June 14–18, 1955—Annual meeting of Western Plant Board and Western Area Standardization Conference, Victoria, British Columbia.

October 9–11, 1955—Meeting of Agricultural Committee of the Council of State Governments, San Francisco, California.

November 8–9, 1955 — Agricultural Standardization and Nursery Inspection meeting, Klamath Falls, Oregon.

November 28–December 2, 1955—Federal school to train personnel engaged in regulatory work for control of Khapra Beetle, Bakersfield, California.

December 7–8, 1955—Meeting of California State Association of County Agricultural Commissioners, Sacramento, California.

January 10–12, 1956—Meeting of Executive and Uniform Quarantine Committees of the Western Plant Board, Phoenix, Arizona.

February 15–17, 1956—Western Weed Control Conference, Sacramento, California.

March 21–22, 1956—Meeting of Foundation Seed Committee of the International Crop Improvement Association, Boise, Idaho.

May 14–18, 1956—Annual meeting of Association of Official Seed Analysts, Sacramento, California.

May 30–June 1, 1956—Meeting of California State Association of County Agricultural Commissioners, Monterey, California.

June 5–9, 1956—Annual meeting of Western Plant Board and Western Standardization Conference, McCall, Idaho.

ACKNOWLEDGMENTS

The Department wishes to express its appreciation for the able assistance and cooperation received from the following political subdivisions, companies, agencies, and individuals in the conduct of our work in furthering the agricultural interests of the State of Nevada.

Churchill, Clark, Elko, Pershing, Lander, Lyon, Washoe and White Pine Counties.

State Highway Department.
University of Nevada, Agricultural Extension Service.
County agents throughout the State.
Nevada State Farm Bureau.
Douglas County Weed Control District, and the Walker River Weed Control District.
U. S. Department of Interior, Bureau of Land Management and Indian Service.
U. S. Department of Agriculture, Plant Pest Control Branch, and the Forest Service.
Southern Pacific, Union Pacific, and Western Pacific Railroads.
Cities of Reno, Sparks, Fallon, Lovelock, Winnemucca, Las Vegas, Henderson, and Boulder City.
State of California, Department of Agriculture, and University of California.
We also appreciate the splendid cooperation given us by the individual ranchers and farmers throughout the State.

DIVISION OF ANIMAL INDUSTRY

WARREN B. EARL, *Director*

BRAND RECORDING

The rerecording of brands as required by law at five year intervals was carried out during the period covered by this report. After the close of the sixty day rerecording period, December 30, 1955, work was started on the preparation of a new official brand book. Copy for this book, which will include all brand data revised to July 1, 1956 is now in the hands of the State Printer and the book should be available for distribution shortly.

The figures showing brand recordings and transfers are as follows:

Total brands of legal record, December 31, 1955, at close of rerecording period	3,487
New brands recorded, January 1, 1956 to June 30, 1956	115
Brands abandoned, January 1, 1956 to June 30, 1956	1
Total brands of legal record, June 30, 1956	3,601
Brand transfers recorded July 1, 1954 to June 30, 1956	260

STOCK KILLED ON RAILROAD RIGHTS-OF-WAY

Reports received during the period of July 1, 1954, to June 30, 1956, under the provisions of Sections 6345–6355, Nevada Compiled Laws 1929, show the following livestock killed on railroad rights-of-way:

	Cattle	Horses and mules	Sheep	Hogs	Total
Nevada Northern—					
Brands or owners reported	1	0	0	0	1
Brands or owners not reported	0	0	5	0	5
Southern Pacific—					
Brands or owners reported	56	3	0	0	59
Brands or owners not reported	65	3	2	0	70
Union Pacific—					
Brands or owners reported	0	0	0	0	0
Brands or owners not reported	6	0	0	1	7
Western Pacific—					
Brands or owners reported	124	10	0	0	134
Brands or owners not reported	40	2	56	0	98
Totals	292	18	63	1	374

ESTRAY LIVESTOCK

Animals taken up as estrays and reported to the department have been handled as in the past. The percentage returned to their legal owners has shown quite an improvement over the previous biennium. The balance were sold at auction as provided by law. None died or escaped prior to disposition.

