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REPORT

to the

Montana Livestock Sanitary Board

July 1, 1963 through June 30, 1964

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Helena, Montana

August 15, 1964

The Honorable Tim Babcock
The Governor of Montana
Capitol Building
Helena, Montana

My dear Governor:

In compliance with Section 46-242, RCM 1947,
we transmit herewith the report of the State Veteri-
narian to the Montana Livestock Sanitary Board for
the year July 1, 1963, through June 30, 1964.

Respectfully submitted,

MONTANA LIVESTOCK SANITARY BOARD

A handwritten signature in dark ink, appearing to read "J. W. Safford", written in a cursive style.

J. W. SAFFORD
Executive Officer and
State Veterinarian

MONTANA LIVESTOCK SANITARY BOARD

* * * * *

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Melvin Peterson, Wisdom

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Wilford Johnson, Hall

* * * * *

JOHN W. SAFFORD

Executive Officer

and

State Veterinarian

Helena, Montana

July 1, 1964

Hon. Livestock Sanitary Board
Helena, Montana

Dear Sirs:

In compliance with Title 46, Section 242, RCM 1947, I submit the report of the State Veterinarian and Executive Officer to the Livestock Sanitary Board for the year ending June 30, 1964.

There were five meetings of the Livestock Sanitary Board during the year.

A meeting was held in Helena on September 30, 1963.

A meeting was held in Helena on November 14, 1963.

A meeting was held in Billings on December 2 and 3, 1963.

A meeting was held in Great Falls on May 13 and 14, 1964.

At these meetings the varied activities and responsibilities of the Livestock Sanitary Board were discussed and acted upon. All actions taken, and regulations and orders issued by the Executive Officer in the interim between meetings, were approved.

The complete minutes of all meetings are on file in the office of the State Veterinarian at the Livestock Building, Capitol Station, in Helena.

FOREWORD

Moisture and grass were in abundance on Montana's 57 million acres of grazing and pasture land during the year. When these two basic elements are provided, many problems of the livestock industry can be resolved. Montana continues to enjoy the reputation of being a livestock paradise.

Always, it seems, there must be a threat to the maintenance of any paradise. Livestock diseases constitute that major threat. The awesome responsibility of the Livestock Sanitary Board is to protect the livestock and poultry industry of Montana from devastation by disease. So very much depends on the success of meeting this responsibility. A nation with a rapidly expanding population must always have its own source of wholesome nutritious food. Montana and its people are dependent upon a successful livestock production to maintain a sound economy and to utilize its natural resources. Livestock and poultry diseases uncontrolled, as history has repeatedly demonstrated, can and will disseminate a prosperous livestock industry.

This annual report, it is hoped, will properly reflect the efforts made this past year to control livestock and poultry diseases, will indicate disease threats that will have to be met, and indicates areas where improvement should be made.

Montana does have one of the healthiest livestock and poultry industries in the world, yet the losses from diseases reach a tremendous economic value. An estimated annual loss of between 30 and 50 million dollars a year is an excessive loss. It must be reduced because costs of production no longer permit such waste. It is recommended that more time, effort, and funds be made available to reduce these losses. The amount of money available to the Livestock Sanitary Board during the year is about one-half of one percent of the estimated annual disease loss. We believe this fact should be most carefully evaluated and long-range planning be applied to meet the disease threats of the future.

The immediate and future livestock disease trends point out the necessity of adopting and obtaining new diagnostic procedures and techniques in the diagnostic laboratory. The potential threat of virus diseases makes this mandatory if we are to know with what we are dealing. Chemistry in agriculture affecting the health of livestock and leaving residues in meat and milk necessitates adopting new chemical analytical procedures in the laboratory. The scientific complexity of these procedures requires new and more refined laboratory equipment and the application of highly trained technical skills. These should be provided.

The disease threat of today demands highly trained veterinary medical scientists with specialized skills to attack and successfully meet the threat. The overall shortage of, as well as the competition for, such scientists creates a most difficult problem on the state level. We believe these two major problems must be solved if the Livestock Sanitary Board is to meet their assigned responsibilities and provide the protection Montana's great livestock industry deserves.

The control of many diseases of livestock and poultry protects man from diseases of animal transmissible to man. The prevention of such diseases in man, as glanders, bovine tuberculosis, brucellosis, rabies, pullorum, and many

others can only be brought about by the control and elimination of the diseases from animals. Diseased livestock and poultry do not provide safe wholesome meat, milk, butter, and eggs for human consumption. This, then, emphasizes the need that the Livestock Sanitary Board's responsibility to control and eliminate livestock diseases be assured success.

Over one-half of the funds allocated to the Livestock Sanitary Board are utilized providing the people of Montana a safe milk and meat supply.

We wish to call attention to the Livestock Sanitary Board that the average sanitation rating of pasteurized milk distributed in Montana is 90%. A milkshed that can provide a 90% or higher compliance rating will assure consumers a safe milk supply. The Montana dairy producer and distributor should be most proud of this record. We are confident it will be maintained and improved. The dairy and milk inspection work is extremely important to both consumers and producers and should be maintained at a high level.

The duty of the Livestock Sanitary Board to provide a system of meat inspection is another important public health function. Approximately 94% of the meat offered for sale in Montana is inspected and passed by either federal or state meat inspectors. Unfortunately, funds have not been available to enact and maintain the processing and labeling meat inspection regulations of the Livestock Sanitary Board. We are certain the money required to maintain this part of meat inspection would be returned to Montana consumers several times by always being able to purchase processed meats and meat products properly labeled as to their actual ingredients, in addition to knowing such products were made from wholesome meat products handled under strict sanitary conditions.

The report that follows represents the work of many veterinarians and members of the full-time and part-time staff of the Livestock Sanitary Board. We commend to you their good work and accomplishments. The accomplishments during the year have been not only worthwhile but have provided information indicating the challenges of the future.

CATTLE DISEASES

Montana veterinarians reported 50 cattle disease involving 25,051 cattle on 6,547 ranches. This is an increase of one disease, 7,581 cattle and 724 ranches over that reported last year. The compilation of the Montana veterinarians' report, laboratory and meat inspection reports for the fiscal year tabulates all diseases found.

ANAPLASMOSIS - A heavy tick (Derma-centor andersoni) population during the spring and early summer of 1964 portends increased losses from anaplasmosis in 1964. One hundred ninety-four cases were reported on 46 ranches. Of this number 153 cases on 29 ranches were reported in June 1964 at the close of the fiscal year. We are certain there are many more unreported cases in the range herds.

ANTHRAX - Five cases of anthrax were reported on three ranches south of Wolf Point in July 1963. No cases were reported in 1964.

BACILLARY HEMOGLOBINURIA (Redwater) - Veterinarians reported 135 cases of redwater on 113 ranches during the fiscal year.

Field trials to test the efficacy of the Clostridium hemolyticum vaccine developed by the Montana Veterinary Research Laboratory have been established. A total of 2,037 cattle on 17 ranches in Lake and Beaverhead counties is included in the field trial. Results of the trial will be determined in the fall of 1965.

BRUCELLOSIS - Montana became a modified certified brucellosis area on April 1, 1964. We welcome this accomplishment of reducing a major cause of livestock loss to a minor role and at the same time reducing a public health danger is one of which Montana cattlemen can be proud.

It will be imperative that these tremendous gains against brucellosis be followed up with unrelenting endeavor until this insidious disease is completely eradicated. We are confident the livestock industry wants this done.

A total of 91,484 cattle was tested for brucellosis revealing 455 reactors, or 0.409%. Of the total 36,363 cattle were tested at slaughter out-of-State following backtagging. The number of reactors is about double the number of reactors reported last year in about the same number of cattle tested. This can be attributed to the fact that the area test has been completed and the field tests are now concentrated in infected herds or where screen tests indicate brucellosis may exist in a herd. Regardless of this, the increase in percent of reactors strongly emphasizes the need for continual surveillance and immediate follow-up tests to eradicate all new foci of infection.

There were 12,805 ABR tests made on milk and cream samples. Forty one or 0.320%, were suspicious to the ABR test. This shows, as compared with last year, a continued decrease of brucellosis in dairy herds.

The progress made in the reduction of herds infected with brucellosis from 1954 to 1964 is shown in the following table:

Table I. The Reduction of Brucellosis-Infected Herds in Montana

First area test in Montana	2,434	infected herds	7.96%
July 1, 1957	666	"	2.36%
July 1, 1958	357	" "	1.24%
July 1, 1959	238	" "	0.92%
July 1, 1960	135	" "	0.56%
July 1, 1961	93	" "	0.34%
July 1, 1962	49	" "	0.16%
July 1, 1963	44	" "	0.15%
July 1, 1964	36	" "	0.14%

Table II. The Progress of Bovine Brucellosis Eradication in Montana Counties

County	<u>Herds Infected</u> <u>Initial Area Test</u>		<u>Herds Infected</u> <u>June 30, 1964</u>	
	<u>No.</u>	<u>Percent</u>	<u>No.</u>	<u>Percent</u>
Broadwater	54	23.6	None	None
Cascade	140	13.9	"	"
Chouteau	35	5.2	"	"
Daniels	18	5.9	"	"
Deer Lodge	26	24.7	"	"
Fergus	106	10.7	"	"
Flathead	30	2.6	"	"
Gallatin	62	6.4	"	"
Garfield	27	7.5	"	"
Golden Valley	24	12.1	"	"
Granite	28	16.3	"	"
Jefferson	32	13.6	"	"
Judith Basin	59	12.6	"	"
Lincoln	15	5.3	"	"
Madison	87	14.2	"	"
McCone	17	3.6	"	"
Meagher	54	34.3	"	"
Mineral	3	4.3	"	"
Missoula	60	10.3	"	"
Musselshell	27	9.0	"	"
Park	50	10.6	"	"
Petroleum	27	19.1	"	"
Phillips	30	4.8	"	"
Pondera	36	6.4	"	"
Powell	51	17.4	"	"
Prairie	30	11.9	"	"
Silver Bow	8	8.7	"	"
Stillwater	52	7.1	"	"
Sweet Grass	56	12.1	"	"
Teton	35	5.2	"	"
Toole	13	4.6	"	"
Treasure	26	15.8	"	"
Valley	33	4.4	"	"
Wheatland	17	12.3	"	"
Wibaux	23	8.4	"	"
Yellowstone	51	7.7	"	"

County	Herds Infected Initial Area Test		Herds Infected June 30, 1964	
	No.	Percent	No.	Percent
Beaverhead	75	18.7	1	0.25
Blaine	30	4.6	1	0.15
Carbon	149	13.9	1	0.09
Carter	34	7.9	1	0.23
Custer	5	1.7	1	0.34
Dawson	34	4.6	1	0.13
Fallon	18	5.3	1	0.29
Lewis & Clark	67	17.1	1	0.25
Liberty	7	4.2	1	0.60
Powder River	28	9.7	1	0.35
Roosevelt	50	8.4	1	0.16
Rosebud	39	3.9	1	0.10
Sanders	47	7.4	1	0.15
Sheridan	23	3.7	1	0.15
Glacier	88	17.7	3	0.60
Richland	46	3.9	2	0.17
Hill	31	6.1	4	0.78
Lake	105	7.8	4	0.37
Ravalli	35	3.2	4	0.4
Big Horn	91	13.2	5	0.70

Table III. Calves Officially Vaccinated with Brucella abortus vaccine Strain 19.

1954 - 205,207	1960 - 215,043
1955 - 315,257	1961 - 224,576
1956 - 317,676	1962 - 209,472
1957 - 296,463	1963 - 250,899
1958 - 303,090	1964 - 297,002
1959 - 294,265	

In addition to Table III reports were received that 7,413 doses of Brucella abortus vaccine were sold indicating that many calves were unofficially vaccinated.

Twenty-two counties were recertified as modified certified brucellosis areas during the year.

CALF SCOURS - Losses of calves from calf scours were reported to be extensive on many ranches, especially during the late winter and early spring. Based on Livestock Sanitary Board laboratory work and findings, it was indicated by the Veterinary Research Laboratory that at least 50,000 head of calves died from this disease in the first month of life.

The laboratory isolated E. coli organisms from 315 calves. E. coli is incriminated as the cause of calf scours and appears to be the cause in most cases. Salmonella typhimurium was isolated from five calves. The E. coli isolates have been saved for further study and classification. Their immunogenic properties are being investigated.

In many outbreaks there can be little doubt that management practices at calving time especially early calving, are primary predisposing causes of calf scour outbreaks. Even though this may be the case and some management

practices could be corrected thereby preventing outbreaks, the disease is of such importance that every effort must be made to concentrate research on the enteritis-disease syndrome of newborn calves. The nature of many outbreaks would indicate there are causes of calf scours yet undetermined.

COCCIDIOSIS - This late fall and midwinter this protozoan disease was reported affecting 2,059 fall calves on 288 ranches. This is approximately the same number reported the previous year.

INFECTIOUS KERATITIS (Pinkeye) - A total of 4,054 cases was reported on 130 ranches. This is approximately a threefold increase over the previous year. Although the mortality rate is very low the morbidity rate in infectious keratitis outbreaks is extremely high. Heavy losses are sustained in setbacks in growth and gain. Malnutrition, bacteria, viruses and rickettsia have all been incriminated as the cause, at one time or another. It is possible they could all play a role under various circumstances. A new research approach must be found to more fully explain the nature of this persistent disease.

LEPTOSPIROSIS - was reported in 234 cattle on 92 premises. There were 4,466 blood samples tested with Leptospira pomona antigen using the rapid plate test and 149 or 3.4% were positive in dilutions of 1:160 or greater.

Dr. Robert N. Philip, Medical Director of the Rocky Mountain Laboratory solicited the assistance of the Livestock Sanitary Board staff to conduct a survey of the incidence of leptospirosis in packinghouse workers in Montana. Doctor Philip reported the results as follows:

Illness histories covering the previous year or two and blood samples were obtained from a total of 315 employees.

As regards leptospirosis, 12 individuals from seven packinghouses had agglutination-lysis antibodies ranging in titre from 1:100 to 1:200,000, principally to Leptospira pomona. Two of these persons had unidentified illnesses in 1962, which in retrospect, was leptospirosis. One man from _____ was hospitalized in July and diagnosed as having "meningitis of unknown etiology". Another, from _____ was hospitalized in October and was diagnosed as having "influenza with toxic nephritis and encephalitis". Of the remaining ten persons, four had had illnesses for which the retrospective diagnosis of leptospirosis is questionable or unlikely and six reported no recent illnesses.

It appears that there is some risk of clinical leptospirosis among Montana packinghouse workers --- and that exposure is widespread and probably quite frequent particularly among those engaged in activities on the killing floor.

It is of interest to note that the percent of leptospirosis "reactors" in cattle was 3.4% and the percent of "reactors" in packinghouse workers was 3.8% on surveys conducted during the fiscal year.

PULMONARY EMPHYSEMA (Asthma) - During the fiscal year 761 cases were reported on 235 ranches - an increase of 515 cases and 89 ranches over the previous year. There are no new research developments that can be of assistance in reducing these losses.

SHIPPING FEVER - Montana veterinarians reported 8,103 cases on 614 ranches. This disease is by far the most frequently reported cattle disease. The number of cases reported is double that of one year ago.

There is considerable nationwide effort on behalf of biological production companies to develop a vaccine incorporating various virus isolates to provide a product to reduce or prevent shipping fever.

SCABIES - Prompt action on the part of livestock disease-control officials of a neighboring state provided an opportunity to take precautionary measures which could have prevented the introduction of cattle scabies into Montana.

Bulls from a herd found to be infected with scabies from out-of-State were consigned and present at a purebred sale in Montana. Excellent cooperation with all consignors and the market resulted in immediate measures to be instituted to prevent an introduction before the sale and distribution of the animals.

It is therefore a pleasure to be able to report that Montana remains free of cattle scabies another year.

UROLITHIASIS (Water belly) - There were 1,290 cases reported on 837 ranches. This is an increase of 379 cases and 278 ranches over last year. This disease of fall steer calves continues to demand the answers for prevention from research.

TICK PARALYSIS - The extremely heavy tick infestation of cattle during the spring and early summer resulted in outbreaks of tick paralysis in cattle and sheep. In one herd of 190 cattle fifty were found with tick paralysis with a loss of 12 head. Following the removal of ticks from paralyzed animals recovery occurred quite promptly.

TUBERCULOSIS - The tuberculin test was applied to 6,236 dairy cattle and 12,846 beef cattle during the year - a total of 18,072. Two cattle gave a positive reaction to the test, 0.011%.

A total of 36,363 cattle was slaughtered under backtag or brand identification. Sixteen cattle, 0.04%, were reported to have suspected tuberculosis lesions at slaughter. Two lesions were found in cervical lymph nodes. One was reported in a bronchial lymph node and one in a mediastinal lymph node. Twelve were found in mesenteric lymph nodes. The laboratory reported the presence of acid-fast organisms in five lesions. One group of acid-fast organisms was determined to be Runyon Group IV. Laboratory reports were not received on 11 lesions to date. At this time six herds of origin of the cattle found with lesions containing 1,563 cattle, have been tested for tuberculosis and all herds were negative.

All Montana counties are currently recognized as modified accredited tuberculosis areas. Thirty-two counties were reaccredited as modified accredited tuberculosis areas during the year.

TULAREMIA - During the investigation of an extensive outbreak of tick paralysis in cattle near Big Sandy in the spring of 1964, Dr. William Jellison, Rocky Mountain Laboratory, was able to isolate Francisella tularensis from

ticks collected from three calves and from blood of two calves. Clinical appearance of the calves was not that of tick paralysis but of a septicemic disease.

This is the first time to our knowledge, that tularemia in cattle has been diagnosed and confirmed.

VIRUS ABORTION - Based on estimates of the Montana Veterinary Research Laboratory following study of the Livestock Sanitary Board laboratory and field reports, 57,000 calf abortions took place in Montana this year.

Our laboratory reports indicate the following causes of abortions:

<u>Micro-organism Isolated</u>	<u>Number</u>	<u>Percent</u>
<u>Vibrio fetus</u>	68	18
<u>Leptospira</u> sp.	53	14
<u>Brucella abortus</u>	3	1
Streptococci	2	1
<u>Negative findings</u>	269	66
Total:	395	

A total of 269 laboratory investigations, or 66% of the laboratory investigations of aborted fetuses was negative to bacteriological causes. The laboratory is not at present able to do virological diagnostic work. It is hoped the Montana Veterinary Research Laboratory will be able to screen some of the tissues saved.

There are five viruses now known that can cause abortions. On a special investigation the Montana Veterinary Research Laboratory was able to isolate the enzootic bovine abortion virus from aborted fetuses from two ranches. It is strongly suspected that the infectious bovine rhinotracheitis virus is also causing abortions in Montana. If it can be assumed that most of the 66% of aborted fetuses which were found negative to bacteriological examinations were due to a virus, then it can be estimated that about 37,200 calves were aborted because of a virus infection this year.

It will be imperative that the diagnostic laboratory be equipped to do virus diagnostic work (as fast as diagnostic techniques become available) to enable the cattle industry to know the cause, extent, and lay groundwork to learn how to prevent and control this staggering loss.

VIBRIOSIS - Veterinarians reported vibriosis in 42 cattle on 20 ranches. The laboratory isolated Vibrio fetus from 68 aborted calves. The calves were from ranches located in all parts of Montana.

Abortion rates in vibriosis herds range from 1 to 5%. The biggest loss from vibriosis is caused by infertility or delayed breeding in the cow herd. The laboratory findings confirm that vibriosis is responsible for a great share of infertility in many herds.

The Vibriosis Technical Committee completed its formal report to the Montana Stockgrowers Association during the year with recommendations for research to be done on the problem. The Committee found it necessary to obtain more information on the extent of infertility in Montana cattle. The Veterinary Research Laboratory and the Ray Foundation conducted such a survey in-

volving 41,000 cattle in herds in various parts of the State. Based on this survey 17% of the beef breeding stock in Montana were found not pregnant due either to infertility or early abortions. This would quite reliably indicate a 225,000 calf loss this past year due to infertility or early abortions. Indications are that a quite high percent of the loss could be due to vibriosis.

During the year workers at Colorado State University established on an experimental basis that a Vibrio fetus bacterin prepared by them was quite effective in preventing vibronic abortions.

The Montana Veterinary Research Laboratory has also prepared a Vibrio fetus bacterin from several field strains of the organism. The Ray Foundation has this bacterin on field trial in 15 Montana herds. It may be possible to evaluate the success of this experimental vaccine late in 1964.

Much research must be done on Vibrio fetus isolated from Montana cattle. It will be necessary to sero-type the organisms to determine if just one or many strains are involved and to determine if the same strain is causing both infertility and abortion. If this type of work can continue it would appear that in the near future, methods of control and prevention of vibriosis will become available.

VARIOUS CATTLE DISEASES - The diseases mentioned in the report account for about 50% of the diseases reported by veterinarians during the year. These diseases are a serious threat and deserve every effort to bring them under control.

The other 50% of the diseases reported are all too frequently accepted as just "accidental" or "part of raising livestock". We wish to point out that the number of cases of actinomycosis, actinobacillosis and cancer eye reported each year continues to increase each year and is responsible for 16% of the diseases reported. We believe that the cattle industry should become more cognizant of these three diseases that continue to "nibble away profits" in small amounts all over the State and that these "small amounts" Statewide, constitute a rather staggering amount.

SHEEP DISEASES

Twenty sheep diseases were reported during the year by Montana veterinarians on 131 ranches in 9,271 sheep.

BLUETONGUE - Following an extensive outbreak in southeastern Montana the fall of 1962, and apparently characteristic of the sporadic nature of bluetongue, no cases were observed in Montana during this fiscal year.

CONTAGIOUS ECTHYMA (Soremouth) - According to reports contagious ecthyma was the most serious infectious disease observed in sheep during the year. There were 3,200 cases on 22 ranches reported.

FOOTROT - Infectious footrot was reported in 1,980 sheep on 16 premises all in western Montana. Following the extensive effort of the two years previous to eliminate infectious footrot from the farm flocks in four western counties, it was found that two large range bands and a few farm flocks were infected in other western counties. The flocks have been quarantined and efforts are being made, utilizing proven methods, to eradicate the disease.