Estray Record, July 1, 1954 to June 30, 1956

Cattle—	
Taken up as estrays	30
Returned to owners	17
Sold	13
Horses—	
Taken up as estrays	11
Returned to owners	7
Sold	4

HIDE AND CARCASS INSPECTION

Enforcement of the Act approved March 9, 1931, has been continued in a routine manner. The volume of inspection and stamping has continued to decrease owing to the increased percentage of cattle slaughtered at plants under Federal, State or municipal inspection which are exempt from the provisions of the Act. At the present time only 65 stamps are in the hands of authorized inspectors and some of these are practically inactive.

DISTRICT BRAND INSPECTION

During the past biennium there has been a great increase in this activity. This was largely the result of a campaign launched by the Nevada State Cattlemen's Association. At the present time all counties of the State are in brand inspection districts except Douglas and Ormsby. Most districts consist of a single county, but there are some combination units: Esmeralda and southern Nye; Lyon and Mineral; and Storey and Washoe. There has also been a change in the fee system. The Nevada State Cattlemen's Association and other interested parties were able to recruit enough inspectors to cover the various districts on the basis of a ten cents per head flat rate fee. These men, working on this cooperative basis, receive only the amount of the fees they collect with no travel or subsistence allowance. There are now approximately 149 inspectors serving on this basis.

The 1956 Special Session of the Legislature amended the Act of 1929 to require brand inspection before change of ownership or consignment for slaughter within a district. This amendment also provided that on petition of a majority of the stock owners in any district, this provision should not apply to said districts. The stock owners in the Lyon and Mineral district took advantage of this procedure and abolished this requirement in their district.

BRAND INSPECTIONS

July 1, 1954 to June 30, 1956

County	Cattle	Horses and mules
Churchill	15,918	116
Clark	5,720	705
Elko	50,239	967
Esmeralda and southern Nye	610	2
Eureka	12,849	638
Humboldt	13,429	987
Lander	1,968	143
Lincoln	2,865	104
Lyon and Mineral	8,618	344
Northern Nye	2,446	85
Pershing	11,289	440
Washoe and Storey	1,575	7
White Pine	18,250	240
Totals	145,776	4,778
Grand total		150,554

DISEASES OF LIVESTOCK

During the biennium losses from miscellaneous infections and contagious diseases have been gratifingly light. A better understanding of disease prevention on the part of livestock owners and an extension of veterinary service throughout the State have probably been major

factors in this connection. Vaccination against diseases, which can be prevented by this procedure, is now almost universally practiced in areas where needed. Losses from anthrax, bacillary hemoglobinuria (red water disease), blackleg and equine encephalomyelitis (brain fever) of horses have been negligible.

There has been very little trouble with hog cholera. The conscientious use of the improved vaccination procedures now available and the cooking of all garbage before feeding are probably responsible for this.

The State has remained free of cattle scabies. A total of 4,183 cattle were inspected, but no cases found.

There were no cases of rabies in animals of any species. It is now approximately 20 years since there has been a positive case in the State.

No comprehensive or interstate quarantines have been issued. A few premises were quarantined for a short time incident to hog cholera outbreaks.

BRUCELLOSIS

The accelerated program for the eradication of brucellosis was launched on a national scale in October 1954 and has resulted in a great increase in activity along this line in Nevada. At the present time, Ormsby, Storey, and Mineral Counties are classed as Modified Brucellosis Free Areas. Pershing, Churchill, Douglas, Lyon, Lincoln, and Clark Counties are classed as Brucellosis Eradication Areas and work is being pushed in them looking to their declaration as Modified Brucellosis Free areas. Official calfhood vaccination is being promoted by every means available in the other counties of the State as a preparatory procedure to having them declared Brucellosis Eradication areas at the earliest feasible date.

The active use of the milk ring test was instituted during the biennium. This test has proven very valuable in screening dairy herds as so long as it remains negative it is not necessary to subject such herds to an individual animal blood test.

The long anticipated Federal regulations governing the interstate movement of cattle relative to brucellosis appear to be in the offing. A regulation covering the interstate movement of known reactors became effective July 1, 1956. It is anticipated adequate regulations governing all classes of cattle will go into effect January 1, 1957.