Perhaps the greatest deterrent to eliminating this disease is the indifference of some sheep owners to the disease and, in some cases, the irresponsible selling of exposed and infected sheep. We know persistent endeavor, and using a thorough systematic procedure can result in eliminating the disease from a band of sheep in a short time. We also know that one slip-up of missing one infected sheep can undo a lot of hard work. We hope that wherever infected sheep are found that sincere efforts will be made to "clean up" the band immediately.

HELMINTHIASIS (Worms) - During the fall sheepmen in southeastern Montana had lambs that averaged five to fifteen pounds lighter than usual at marketing time. This was following a summer and fall of unusually lush forage. Two factors apparently were involved. One was the "lush", "rank" grass, particularly in "bottom growths" was not good sheep feed.

The second factor was that the unusual moisture conditions that brought about fast growth of grass were favorable for the survival and transmission of internal parasites of sheep.

Many sheepmen were cognizant of the "worm" problem during the summer and fall and had treated their lambs as many as four times without results.

An investigation revealed that four different stomach and intestinal worms were present: the Nematodirus spp.; Haemonchus spp.; Ostertagia spp. and the Trichostrongylus spp. It was also found that an intestinal protozoan, Eimeria granulosa was involved along with a lungworm, Dictyocaulus filaria, in some instances. The investigation revealed that in some instances insufficient dosage of worm medicine was given to be effective against the particular worm involved. In other instances the worm medicine contained a combination of drugs. If sufficient doses of the one drug were given to be effective this would result in giving a toxic dose of the other drug. In other cases totally ineffective drugs were given for the actual worms present. There are also indications that some parasites are becoming resistant to some worm medicines.

We recommend (1) the sheepman knows the worms causing the trouble. The Livestock Sanitary Board laboratory stands ready to do egg counts of fecal

samples and identification of the eggs. (2) The laboratory and veterinarians can then recommend the most effective drug and proper dosage. (3) Last, but by no means least, once the parasites are known, then management practices can be adopted to break the life cycle of that parasite thus preventing re-infestation.

SCABIES - During the year 881,025 sheep were inspected in Montana. We are fortunate that we can report that this makes the 43rd year that Montana has remained free of scabies since completion of its eradication in 1921.

The progress toward sheep scabies eradication being made in the central states will make it more certain that the disease will not be reintroduced into Montana.

TICK PARALYSIS - Reports by sheepmen of tick paralysis in sheep indicated the disease was widespread in April and May. A good number of sheepmen had to spend considerable time "picking ticks" from affected sheep. The results obtained, following removal of ticks, of recoveries within one hour to a day would confirm the diagnosis of tick paralysis.

During the process of removing ticks (Dermacentor andersoni) a number of sheepmen were exposed to and contracted tularemia which was concurrently being transmitted through the tick.

TULAREMIA - For the first time in a number of years tularemia was observed in sheep. The extremely heavy tick (Dermacentor andersoni) infestation in the spring, centered in and around Garfield County, played an important role in the outbreaks. Although 964 cases were reported on eight ranches subsequent epidemiological investigations would indicate the disease was considerably more widespread.

Losses were sustained from a relatively high mortality rate in yearling lambs and a high abortion rate in infected two and three-year old ewes.

The outbreaks of tularemia in sheep were followed by a high incidence of clinical tularemia in men who were closely associated with infected flocks. We do feel that if sheep owners had reported the disease and losses in sheep at the time of the occurrence, a diagnosis could have been established in the sheep and perhaps some of the subsequent occurrences in man could have been avoided. An investigation of a disease in retrospect, following reports of transmission in man, is more difficult, is unable to establish effective procedures to save many sheep and cannot obtain the benefits of precautionary measures that can be taken. Unfortunately that is the way tularemia in sheep was found the spring of 1964 and unfortunately unnecessary numbers of sheep were lost.

We were fortunate that Doctors Jellison, Garcia and Philip of the Rocky Mountain Laboratory were able to carry out an extensive sheep and man epidemiological investigation of this tick-transmitted disease outbreak.

SWINE DISEASES

A total of 13 swine diseases was reported by veterinarians involving 1,725 swine on 86 premises. This is a reduction of six diseases, 373 swine, and 61 premises compared with the previous year.

ATROPHIC RHINITIS - was reported on 23 premises in 376 swine. This is a reduction of 88 swine and 20 premises from the previous year.

BRUCELLOSIS - No clinical evidence of brucellosis was reported nor did the laboratory demonstrate Brucella infection in any swine during the year.

A brucellosis survey to determine the incidence of swine brucellosis in Montana was conducted during the year. This was necessary because (1) the bovine brucellosis eradication program had materially reduced the incidence of brucellosis in cattle; (2) porcine brucellosis is a public health danger; (3) nationwide efforts are being made to establish swine brucellosis eradication programs in various states.

Blood samples were collected from swine originating in all sections of Montana at state inspected slaughtering establishments during slaughter. The samples were sent to the laboratory and tested for brucellosis agglutinins. During the year a total of 11,035 swine blood samples was tested. Fourteen samples gave positive reactions in dilutions of 1:100 or higher--0.12%.

The results of this survey would indicate that an area testing program to eradicate swine brucellosis would not be justified. It is recommended that (1) we continue to be alert to the appearance of brucellosis in a swine herd and continue to institute all-out efforts to eradicate the disease in any herd that should become affected; (2) continue to advise swine herd owners to use every precaution to assure only brucellosis-free additions; (3) continue to urge producers of breeding swine to maintain certified brucellosis-free herds; (4) continue to use every effort to prevent the introduction of brucellosis infected swine into Montana by strict enforcement of Regulation 1522.

The following herds have become or are being maintained certified (validated) brucellosis-free swine herds during the year in accordance with the provisions of Regulation 314.

			<u>Effective Date</u>
1.	Walter Herman	Bozeman	10-10-63
2.	James Schweitering	Bozeman	1-17-64
3.	Robert Rogers	Hamilton	2-5-64
4.	M. E. Muller & Sons	Corvallis	2-8-64
5.	Kurk Brothers	Bozeman	4-1-64
6.	Sherman Smith	Bozeman	2-17-64
7.	Warren Hastings	Ulm	5-14-64
8.	Loran A. Perry	Fort Benton	8-26-63
9.	Perry Farms	Great Falls	9-15-63

HOG CHOLERA - No hog cholera was reported in Montana during the fiscal year.

We recommend that all swine owners make an all-out effort to maintain Montana free of hog cholera. The greatest danger of reintroduction is from

imported swine. Any reintroduction of the disease will be costly in swine losses. Import Regulation 1522, if carefully observed, will prevent reintroduction of the disease.

The nation has launched an all-out hog cholera eradication program. Due to efforts of the Livestock Sanitary Board since 1927 and especially since 1948 when the use of live-virus hog cholera vaccine was prohibited and since 1953 when the garbage cooking law was enacted, hog cholera was eradicated from the state. This, then, makes it unnecessary to expend funds to eradicate the disease in conjunction with the current national hog cholera eradication program.

In April 1954 the U. S. Department of Agriculture recognized Montana in Phase IV of the National Hog Cholera Eradication Program. This gives recognition that Montana has eradicated the disease. If the state is able to remain free of hog cholera for one year from April 1964, it will then be declared nationally by the USDA as a hog cholera-free state.

VARIOUS DISEASES - Next to atrophic rhinitis, erysipelas is the most frequently reported swine disease, being reported in 333 swine on 38 premises. We are confident that proper vaccination and treatment where the disease occurs could reduce the incidence of the disease.

Transmissible gastroenteritis of young pigs is giving increasing concern. Very strict sanitation practices during and after farrowing will help reduce this disease as well as virus pig pneumonia.

Probably in no other livestock industry can management practices and sanitation programs be used so readily to reduce disease losses as in pig production. We recommend that Montana pig producers take advantage of Montana's comparative freedom of swine diseases by applying every sound management practice known to prevent disease. We would sincerely recommend the adoption of a closed-herd operation. If breeding swine must be added to herds, then they should be added only after rigid screening for diseases and only after a rigidly carried out isolation period prior to adding to the herd. We know this would be worthwhile and pay big dividends.

HORSE

A total of 11 diseases was reported in 1,641 horses on 794 premises. This is a reduction of 3 diseases over the number reported last year. The number of horses and premises involved are twice those of the previous year.

DISTEMPER - Veterinarians reported 965 cases on 485 premises during the year. This disease continues to be the most frequently reported disease in horses.

ENCEPHALOMYELITIS - There was a marked increase over one year ago; 117 cases were reported on 111 premises. This is about a fivefold increase over the previous year. Most of the cases occurred during August and September of 1963. Coincidentally there were reported cases of encephalitis cases in man.

The Rocky Mountain Laboratory conducted neutralization tests for W.E.E. on a number of blood samples collected from horses acutely ill and suspected of having encephalomyelitis. A surprising number were negative to the test. An effort was made to have the veterinarians obtain convalescent serum from the same horses to determine the response to the neutralization test for W.E.E. Unfortunately, a very few convalescent serums were obtained because of several factors.

In years past very close correlation of the clinical diagnoses of equine encephalomyelitis and serological test were obtained. The lack of neutralization test confirmation of W.E.E. this past year gives us cause for concern. We recommend to the Board that should an outbreak of encephalomyelitis in horses occur during the coming year an intensive study of cases be made for the following reasons: (1) to be able to confirm clinical diagnoses; (2) to determine if other viruses than the Western equine encephalomyelitis are causing encephalomyelitis in horses; (3) provide information to assure proper vaccination of horses with the correct virus vaccines; and (4) to know which virus is affecting horses in order to provide more accurate protective measures to guard human health.

DOG AND WILD ANIMAL DISEASES

ANTHRAX - One deer was found dead of anthrax at the time an anthrax outbreak occurred in cattle south of Wolf Point.

LEPTOSPIROSIS - Veterinarians reported 219 cases of leptospirosis in dogs.

Six buffalo out of 62 tested with L. pomona antigen were positive in dilutions of 1:160 and higher.

RABIES - The laboratory confirmed the diagnosis of rabies in one bat and two skunks during the year.

A total of 136 rabies laboratory tests was negative in twenty different species of animals submitted.

Skunk rabies has been migrating from Minnesota and Iowa across the Dakotas for the past twenty years. During April skunks were observed north of Ekalaka, in Carter County, attacking livestock on four different ranches. Two of the skunks were obtained and both were proven infected with rabies by laboratory tests. Skunk rabies had finally arrived in Montana.

It seems inconceivable to think that we would have to live with such a potentially dangerous disease after so many years of freedom from rabies. Representatives of the State Board of Health, Fish and Game Commission, Livestock Commission, and U.S. Fish and Wildlife Service met with representatives of the Livestock Sanitary Board in order to coordinate efforts to meet and roll back this threat.

The Montana State Board of Health alerted the areas involved and carried out a program of education on procedure to protect man from rabies. The Fish and Game Commission, the Livestock Commission, and the U.S. Fish and Wildlife Service put in to effect a skunk reduction program in the areas of known and suspected rabid animals. The Livestock Sanitary Board issued Orders Nos. 205 and 206 placing all dogs and cats under quarantine in Carter, Fallon, and Powder River Counties subject to rabies vaccination. All dogs which have been vaccinated against rabies for thirty days would automatically be released from quarantine. Measures were taken to place exposed animals under observation, prevent the spread of rabies to other domestic animals, and to organize and provide rabies vaccination clinics for dogs.