The following figures show the numbers of animals tested under the various plans during the past biennium:

Brucellosis control in cattle—	
Total animals tested—official tests	40,609
Reactors found on official tests	958
Total animals tested—unofficial tests	755
Reactors found on unofficial tests	5
Herd milk ring tests	482
Herds reacting on milk ring tests	19
Brucellosis control in goats—	
Total animals tested	36
Reactors	0
Brucellosis control in swine—	
Total animals tested	4
Reactors found	0
Calves officially vaccinated	107,360
Calves unofficially vaccinated	7
Total brucellosis vaccinations	107,367

HERDS UNDER OFFICIAL SUPERVISION RELATIVE TO BOVINE BRUCELLOSIS AS OF JUNE 30, 1956

County	Calfhood Vaccination			Test and slaughter plan (dairy herds)	Accredited herds (dairy herds)
	Dairy herds	Beef herds	Total		
Churchill	228	32	260	20	6
Clark	47	7	54	33	0
Douglas	40	20	60	2	4
Elko	20	231	251	1	0
Eureka	6	21	27	1	0
Esmeralda	7	2	9	4	0
Humboldt	32	59	91	1	0
Lander	5	16	21	2	0
Lincoln	45	31	76	3	0
Lyon	105	41	146	1	1
Mineral	0	1	1	0	0
Nye	13	5	18	13	0
Ormsby	8	4	12	0	5
Pershing	28	19	47	2	0
Storey	4	0	4	0	0
Washoe	101	28	129	16	7
White Pine	29	29	58	4	0
Totals	718	546	1,264	103	23

TUBERCULOSIS

The activities of the Division and the cooperating Animal Disease Eradication Branch of the United States Department of Agriculture has continued to be limited to such testing of cattle as was necessary to maintain the accredited area status of all our counties and meet public health requirements.

There have been no cases of confirmed tuberculosis in Nevada for many years. During the period covered by this report one animal, recently imported from another state, reacted to the tuberculin test but no lesions were found on autopsy. The statistical data relative to tuberculosis appears on page 23.

INTRADERMAL TUBERCULIN TESTS BY COUNTIES

County	1954		1955		Jan. 1, 1956–June 30, 1956		Total	
	Tested	Reacted	Tested	Reacted	Tested	Reacted	Tested	Reacted
Churchill	.....	.....	116	.....	366	.....	482	.....
Clark	1,346	.....	.....	.....	.....	.....	1,346	.....
Douglas	.....	.....	887	.....	.....	.....	887	.....
Elko	12	.....	.....	.....	294	1	306	*1
Esmeralda	13	.....	.....	.....	.....	.....	13	.....
Eureka	.....	.....	157	.....	4	.....	161	.....
Humboldt	148	.....	.....	.....	3	.....	151	.....
Lander	216	.....	.....	.....	.....	.....	216	.....
Lincoln	.....	.....	318	.....	.....	.....	318	.....
Lyon	47	.....	8	.....	1,603	.....	1,658	.....
Mineral	.....	.....	1,648	.....	.....	.....	1,648	.....
Nye	342	.....	.....	.....	.....	.....	342	.....
Ormsby	.....	.....	359	.....	.....	.....	359	.....
Washoe	42	.....	1,664	.....	1	.....	1,707	.....
White Pine	.....	.....	560	.....	.....	.....	560	.....
Totals	2,166	.....	5,717	.....	2,271	1	10,154	*1

*Animal recently imported from another state. Autopsy showed no lesions of tuberculosis.

MODIFIED TUBERCULOSIS-FREE ACCREDITED AREA EXPIRATION DATES

County	Expiration date
Churchill	September 1, 1959
Clark	August 1, 1957
Douglas	August 1, 1958
Elko	September 1, 1959
Esmeralda	August 1, 1957
Eureka	August 1, 1958
Humboldt	August 1, 1957
Lander	October 15, 1957
Lincoln	August 1, 1958
Lyon	August 1, 1959
Mineral	July 1, 1959
Nye	September 1, 1957
Ormsby	August 1, 1958
Pershing	September 1, 1959
Storey	July 1, 1958
Washoe	September 15, 1958
White Pine	November 1, 1958

VESICULAR EXANTHEMA OF SWINE

There has been no recurrence of this disease in the State during the past biennium. Regulation No. 10, issued under date of April 1, 1953, requiring the cooking of garbage fed to swine, and restricting the movement of garbage fed swine, has been continued in effect. This regulation was amended May 1, 1956 to require the securing of a permit for the operation of garbage feeding establishments. This was done to insure that the operator had adequate cooking facilities before starting operations. The frequent inspection of all garbage feeding plants in the State to insure their compliance with the regulation has been continued; 2,620 such inspections were made during the biennium.