It was essential to establish a rabies immune barrier in the canine population in southeastern Montana. The response to establishing a rabies immune canine population was very good as shown by the number of dogs and cats vaccinated between April 30 and June 30, 1964, as follows:

<u>County</u>	<u>No. Dogs Rabies Vaccinated</u>	<u>No. Cats Rabies Vaccinated</u>
Carter	339	192
Custer	398	284
Dawson	267	177
Fallon	325	141
Garfield	299	145
Powder River	291	322
Prairie	136	186
Wibaux	84	18
TOTALS	2,140	1,496

TULAREMIA - The laboratory isolated Francisella tularensis from three beaver submitted to the laboratory. It was suspected that the rabbit die-off and field mouse die-off in eastern Montana were due to tularemia. Unfortunately, we were unable to obtain fit rabbit or mice specimens for laboratory isolations.

The actual occurrence of tularemia in cattle, sheep, beaver, ticks, and man and the suspected occurrence in rabbits, mice, and antelope demonstrate the widespread distribution of this disease in nature. It is worthy of serious study and consideration.

POULTRY DISEASES

A total of 164,126 poultry was inspected for infectious diseases during the fiscal year. Ten poultry diseases were reported on 20 premises and affecting 1,393 birds.

CHRONIC RESPIRATORY DISEASE - The most frequent respiratory disease of chickens observed in Montana is chronic respiratory disease. Recent research developments indicate that this disease can be caused by a combination of three agents--E. coli, PPL0 organisms, and a virus. Apparently any one of the organisms can produce chronic respiratory disease, but a combination of two and three of the agents produces the most serious outbreaks.

Stress factors, such as exposure, sudden temperature changes, malnutrition, unsanitary conditions, and vaccination with live-virus vaccines can precipitate and predispose flocks to serious outbreaks of CRD.

There are no immunizing agents available to protect against chronic respiratory disease. Good management is the key to preventing outbreaks.

INFECTIOUS BRONCHITIS - was reported in two flocks during the year.

The following indicates the reported incidence of infectious bronchitis in Montana the last 11 years:

<u>Year</u>	<u>No. Chickens Inspected</u>	<u>Infectious Bronchitis</u>
1953	102,478	1 flock
1954	81,887	2 flocks
1955	81,405	2 flocks
1956	66,624	0
1957	99,020	0
1958	84,100	2 flocks
1959	85,007	0
1960	170,472	0
1961	191,115	0
1962	268,830	0
1963	672,815	1 flock
1964	164,126	2 flocks

PULLORUM - All breeding flocks supplying hatchery eggs were tested in their entirety for pullorum disease. A total of 40,824 herds was tested revealing 42 reactors--0.10%.

BIOLOGICAL PRODUCTS - The Livestock Sanitary Board, in meeting its assigned responsibilities to the livestock and poultry industry, has for many, many years provided for strict control over animal and poultry biological products that are capable of introducing and spreading infectious and contagious diseases. This policy has resulted in unquestioned benefits to the producers of livestock and poultry in the state. Examples of the benefits of this policy are:

At one time a blackleg vaccine was being sold in Montana that was capable of producing and introducing the disease but was of no value in

producing immunity. The Board provided for a safe, reliable bacterin. For many years the cattle industry has received the benefits of this action.

A dangerous anthrax vaccine at one time was introducing anthrax in many areas where the disease had never occurred, not only endangering animal but human health. Actions of the Board stopped this, and anthrax has become of minor economic importance.

The prohibition of the use of live-virus hog cholera vaccines has resulted in a hog cholera-free state. As many as 80 outbreaks a year was once a very serious problem when live-virus vaccines were used.

The prohibition of the use of live-virus laryngotracheitis vaccine, live-virus fowl pox vaccine, and live-virus Newcastle vaccine for poultry has resulted in Montana being free of these diseases for many years. Whereas, as proven in areas where they are indiscriminately used, the diseases are a constant problem.

During the year, following the urging of biological companies which produce live-virus biological products, some of the agents who sell poultry to poultrymen in Montana requested that the Board permit the use of live-virus vaccines on poultry in Montana. It appeared that the primary reason was for Montana poultry selling agents to be able to advertise "vaccinated" herds to meet the competition of out-of-state poultry selling agents. The records of the Board did not substantiate that virus diseases of poultry were sufficiently widespread to permit the introduction of these diseases all over Montana through the use of dangerous live-virus vaccines.

A complete review of the scientific literature on the development of live-virus infectious bronchitis vaccine for poultry was prepared and submitted to the Board and poultrymen on January 24, 1964, under the title of "A Review of Avian Infectious Bronchitis".

It continues to seem quite strange that a great segment of the poultry industry continues to accept and even demand the use of dangerous biological products for poultry when all other segments of the livestock industry demands that biological products for their animals be safe to use and when similar products in human medicine would be unheard of.

We urgently recommend to the Board that the poultry industry in Montana take advantage of their relative freedom from poultry diseases in Montana and profit from their capability of maintaining poultry disease-free flocks because of their fortunate situation in not being in congested areas and being in relative isolation. It does appear very evident that the leaders of the poultry industry, after many years of accepting the theory that they have to live with poultry diseases, are recognizing and are demonstrating that it is economically profitable to maintain poultry disease-free flocks. This very definitely calls for the elimination of the use of poultry "vaccines" that reintroduce and perpetuate diseases. This has been very graphically demonstrated in a congested poultry area in Maine. The economic returns of maintaining flocks as specific pathogen free simply cannot be ignored. We urgently recommend that Montana poultrymen become familiar with and adopt procedures to maintain specific pathogen free flocks. Due to geographical locations of Montana poultry flocks, this could be easily done. The economic advantage obtained from disease-free flocks would provide a distinct economic

competitive advantage over flocks in the congested poultry areas.

The survey to collect blood samples from chickens from representative flocks in all areas of Montana was well under way at the close of the fiscal year. Serological and serum neutralization tests for respiratory disease antibodies including infectious bronchitis will be made. The Veterinary Research Laboratory has provided personnel and some equipment to conduct these tests in the diagnostic laboratory. The results will be submitted to a committee, agreed upon by representatives of the poultrymen, for interpretation of results and analysis of the disease situation. These results, along with official inspections of chickens the past few years, will assist the Board in determining if it is to the best interests of the entire poultry industry to use presently available commercial live-virus infectious bronchitis vaccines.

We recommend to the Board that they urge the poultry industry to insist that adequate research be made available in the United States so that the poultry industry can have available immunizing agents that are effective, safe, and will not perpetuate poultry diseases

IMPORTS - Under the provisions of Regulation 1520, a total of 85 permits was issued out-of-state hatcheries to ship baby chicks and hatching eggs into Montana during the year.

MONTANA VETERINARIANS' DISEASE REPORT
July 1, 1963 - June 30, 1964

<u>CATTLE:</u>	<u>CASES</u>	<u>HERDS</u>	<u>SHEEP:</u>	<u>CASES</u>	<u>HERDS</u>
Actinobacillosis-mycosis	2,022	1,637	Coccidiosis	250	1
Anaplasmosis	194	46	Contagious ecthyma	3,200	22
Anthrax	5	3	Enteritis, <u>E. coli</u>	60	1
Avitaminosis A	50	1	Enterotoxemia	314	38
Bacillary hemoglobinuria	135	113	Epididymitis	3	3
Blackleg	92	64	Footrot	1,980	16
Botulism	4	2	Helminthiasis	2,115	14
Brisket edema	44	6	Infectious keratitis	50	1
Cancer eye	2,151	1,710	Leptospirosis	5	2
Cellulitis	4	4	Listeriosis	8	7
Coccidiosis	2,059	288	Malignant edema	1	1
Diphtheria	108	53	Navel ill	6	1
Encephalitis (strep.)	4	3	Photosensitization	112	3
Enteritis, <u>E. coli</u>	739	28	Posthitis	20	5
Enterotoxemia	15	10	Tick paralysis	2	1
Enzootic bovine abortion	22	3	Tularemia	964	8
Footrot	1,172	265	Urolithiasis	11	6
Grass tetany	42	34	Vibriosis	136	5
Helminthiasis	200	1	Virus abortion	50	1
Infectious keratitis	4,054	130	White muscle disease	2	2
Leptospirosis	234	92	TOTAL:	9,289	138
Listeriosis	9	3			
Lungworms	3	3	<u>SWINE:</u>		
Malignant catarrhal fever	3	3	Anthrax	2	1
Malignant edema	19	14	Atrophic rhinitis	376	23
Mandibular phlegmon	4	4	Avitaminosis A	200	1
Meningitis (strep.)	1	1	Enteritis, <u>E. coli</u>	53	3
Mucosal disease	33	22	" necrotic	141	4
Necrotic stomatitis	1	1	" T.G.E.	424	5
Paratuberculosis	1	1	Erysipelas	333	38
Photosensitization	15	7	Influenza	65	1
Pneumonia	32	20	Leptospirosis	6	3
Poisoning, ergot	59	5	Mange, Sarcoptic	50	1
" lead	1	1	Pasteurellosis	12	1
" nitrate	14	2	Poisoning, arsenic	15	1
" Toxaphene	7	1	" cacklebur	6	1
Pulmonary emphysema	761	235	Pneumonia	21	1
Rhinotracheitis	701	37	" virus	15	1
Shipping fever	8,103	614	Salmonellosis	6	1
Tetanus	1	1	TOTAL:	1,725	86
Tick paralysis	50	1			
Trichomoniasis	10	1			
Tularemia	5	2			
Urolithiasis	1,290	837			
Vesicular vaginitis	2	1			
Vibriosis	42	20			
Virus diarrhea	94	12			
Warts	101	41			
White muscle disease	232	151			
TOTAL:	25,051	10,548			

Veterinarians' Disease Report continued:

<u>HORSES:</u>	<u>CASES</u>	<u>HERDS</u>
Distemper	965	485
Encephalomyelitis	117	111
Infectious anemia	16	16
Infectious bronchitis	345	81
Influenza	167	32
Leptospirosis	2	2
Malignant edema	1	1
<u>Salmonella typhimurium</u>	1	1
"Shipping fever"	22	1
Tetanus	2	2
White muscle disease	3	3
TOTAL:	<u>1,641</u>	<u>735</u>

<u>DOGS:</u>		
Distemper	1,185	1,137
Hepatitis	133	130
Leptospirosis	219	219
Pediculosis	3	2
TOTAL:	<u>1,540</u>	<u>1,508</u>

<u>POULTRY:</u>		
C.R.D.	281	3
Cholera	20	1
Coccidiosis	400	2
Coryza	200	1
Infectious bronchitis	6	2
Infectious sinusitis	203	3
Leukosis	112	4
Newcastle disease	20	1
Pullorum	1	1
Tuberculosis	150	2
TOTAL:	<u>1,393</u>	<u>20</u>

<u>WILD ANIMALS:</u>		
Anthrax (deer)	1	1
GRAND TOTAL:	<u>40,640</u>	<u>9,036</u>

LIVESTOCK MARKETS

A deputy state veterinarian is assigned to each of the fifteen livestock markets. His responsibilities are to inspect all livestock entering the market for infectious and contagious diseases, and to enforce all regulations pertaining to handling diseased livestock and all regulations pertaining to maintenance of sanitary standards.

The cooperation of the markets has been very good in screening out diseased livestock to prevent them from returning to ranches where they could do irreparable harm, and in taking all other preventive measures to prevent transmission of disease.

Their cooperation in maintaining the backtagging program of cattle results in large economic savings in the brucellosis recertification and tuberculosis reaccreditation of all Montana counties and, at the same time, assures that these two diseases will be completely eradicated.

The number of livestock inspected at the markets the past five years is:

	<u>1959-60</u>	<u>1960-61</u>	<u>1961-62</u>	<u>1962-63</u>	<u>1963-64</u>
Cattle	702,846	683,621	694,333	656,336	732,362
Sheep	274,563	302,443	258,678	230,169	245,150
Swine	62,271	79,953	93,019	112,138	136,803
Horses	<u>10,611</u>	<u>8,883</u>	<u>8,229</u>	<u>10,534</u>	<u>9,771</u>
TOTALS	1,050,291	1,074,900	1,054,259	1,009,186	1,124,086

LIVESTOCK IMPORTS

During the year 213,196 head of livestock from 38 states and 2 foreign countries were shipped into Montana.

The number of livestock shipped into Montana the past eight years is as follows:

<u>Year</u>	<u>Cattle</u>	<u>Horses</u>	<u>Sheep</u>	<u>Swine</u>	<u>Dogs</u>	<u>TOTAL</u>
1956-57	34,288	1,030	73,701	23,687	606	133,312
1957-58	68,481	1,397	83,077	26,288	576	179,819
1958-59	78,424	1,888	117,905	20,524	573	219,314
1959-60	62,477	2,078	73,926	13,831	584	153,896
1960-61	49,357	2,230	36,171	25,694	701	114,153
1961-62	91,956	1,957	70,953	31,278	565	196,709
1962-63	107,942	2,529	78,741	27,194	577	216,983
1963-64	101,120	2,143	56,570	52,825	538	213,196

Practically every disease problem that Montana livestockmen have had has been imported into Montana the past 100 years. Many of the diseases, after having caused excessive economic loss, have been controlled or eliminated at considerable expense. Many diseases still remain.

To carry out one of the duties assigned the Livestock Sanitary Board-- that is to prevent the introduction of livestock and poultry diseases into the state--requires considerable time and effort. We believe the regulations of the Board promulgated to carry out these functions do provide every known reasonable protection. The cooperation of the livestock producer, poultry producer, and some livestock and poultry dealers has been excellent in assisting in preventing a disease introduction. Unfortunately, there are a few livestock and poultry dealers and traders that have little or no regard for the health of Montana herds and flocks and do everything they can to circumvent health regulations and common sense control of disease.

We feel this is a very important area of responsibility and solicit the utmost cooperation from the entire livestock and poultry industry in maintaining all necessary safeguards.

MONTANA LIVESTOCK SANITARY BOARD REPORT OF IMPORTATIONS
July 1, 1963 - June 30, 1964

STATE	HEALTH CERTIFICATES	TEST CHARTS	HORSES	CATTLE		SHEEP	SWINE	DOGS
				HC	TC			
Canada	201	225	820	123	7991	267	10	
Alaska	26							30
Arizona	39	1	62	1095	8			7
Arkansas	7							8
California	76	8	46	1607	17			50
Colorado	247	57	74	10985	283			25
Delaware	1					1		
Florida	1			160				
Idaho	311	28	125	8032	72	4029	12	27
Illinois	16	31	2	7	160		2	10
Indiana	3	1		1	10			2
Iowa	51	30	2	165	175		2699	17
Kansas	28	13	14	520	272			23
Kentucky	1		9					
Louisiana	4			583				
Mexico	13			5409				
Michigan	4		3					1
Minnesota	338	47	11	1113	692	730	47397	43
Mississippi	4	2		110	11			3
Missouri	24	7	7	60	54		16	12
Nebraska	62	37	50	1283	745		575	23
Nevada	15	3		2609	11			3
New Jersey		1			14			
New Mexico	11		15	476				
New York		1			1			
North Carolina	1							1
North Dakota	607	178	280	9141	845	6005	1502	11
Ohio	6			30				5
Oklahoma	27		6	536		1		13
Oregon	84	6	38	357	29	4180	39	37
Pennsylvania		2			6			
Rhode Island	1		1					
South Dakota	385	111	154	6091	4844	12516	41	1
Tennessee	1							1
Texas	154	7	26	15130	72	8197		19
Utah	103	16	35	1210	49	11		15
Virginia		3			3			
Washington	260	31	141	1755	238	6789	41	107
Wisconsin	32	64	5	597	1778		1	17
Wyoming	373	133	217	13041	514	13844	490	27
TOTALS:	3517	1043	2143	82226	18894	56570	52825	538

OFFICIAL ANIMAL INSPECTIONS
7/1/63 - 6/30/64

HORSES:

Inspected for interstate shipment	3,519	
Inspected at markets	9,771	
Miscellaneous inspections	<u>364</u>	13,654

CATTLE:

Dairy cattle tested for tuberculosis	4,736	
Beef cattle tested for tuberculosis	9,689	
Dairy cattle tuberculin reactors	2	
Beef cattle tuberculin reactors	0	
Accredited tuberculosis-free herds tested	3	
Cattle in accredited tuberculosis-free herds tested	230	
Tuberculin tested at destination (importations)	334	
Tuberculin tested for interstate shipment	3,313	
Inspected at destination (importations)	1,171	
Inspected for interstate shipment	606,131	
Inspected at markets	732,362	
Miscellaneous inspections	<u>19,847</u>	1,377,813

SHEEP:

Inspected for interstate shipment	601,055	
Inspected at markets	245,150	
Miscellaneous inspections	34,513	
Bluetongue inspections	<u>307</u>	881,025

SWINE:

Inspected for interstate shipment	629	
Inspected at markets	136,863	
Miscellaneous inspections	<u>3,211</u>	140,643

POULTRY:

Miscellaneous inspections	164,126	
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DOGS:

Inspected for interstate shipment	1,370	
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GRAND TOTAL:		2,578,631
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DIAGNOSTIC LABORATORY
July 1, 1963 - June 30, 1964

The results of the work at the diagnostic laboratory are reported in Tables I through XI immediately following.

The economic importance of virus diseases in livestock and poultry and the demands being placed on the laboratory for virus diagnostic work make it imperative that the laboratory be further developed in this area of work. This will require additional laboratory equipment and training of qualified personnel.

Modern chemistry in agriculture and chemicals coming in contact, directly and indirectly, with livestock, meat, and milk demand, for the protection of the industry, that new techniques for detecting chemicals and new up-to-date laboratory equipment be available at the diagnostic laboratory.

It is recommended to the Board that most serious consideration be given to improving the virus and chemical diagnostic capabilities of the laboratory.

We further recommend to the Board that the staff at the laboratory be commended for the amount and quality of the highly technical work performed during the year, which is tabulated in the following tables.

Table 1. Distribution of Laboratory Tests Among Animal Species

Cattle	76,627	51.0%
Chicken	41,303	27.5%
Milk analysis (dairy)	16,131	11.0%
Swine	11,496	7.6%
Elk	2,547	1.6%
Sheep	373	.2%
Horse	268	.1%
Dog	190	.1%
Buffalo	127)	
Cat	96)	
Goat	57)	
Deer	55)	
Rabbit	43)	
Skunk	37)	
Chinchilla	36)	
Guinea fowl	30)	
Mouse	18)	
Beaver	16)	
Mink	15)	
Bat	12)	
Rat	12)	
Gopher	7)	
Monkey	7)	
Squirrel	7)	
Chipmunk	6)	
Hamster	6)	0.9%
Muskrat	6)	
Parakeet	6)	
Goose	5)	
Guinea pig	4)	
Pigeon	4)	
Weasel	4)	
Magpie	3)	
Myna bird	3)	
Coyote	2)	
Fox	2)	
Turkey	2)	
Antelope	1)	
Duck	1)	
Eagle	1)	
Moose	1)	
Peacock	1)	
Pheasant	1)	
Sparrow	1)	
Tanager	1)	

Table II. Bacteriological, Pathological, Virological, and Parasitological Report--Page 1

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Abomasal rupture	Cattle	1
Abscesses	Cattle	5
Abscesses	Dog	1
Abscesses	Horse	1
Abscesses	Monkey	1
<u>Achromobacter</u> sp.	Cattle	1
Adenocarcinoma	Cat	1
Adenocarcinoma	Cattle	1
Adenocarcinoma	Dog	2
Adenoma	Dog	2
Adenomatosis	Horse	1
Adhesions	Cattle	1
<u>Aerobacter aerogenes</u>	Beaver	1
<u>Aerobacter aerogenes</u>	Buffalo	1
<u>Aerobacter aerogenes</u>	Cattle	3
<u>Aerobacter aerogenes</u>	Swine	2
Agalactia	Swine	1
<u>Anaplasma marginale</u>	Cattle	15
Anaphylaxis	Cattle	1
Anemia	Horse	3
Anemia	Swine	1
Anthrax	Cattle	2
Anthrax	Deer	1
Antibiotic sensitization	Cattle	1
Arteria sclerosis	Cattle	1
Arteritis	Horse	1
Arthritis	Cattle	2
Ascariosis	Monkey	1
Ascariosis	Poultry	2
Ascariosis	Swine	1
<u>Aspergillus fumigatus</u>	Rabbit	1
<u>Aspergillus niger</u>	Cattle	1
Atrophic kidneys	Cattle	1
Bacterin, safe	Cattle	1
Basal cell tumor	Dog	2
Bile duct anomaly	Cattle	1
Bloat	Cattle	2
Bluecomb	Poultry	1
<u>Bordetella bronchiseptica</u>	Dog	1
Brain, histology	Pheasant	1
Brain tumor	Cattle	1
Breast blister	Poultry	1
Brisket disease	Cattle	3
Broken ribs	Sheep	1
<u>Bruceella abortus</u> Type 1	Cattle	3
<u>Bruceella abortus</u> vaccine, satisfactory	Cattle	16
<u>Callitroga</u>	Dog	1
Cannibalism	Poultry	4
Carcinoma	Cat	1
Carcinoma	Cattle	2
Carcinoma	Dog	5