MISCELLANEOUS FIELD INVESTIGATIONS AND FINDINGS

Abortion, Epidemic	1
Anaplasmosis	1
Edema, Malignant	1
Edema, Pulmonary	3
Gastro-enteritis	1
Hog cholera	1
Ketosis	1
Nutritional Disorder	1
Paratuberculosis (Johnes Disease)	3
Pasteurellosis	1
Peritonitis and Pleuritis	1
Poisoning, Feed	2
Poisoning, Plant	2
Undiagnosed	9
Total	28

AUTOPSIES

Cattle	17
Hogs	1
Total	18

INTERSTATE MOVEMENTS OF LIVESTOCK

July 1, 1954 to June 30, 1956

Shipments out of Nevada, including only movements covered by official health certificates and not including animals feeding in transit:

Cattle	4,860
Hogs	12,421
Horses and mules	293
Sheep and goats certified in cooperation with the State Board of Sheep Commissioners	10,562
Cats and dogs	504
Total	28,640

LABORATORY DIAGNOSIS

The State Veterinary Control Service, a unit of the Public Service Division of the University of Nevada, is by law, the official laboratory of this Division. A summary of the work performed and a comparison with that of the previous biennium shows the following:

	July 1, 1952 to June 30, 1954	July 1, 1954 to June 30, 1956
Brucellosis Agglutination Tests	20,943	41,721
Mastitis Examinations on Milk	174	180
Miscellaneous Examinations	1,643	1,594
Brucellosis Ring Tests	.....	500
Parasitism Examinations	.....	511
Total Examinations	22,760	44,506

The total number of examinations was practically double that for the previous biennium. The number of plate and tube agglutination tests for brucellosis on blood specimens more than doubled. This was the result of the accelerated brucellosis control plan instituted on a cooperative basis by the U. S. Department of Agriculture and the State Department of Agriculture.

The brucellosis ring test on milk was also revived as a herd screening procedure as part of this program and a total of 500 of these was run.

The number of examinations classed as miscellaneous shows a slight decrease. This is due to the fact that examinations for parasitism have been separated from the miscellaneous group and listed separately. There has been a marked increase of interest in parasitism and the number of specimens submitted for examination.

MEETINGS AND CONFERENCES ATTENDED

November 8–12, 1954—Annual meeting of U. S. Livestock Sanitary Association and of National Assembly of Chief Livestock Sanitary Officials, Omaha, Nebraska.

January 17–19, 1955—Annual meeting of Intermountain Veterinary Medical Association, Salt Lake City, Utah.

January 20, 1955, Conference on Brucellosis, Salt Lake City, Utah.

February 15–18, 1955—Annual meeting of Western States Meat Packers and Conference of Western States Livestock Sanitary Officials, San Francisco, California.

August 11–18, 1955—Annual meeting of American Veterinary Medical Association and affiliated meetings, Minneapolis, Minnesota.

November 14–18, 1955—Annual meeting of U. S. Livestock Sanitary Association and of National Assembly of Chief Livestock Sanitary Officials, New Orleans, Louisiana.

January 15–18, 1956—Annual meeting of Intermountain Veterinary Medical Association and meeting of Western States Livestock Sanitary Officials Association, Salt Lake City, Utah.

March 15–17, 1956—Meeting of Agricultural Research Service, U. S. Department of Agriculture, and Livestock Sanitary Officials, Phoenix, Arizona.

ACKNOWLEDGMENTS

We wish to express our thanks to Dr. E. E. Maas, Veterinarian in Charge of the Animal Disease Eradication Branch of the Agricultural Research Service, U. S. Department of Agriculture, and all the members of his staff for their wholehearted cooperation in our Federal-State disease control projects.

We also wish to thank the Agricultural Extension Service of the University of Nevada and all the county agents throughout the State for their splendid cooperation and active assistance in our disease control programs. The Nevada State Cattlemen's Association; the State Board of Health, and the Grazing, Forest and Indian Services of the Federal Government have also rendered much appreciated cooperation, advice and assistance in our various activities.


UNION
LABEL