Table 11. continued--page 2

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Carcinoma	Horse	1
Carcinoma	Poultry	1
Cardiac abnormality	Cattle	2
Cerebral hemorrhage	Horse	1
Cervicitis	Horse	1
Chronic convulsions	Cattle	1
<u>Clostridium botulinum</u> (Type A)	Poultry	1
<u>Clostridium botulinum</u> (Type A and Type C)	Cattle	1
<u>Clostridium chauvei</u>	Cattle	6
<u>Clostridium hemolyticum</u>	Cattle	10
<u>Clostridium hemolyticum</u>	Sheep	1
<u>Clostridium novyi</u>	Sheep	2
<u>Clostridium perfringens</u> (Type A)	Cattle	2
<u>Clostridium perfringens</u> (Type A)	Sheep	2
<u>Clostridium perfringens</u> (Type C)	Cattle	18
<u>Clostridium perfringens</u> (Type C)	Sheep	1
<u>Clostridium perfringens</u> (Type D)	Cattle	3
<u>Clostridium perfringens</u> (Type D)	Sheep	9
<u>Clostridium septicum</u>	Cattle	14
<u>Clostridium septicum</u>	Horse	1
Coccidiosis	Cattle	12
Coccidiosis	Poultry	21
Coccidiosis	Rabbit	2
Coccidiosis	Sheep	5
Colibacillosis	Cattle	315
Colibacillosis	Chinchilla	3
Colibacillosis	Guinea pig	1
Colibacillosis	Horse	3
Colibacillosis	Poultry	6
Colibacillosis	Rabbit	3
Colibacillosis	Sheep	15
Colibacillosis	Swine	54
Constipation	Chinchilla	1
Contaminated drug		1
<u>Corynebacterium bovis</u>	Cattle	1
<u>Corynebacterium hoagii</u>	Cattle	1
<u>Corynebacterium pseudotuberculosis</u>	Sheep	2
<u>Corynebacterium pyogenes</u>	Cattle	7
Coryza	Poultry	1
Cotton fiber (identification)	Dog	1
<u>Cuterebra larva</u>	Dog	1
<u>Cysticercus tenuicollis</u>	Moose	1
<u>Cysticercus tenuicollis</u>	Swine	1
<u>Damalinia equi</u>	Horse	1
<u>Dermacentor andersoni</u>	Tick	1
<u>Descurainia pinnata</u>	Cattle	1
<u>Dictyocaulus filaria</u>	Sheep	1
<u>Dictyocaulus viviparus</u>	Cattle	3
Distemper	Dog	2

Table II. continued--page 3

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Ecthyma, contagious	Sheep	2
Ectopic heart	Cattle	1
Emaciation	Cattle	7
Emaciation	Chinchilla	1
Emaciation	Sheep	1
Embryonal cysts	Horse	1
Encephalitis	Horse	2
Encephalitis, (<u>E. coli</u>)	Horse	1
Endocarditis	Cattle	1
Enteritis	Mink	1
Enteritis, (<u>coli aerogenes</u>)	Cattle	44
Enteritis, (<u>coli aerogenes</u>)	Chinchilla	2
Enteritis, (<u>coli aerogenes</u>)	Sheep	3
Enteritis, (<u>coli aerogenes</u>)	Swine	3
Enteritis, hemorrhagic	Dog	1
Enteritis, necrotic	Swine	4
Enterobacteria (<u>Hafnia</u>)	Cattle	1
Enterohepatitis	Chicken	2
Enterohepatitis	Peacock	1
<u>Eperythrozoonosis suis</u>	Swine	2
Epidemic tremor	Poultry	2
Epidermitis, exudative	Swine	1
<u>Epidermoptes bilobatus</u>	Poultry	1
Epithelioblastoma	Dog	1
Erysipelas	Swine	1
<u>Escherichia freundii</u>	Rabbit	1
<u>Fasciola hepatica</u>	Cattle	1
Fatty degeneration	Deer	1
Fatty degeneration	Swine	1
Fibrochondroma	Cattle	1
Fibro-durum	Horse	1
Fibro-lymphosarcoma	Cat	1
Fibro-lymphosarcoma	Cattle	1
Fibroma	Cat	1
Fibroma	Dog	2
Fibroma	Horse	1
Fibrosarcoma	Cattle	2
Fibrosarcoma	Dog	2
Fibrosarcoma	Horse	2
Food unfit for consumption	Deer	1
Food unfit for consumption	Poultry	1
Fracture, sacrum	Cattle	1
Fracture, pelvis	Rabbit	1
Gallstones	Cattle	1
<u>Gasterophilus nasalis</u>	Horse	1
Gastroenteritis	Dog	1
Giardiasis	Chinchilla	1
Granuloma, infectious	Cattle	3
Granuloma, infectious	Horse	1
Grass tetany	Cattle	2

Table 11. continued--page 4

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Halt worm	Worm	1
Helminthiasis	Cattle	29
Helminthiasis	Deer	1
Helminthiasis	Dog	1
Helminthiasis	Goat	1
Helminthiasis	Horse	27
Helminthiasis	Poultry	3
Helminthiasis	Sheep	35
Hematology	Cattle	1
Hematology	Swine	1
Hematoma	Cattle	1
Hemobortellosis	Cat	1
<u>Hemophilus</u>	Cattle	1
Hemorrhage	Cattle	1
Hemorrhage	Dog	1
Hepatic cirrhosis	Cattle	1
Hepatic cirrhosis	Elk	1
Hepatic necrosis	Rabbit	1
Hepatitis	Cattle	1
Hepatitis	Dog	2
Histiocytoma	Dog	1
Horn flies	Cattle	1
Hydrocephalus	Cattle	12
Indigestion	Swine	1
Infectious bronchitis	Poultry	2
Infectious synovitis	Turkey	1
Kidney stone	Poultry	1
<u>Klebsiella</u> , suspect	Cat	1
<u>Lactobacillus</u>	Cattle	2
Laryngitis, caseous	Eagle	1
Laryngitis, necrotic	Cattle	1
<u>Lepidopteran</u> sp.	Worm	1
Leptospirosis	Cattle	53
Leptospirosis	Dog	2
Leptospirosis	Horse	1
Leptospirosis	Swine	3
Leukosis	Poultry	9
Lipoblastoma	Cattle	1
Lipoblastoma	Dog	1
Lipoma	Dog	3
Lungers	Sheep	1
Lymphocytoma	Dog	2
Lymphofibroma	Cattle	2
Malnutrition	Poultry	2
Malnutrition	Swine	1
Melanoma	Cattle	1
Metritis	Cattle	2
Metritis	Sheep	1
<u>Micrococcus</u>	Swine	1
<u>Micrococcus</u> enteritis	Cattle	1

Table II. continued--page 5

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Mixed bacteria	Cattle	4
Mixed bacteria	Chinchilla	1
Mixed bacteria	Dog	1
Mixed bacteria	Horse	2
Mixed bacteria	Swine	2
Mixed-cell tumor	Dog	1
Molt	Poultry	1
<u>Monezia expansa</u>	Sheep	1
Muscular dystrophy	Cattle	5
<u>Mycobacterium paratuberculosis</u>	Cattle	2
<u>Mycobacterium tuberculosis</u>	Poultry	9
<u>Mycobacterium tuberculosis</u>	Rabbit	1
<u>Mycobacterium tuberculosis</u> (avian)	Cattle	2
<u>Mycoplasma gallinarium</u>	Poultry	8
Mycosis	Sheep	1
Navel infection	Cattle	4
Navel infection	Sheep	1
<u>Neisseria sp.</u>	Goat	1
Neonatal isoerythrolysis	Horse	1
Neoplasm	Poultry	1
Neoplasm, adrenal	Elk	1
Nephritis	Cattle	4
Nephritis	Horse	1
Nephritis	Poultry	6
Nephritis	Swine	1
Nephroma	Poultry	3
Nephroma	Swine	1
Neurofibroma	Dog	1
<u>Oligochaeta sp.</u>	Worm	1
Omphalitis	Poultry	2
Orchitis (<u>E. coli</u>)	Cattle	1
Ovarian histology	Elk	3
Ovine virus abortion	Sheep	8
<u>Oxytropus sericea</u>	Weed	1
Panleukopenia	Cat	6
Papilloma	Cattle	1
<u>Pasteurella encephalitis</u>	Dog	1
<u>Pasteurella hemolytica</u>	Cattle	7
<u>Pasteurella hemolytica</u>	Chinchilla	1
<u>Pasteurella hemolytica</u>	Deer	1
<u>Pasteurella hemolytica</u>	Horse	1
<u>Pasteurella hemolytica</u>	Sheep	2
<u>Pasteurella hemolytica</u>	Swine	6
<u>Pasteurella multocida</u>	Cat	1
<u>Pasteurella multocida</u>	Cattle	1
<u>Pasteurella multocida</u>	Swine	1
<u>Pasteurella pseudotuberculosis</u>	Sheep	1
<u>Pasteurella tularensis</u>	Beaver	3
Pediculosis	Cattle	1

Table II. continued--page 6

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Perforated ulcer	Cattle	2
Peritonitis	Cattle	3
Peritonitis	Poultry	3
Photosensitization	Sheep	1
Pityriasis <u>rosea</u>	Swine	1
Plasmacytoma	Dog	1
Pneumonia	Cattle	16
Pneumonia	Swine	3
Poisoning, barbiturate	Dog	1
Poisoning, cocklebur	Swine	1
Poisoning, ergot	Swine	1
Poisoning, hemlock	Cattle	1
Poisoning, larkspur	Cattle	1
Poisoning, loco	Sheep	1
Poisoning, pentachlor	Cattle	1
Poisoning, 1080	Dog	1
Poisoning, 1080	Horse	1
<u>Pseudomonas</u>	Cattle	3
<u>Pseudomonas aerogenosa</u>	Cattle	1
<u>Pseudomonas arthritis</u>	Cattle	1
Pseudoscorpion	Tick	1
<u>Psoroptes equi</u> var. <u>ovis</u>	Elk	1
Pulmonary emphysema	Cattle	3
Pulmonary artery rupture	Cattle	2
Rabies	Bat	1
Rabies	Skunk	2
Rhinitis, atrophic	Swine	1
Rhinitis, infectious	Swine	1
Rhinotracheitis	Cattle	2
<u>Rhipicephalus sanguineus</u>	Dog	1
Ricketts	Turkey	1
Ruptured liver	Chicken	1
Ruptured oviduct	Chicken	1
<u>Salmonella</u> (unidentified)	Mink	1
<u>Salmonella blockley</u>	Sheep	1
<u>Salmonella infantis</u>	Poultry	1
<u>Salmonella pullorum</u>	Poultry	10
<u>Salmonella</u> sp.	Poultry	2
<u>Salmonella tennessee</u>	Poultry	1
<u>Salmonella typhimurium</u>	Cattle	5
<u>Salmonella typhimurium</u>	Horse	2
<u>Salmonella typhimurium</u>	Swine	1
<u>Salmonella typhimurium</u> var. <u>Copenhagen</u>	Horse	1
Sarcoid	Horse	2
<u>Sarcoptes scabiei</u>	Swine	1
Sarcosporidiosis	Cattle	3
Seminoma	Dog	1
<u>Simulium griseum</u>	Horse	1
Spondylitis	Swine	1

Table II. continued--page 7

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Staphylococci	Buffalo	1
Staphylococci	Cat	1
Staphylococci	Cattle	9
Staphylococci	Chinchilla	2
Staphylococci	Guinea pig	1
Staphylococci	Sheep	1
Staphylococci	Swine	5
Staphylococci, abortion	Cattle	2
Staphylococci, infection	Cat	1
Staphylococci, infection	Cattle	71
Staphylococci, infection	Poultry	5
Staphylococci, infection	Rabbit	1
Staphylococci, infection	Sheep	3
Staphylococci, infection	Swine	37
Staphylococci, septicemia	Horse	5
<u>Streptococcus equi</u>	Horse	5
<u>Streptococcus zooepidemicus</u>	Horse	1
Suffocation	Myna bird	1
Synovitis, infectious	Poultry	1
Torsion, intestinal	Swine	1
Torticollis	Cattle	1
<u>Toxascaris leonina</u>	Cat	1
Transaminase	Cattle	1
Trauma	Cat	3
Trauma	Deer	1
Trauma	Poultry	1
Trauma	Rabbit	3
Trauma	Swine	2
<u>Trichomonas gallinae</u>	Pigeon	1
<u>Trichophyton</u>	Cattle	4
<u>Trichophyton</u>	Deer	4
Ulceration	Cattle	1
Ulceration	Horse	1
Urethritis	Cattle	1
Urinary calculi	Cattle	1
Urine analysis	Cattle	1
<u>Vibrio fetus</u>	Cattle	68
<u>Vibrio fetus</u>	Sheep	15
Virus diarrhea	Cattle	2
Visceral gout	Poultry	11
Yeast	Cattle	2
<u>Zygodenus</u>	Plant	1
Microbial sensitivity	Beaver	1
Microbial sensitivity	Buffalo	1
Microbial sensitivity	Cattle	293
Microbial sensitivity	Chicken	4
Microbial sensitivity	Chinchilla	3
Microbial sensitivity	Goat	1
Microbial sensitivity	Goose	1

Table II. continued--page 8

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Microbial sensitivity	Guinea pig	2
Microbial sensitivity	Horse	6
Microbial sensitivity	Milk	9
Microbial sensitivity	Rabbit	2
Microbial sensitivity	Sheep	18
Microbial sensitivity	Swine	40
Negative anaplasmosis	Cattle	5
Negative anthrax	Cattle	6
Negative anthrax	Swine	2
Negative <u>Aspergillus</u>	Poultry	1
Negative atrophic rhinitis	Swine	1
Negative bacterial abortion	Cattle	269
Negative bacterial abortion	Horse	2
Negative bacterial abortion	Sheep	11
Negative bacterial abortion	Swine	1
Negative bluetongue	Sheep	1
Negative CRD	Poultry	1
Negative <u>Clostridium</u>	Cattle	3
Negative <u>Clostridium</u>	Sheep	3
Negative <u>Cl. botulinum</u>	Cattle	1
Negative <u>Cl. botulinum</u>	Horse	2
Negative <u>Cl. botulinum</u>	Poultry	1
Negative <u>Cl. chauvei</u>	Cattle	3
Negative <u>Cl. hemolyticum</u>	Cattle	9
Negative <u>Cl. perfringens</u>	Cattle	57
Negative <u>Cl. perfringens</u>	Sheep	16
Negative coccidiosis	Poultry	1
Negative coccidiosis	Rabbit	1
Negative contamination	Bacterin	8
Negative diphtheria	Cattle	1
Negative distemper	Dog	1
Negative encephalomyelitis	Horse	5
Negative ergot	Cattle	4
Negative erysipelas	Swine	1
Negative fit for food	Cattle	2
Negative fit for food	Deer	1
Negative fit for food	Swine	1
Negative hepatitis	Dog	1
Negative hydrocephalus	Horse	1
Negative infectious anemia	Cattle	1
Negative IBR and SF-4	Cattle	1
Negative <u>Leptospira</u>	Cattle	15
Negative <u>Leptospira</u>	Dog	1
Negative <u>Listeria</u>	Cattle	6
Negative mange mites	Cattle	1
Negative mange mites	Horse	1
Negative muscular dystrophy	Cattle	17
Negative muscular dystrophy	Horse	2
Negative <u>M. paratuberculosis</u>	Cattle	2

Table II. continued--page 9

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Negative mycosis	Cat	1
Negative mycosis	Cattle	2
Negative mycosis	Deer	2
Negative mycosis	Dog	1
Negative mycosis	Horse	2
Negative mycosis	Muskrat	1
Negative mycosis	Swine	1
Negative OVA	Sheep	3
Negative parasitism	Cattle	23
Negative parasitism	Dog	1
Negative parasitism	Horse	4
Negative parasitism	Rabbit	1
Negative parasitism	Sheep	23
Negative parasitism	Swine	1
Negative pathogenic bacteria	Antelope	1
Negative pathogenic bacteria	Beaver	1
Negative pathogenic bacteria	Cat	2
Negative pathogenic bacteria	Cattle	416
Negative pathogenic bacteria	Chinchilla	10
Negative pathogenic bacteria	Deer	1
Negative pathogenic bacteria	Dog	10
Negative pathogenic bacteria	Elk	1
Negative pathogenic bacteria	Goat	1
Negative pathogenic bacteria	Goose	1
Negative pathogenic bacteria	Guinea fowl	12
Negative pathogenic bacteria	Horse	19
Negative pathogenic bacteria	Meat wrapper	1
Negative pathogenic bacteria	Mink	3
Negative pathogenic bacteria	Pigeon	1
Negative pathogenic bacteria	Poultry	28
Negative pathogenic bacteria	Rabbit	5
Negative pathogenic bacteria	Sheep	17
Negative pathogenic bacteria	Skunk	1
Negative pathogenic bacteria	Sparrow	1
Negative pathogenic bacteria	Swine	53
Negative psittacosis	Parakeet	4
Negative psittacosis	Tanner	1
Negative rabies	Bat	5
Negative rabies	Cat	29
Negative rabies	Cattle	12
Negative rabies	Chipmunk	2
Negative rabies	Coyote	2
Negative rabies	Deer	1
Negative rabies	Dog	39
Negative rabies	Fox	2
Negative rabies	Gopher	2
Negative rabies	Hamster	3
Negative rabies	Horse	1
Negative rabies	Mink	3
Negative rabies	Monkey	1
Negative rabies	Mouse	6
Negative rabies	Muskrat	3

Table II. continued--page 10

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Negative rabies	Rabbit	4
Negative rabies	Rat	3
Negative rabies	Skunk	19
Negative rabies	Squirrel	3
Negative rabies	Weasel	2
Negative <u>Salmonella</u>	Swine	1
Negative <u>S. pullorum</u>	Eggs	16
Negative tissue identification	Diaphragm	1
Negative toxins	Cattle	1
Negative toxoplasmosis	Cattle	8
Negative trichomoniasis	Cattle	9
Negative tuberculosis	Cattle	1
Negative tuberculosis	Poultry	1
Negative tularemia	Beaver	5
Negative tularemia	Rabbit	2
Negative tularemia	Tick	2
Negative <u>Vibrio fetus</u>	Cattle	14
Negative <u>Vibrio fetus</u>	Sheep	1
Negative viral hepatitis	Dog	1
Unsatisfactory specimens	Various	<u>62</u>
TOTAL		3,262

Table III. Serology Report

<u>LABORATORY TESTS</u>	<u>SOURCE</u>	<u>POSITIVE</u>	<u>NEGATIVE</u>	<u>SUSP.</u>
<u>Anaplasma</u> CF test	Cattle	7	13	2
<u>Anaplasma</u> CF test	Deer			1
<u>Anaplasma</u> CF test	Elk		6	6
<u>Br. abortus</u> agg. test	Buffalo		62	
<u>Br. abortus</u> agg. test	Cattle	273	51,423	2,390
<u>Br. abortus</u> agg. test (field)	Cattle	6	990	39
<u>Br. abortus</u> agg. test	Deer		39	2
<u>Br. abortus</u> agg. test	Dog		2	
<u>Br. abortus</u> agg. test	Elk	2	916	
<u>Br. abortus</u> agg. test	Goat		45	
<u>Br. abortus</u> agg. test	Horse	3	39	2
<u>Br. abortus</u> agg. test	Human		2	
<u>Br. abortus</u> agg. test	Swine	14	10,836	185
<u>Brucella</u> ring test, cream	Cattle		7,531	12
<u>Brucella</u> ring test, milk	Cattle		5,233	29
*Encephalomyelitis CF test	Horse		10	
!BR test	Cattle		2	
<u>L. canicola</u> agg. test	Dog		4	
<u>L. canicola</u> agg. test	Human		1	
<u>L. icterohemorrhagiae</u> agg. test	Dog		4	
<u>L. icterohemorrhagiae</u> agg. test	Human		1	
<u>L. pomona</u> agg. test	Buffalo	6	48	8
<u>L. pomona</u> agg. test	Cattle	149	4,156	161
<u>L. pomona</u> agg. test	Dog		4	
<u>L. pomona</u> agg. test	Elk		598	2
<u>L. pomona</u> agg. test	Horse	1	19	4
<u>L. pomona</u> agg. test	Human		1	
<u>L. pomona</u> agg. test	Swine	6	156	1
Newcastle HI test	Chicken		2	
Q fever CA test	Cattle	19	254	
Q fever CA test	Human		1	
<u>S. pullorum</u> agg. test	Poultry	1		
<u>S. pullorum</u> agg. test (field)	Poultry	42	40,824	
TOTALS		529	123,222	2,844

*Tested at Rocky Mountain Laboratory, Hamilton, Montana.

Table IV. Milk and Cream Bacteriological Report

<u>CREAM</u>	<u>IN COMPLIANCE</u>	<u>NOT IN COMPLIANCE</u>
Antibiotic determination	311	1
Bacterial count	225	49
Coliform count	225	90
Q fever CA test	<u>2</u>	<u> </u>
TOTALS	763	140
 <u>MILK</u>		
Antibiotic determination	3,357	15
Bacterial count	3,501	233
Coliform count	1,577	1,186
*Mastitis	157	246
Psychrophiles		6
Q fever CA test	<u>262</u>	<u>2</u>
TOTALS	8,854	1,688
* <u>E. coli</u>		27
<u>E. coli and aerogenes</u>		2
<u>E. coli and streptococci</u>		3
<u>Staphylococcus</u>		53
Staphylococci and streptococci		119
Streptococcus		40
 TOTAL	 11,445	

Table V. Chemical Analyses--Toxicology

	<u>Copper</u>		<u>Arsenic</u>		<u>Mercury</u>		<u>Lead</u>		<u>Strychnine</u>	
	+	-	+	-	+	-	+	-	+	-
Ashes--bran bait			1							
Avian--stomach contents				2					1	
Bones										1
Bovine--kidney and liver			7	47	37		12	32		
Bovine--stomach contents			6	15	18		5	15		1
Canine--kidney and liver				3	3		1			1
Canine--stomach contents				6	2		2		9	11
Caprine--kidney and liver				2	2		2			
Equine--liver				5	5		4	5		
Equine--stomach contents				2	1			2		
Feed			2	5	2	3	1	7		2
Feline--kidney				1	1		1			
Fence post chips				5						
Meat				1					2	2
Porcine--kidney and liver				5	5		3	2		
Porcine--stomach contents			1	3	4			4		
Powder, unknown				1						1
Ovine--kidney and liver				3	3			3		
Ovine--stomach contents				1	1		1			
Salt				1	1			1		1
Soil			1	1	1	1	1			
Water				8	8		2	8		
Wild duck--stomach contents			1		1		1			
			—	—	—	—	—	—	—	—
TOTALS	1	0	19	117	3	96	30	85	12	20

TOTAL 383

Table VI. Chemical--Blood Analyses

	Calcium			Carotene			Magnesium			Phosphorus			Vitamin A		
	Low	Nor.	Hi.	Low	Nor.	Hi.	Low	Nor.	Hi.	Low	Nor.	Hi.	Low	Nor.	Hi.
Bovine	31	104	34	160	143	6	17	52	7	82	64	34	193	99	1
Elk		253						253			253			251	
Equine	2	4	3	1			2	2	3	1	6	2	1		
Ovine	7	4		1			3	2			10	2	8	5	1
Porcine				1									1		
	40	365	37	163	143	6	22	309	10	83	333	38	203	355	2

TOTAL 2,109

Table VII. Chemical--Milk and Cream Analyses

Milk and cream samples 1,177

Table VIII. Chemical--Analyses of Water for Livestock Consumption

	Fit	Questionable	Unfit	Total
Water	57	14	38	109

Table IX. Chemical--Quantitative Nitrate Analyses

	Fit	Questionable	Unfit	Total
Feeds	123	13	16	152
Water	105	14	2	121
				273

Table X. Chemical--Miscellaneous Analyses

Aluminum foil--metal	5
Bovine abdominal fluid--nitrate	1
Bovine blood--nitrate	22
Bovine liver--nitrate	8
Bovine liver--vitamin A	4
Bovine serum--globulin turbidity	158
Bovine serum--SGOT	3
Feed--chloride	1
Feeds--vitamin A	2
Porcine liver--vitamin A	1
Water--lead	2
TOTAL	207

TOTAL CHEMICAL ANALYSES

4,258

Table XI. Autopsies Performed

Bat	6
Beaver	6
Cat	21
Cattle	628
Chicken	251
Chinchilla	11
Chipmunk	4
Deer	1
Dog	36
Duck	1
Goat	1
Goose	3
Gopher	5
Guinea fowl	18
Hamster	3
Horse	5
Magpie	3
Mink	7
Monkey	4
Mouse	12
Muskrat	2
Myna bird	2
Parakeet	2
Pigeon	2
Rabbit	15
Rat	9
Sheep	94
Skunk	15
Squirrel	4
Starling	1
Swine	86
Weasel	<u>2</u>
TOTAL	1,260

TOTAL LABORATORY TESTS
 TOTAL FIELD TESTS

104,919
41,901

G R A N D T O T A L

146,820

MILK AND DAIRY INSPECTION

One of the very important responsibilities of the Livestock Sanitary Board is to assure every man, woman and child that they will always be able to purchase milk and cream that are safe and wholesome. It is with distinct pleasure that we can report to the Board that, with the cooperation of the dairy industry, this responsibility has been again accomplished this year. It is with particular pleasure knowing the tragedy of milk-borne diseases, that we can again report as has been done for many years, that there was not one single milk-borne disease originating from a licensed dairy or milk plant. As a result of this the milk producers and distributors have obtained consumer confidence in their product not enjoyed in many parts of the world. This is a well-earned reputation obtained by the dairy industry. May we always be able to assist them in maintaining this confidence and reputation.

It is established, using the U.S. Public Health Service "Methods of Milk Sanitation Ratings of Milk Sheds" that Montana milk plant producer dairies have a sanitation compliance rating of 90%, milk plants - 89% and a pasteurized milk rating of 90% at the close of the fiscal year.

Montana licensed milk plants distribute 21,466,525 gallons of pasteurized milk, cream and fluid milk products to Montana consumers each year (58,785 gallons daily). Licensed retail raw dairies distribute 318,545 gallons of raw milk annually (873 gallons daily). A percentage of 98.6 of the milk and cream distributed in Montana has the added public health protection of pasteurization. Raw milk accounts for 1.4% of the total milk supply offered Montana consumers.

To conduct the dairy and milk inspection work that will assure a safe milk supply in this State covering a very large area, required the following major items of work:

1,770	dairy inspections
175	milk plant inspections
6,236	bovine tuberculin tests
12,805	brucellosis ring tests
322	Q-fever tests
10,542	bacterial counts
3,684	antibiotic detection tests
3,078	coliform tests
403	mastitis tests
<u>1,177</u>	chemical analyses
40,192	TOTAL

Dairy and milk plants licensed during the fiscal year were:

494	Producer dairy licenses issued
19	Retail raw dairy licenses issued
45	Milk plant licenses issued

TABLE 1. Sanitation Compliance Scores (Percent Compliance with Montana Livestock Sanitary Board sanitation regulations).

<u>Milk Plant</u>	<u>Gallons Sold Daily</u>	<u>Plant Score %</u>	<u>Producer's Score %</u>	<u>Pasteurized Milk Rating</u>
25 -1	3021	99	91	95
25 -2	3285	95	91	93
25 -7	1240	93	90	92
25 -8	100	67	80	74
25-10	6530	100	91	96
25-11	277	69	89	79
25-13	15	95	95	95
25-14	110	92	85	89
25-15	102	85	92	89
25-16	3000	99	95	97
25-17	35	86	85	86
25-18	4800	100	93	96
25-19	1677	87	89	88
25-20	2275	92	90	91
25-21	2681	91	93	92
25-22	100	87	92	90
25-23	136	94	93	94
25-24	259	90	91	91
25-25	2450	96	91	94
25-26	188	86	89	88
25-28	1655	75	93	84
25-29	110	81	96	89
25-30	1440	79	92	86
25-31	1565	85	86	86
25-32	4380	91	90	91
25-33	265	75	96	86
25-34	390	95	95	95
25-35	435	95	81	88
25-36	181	87	93	90
25-37	1730	82	81	82
25-38	2080	94	92	93
25-39	1655	96	91	94
25-40	1200	86	93	90
25-41	364	94	78	86
25-42	310	94	89	92
25-43	175	85	92	89
25-44	1315	93	91	92
25-45	55	86	98	92
25-46	809	92	88	90
25-47	6390	92	87	90
TOTAL:	58785	Average 89	Average 90	Average 90

TABLE II. Sanitation Compliance Scores of Retail Raw Dairies

<u>Dairy</u>	<u>Gallons Sold Daily</u>	<u>Dairy Score %</u>
R -1	35	97
R -2	100	93
R -4	30	84
R -5	45	91
R -6	100	80
R -7	45	80
R -8	54	81
R-10	30	90
R-11	20	96
R-14	85	82
R-15	37	94
R-19	68	93
R-21	21	90
R-24	15	99
R-25	30	91
R-29	30	84
R-30	7	82
R-31	16	100
R-32	35	90
TOTAL:	873	Average 89

MEAT AND SLAUGHTERHOUSE INSPECTION

SLAUGHTERHOUSE INSPECTION - Livestock Sanitary Board licenses were issued to 59 slaughterhouses and 2 meat depots during the fiscal year. Three poultry slaughterhouses were licensed. There were 63 slaughterhouse inspections made.

MEAT INSPECTION - Meat inspection was maintained in 17 slaughtering establishments by the Montana Livestock Sanitary Board. These establishments are:

ESTABLISHMENT NUMBER	NAME	ADDRESS
2	John R. Daily, Incorporated	Missoula
3	John Schramm	Missoula
4	Circle K Packing Company	Kalispell
5	Montana Meat Company	Helena
7	Vandevanter Brothers	Kalispell
8	Guy Barsotti	Great Falls
10	Quick Freeze Packing Plant	Livingston
12	Havre Abattoir	Havre
13	Curt Biastoch	Butte
14	Vollmer & Sons	Bozeman
16	Roberts Packing Company	Dillon
18	Mickey's Packing Plant	Great Falls
19	New Butte Butchering Company	Butte
21	Rocky Mountain Packing Company	Havre
22	Miller-Winckler Incorporated	Lewistown
23	Montana State College	Bozeman
26	Miles City Packing Company	Miles City

Federal meat inspection is maintained at the following:

301	Great Falls Meat Company	Great Falls
857-G	Needham Packing Company	Great Falls
339	Midland Empire Packing Company	Billings
691	Pierce Packing Company	Billings

Forty slaughtering establishments operate without meat inspection.

The number of animals slaughtered in the various slaughterhouses during the fiscal year was:

	<u>FOUR PLANTS FEDERAL MEAT INSP.</u>	<u>SEVENTEEN PLANTS STATE MEAT INSP.</u>	<u>THIRTY-EIGHT PLANTS WITHOUT MEAT INSP.</u>
Cattle	79,156	37,388	10,056
Calves		965	735
Swine	208,539	67,843	16,618
Sheep		5,680	920
TOTALS:	<u>287,695</u>	<u>111,876</u>	<u>28,329</u>

A total of 427,900 animals was slaughtered in licensed establishments last year. Of the total 67.2% were slaughtered in the four plants under Federal meat inspection, 25.9% were slaughtered under State meat inspection and 6.9% were slaughtered without meat inspection.

A total of 67 diseases and other conditions was found in the animals slaughtered under State and Federal meat inspection which caused the entire animal or part to be unfit for human consumption resulting in condemnation of that carcass or part.

Following is the number of entire carcasses found unfit for food under meat inspection:

<u>NUMBER OF ANIMALS</u>			<u>ESTIMATED DRESSED WEIGHT</u>
<u>STATE INSP.</u>	<u>FEDERAL INSP.</u>		
133 $\frac{1}{4}$	215	Cattle	118,250 pounds
3		Calves	600 "
150	451	Swine	84,140 "
2		Sheep	94 "
<u>288$\frac{1}{4}$</u>	<u>666</u>		
TOTAL:	954 $\frac{1}{4}$		<u>202,084</u> "

The following parts of animals were found unfit for food under State and Federal meat inspection:

<u>NUMBER OF PARTS</u>			<u>ESTIMATED WEIGHT</u>
38,444			
3		Calves	6 "
48,545		Swine	48,545 "
1,081		Sheep	2,162 "
<u>88,073</u>			<u>386,201</u> "
TOTAL:			

This represents a total estimate of 588,285 pounds of meat found totally unfit for human consumption and removed from food channels during the year in Montana.

One cow in every 383, one calf in every 321, one pig in every 433 and one sheep in every 2,840 head slaughtered were condemned as unfit for human consumption. Another source of economic loss was the condemnation of 32,325 beef livers, or one liver out of every four cattle was found diseased. The public health significance of meat inspection is self-evident.

Processing and labeling part of meat inspection, - an extremely important part - is not conducted at present under State meat inspection. Ever increasing volumes of meat are being converted into processed and manufactured meat products. The Montana Livestock Sanitary Board has been directed by laws and has provided regulations to carry out processing and labeling inspection. The establishment of processing and labeling inspection would accomplish the following:

1. Assure that only safe, wholesome meats are used under strict sanitary conditions in the manufacture and processing of meat products.
2. Prevent the substitution of farinaceous substances and other inferior and less expensive products in place of meat in processed meat products.
3. Require labeling of the exact ingredients and the Montana label of "Inspected and Passed" on all meat products offered for sale.
4. Prevent the use of harmful preservatives, coloring materials, dyes, and materials used to produce deception.

5. Assure processing of pork products to destroy Trichina.

We are certain that the amount of money to conduct the processing and labeling inspection part of meat inspection would be returned to Montana meat products consumers several times each year.

Starting in April 1964 district deputy State veterinarians were instructed to inspect all foreign imported meat at slaughtering establishments, meat depots and meat packing houses. Sixty thousand pounds of fresh, boneless beef in frozen 60-pound packages were found and inspected on two Montana premises. The meat was from Australia. The packages bore the inspection legend of the Australian government and the inspection legend of the U. S. Department of Agriculture. The meat was found to be properly packaged to prevent contamination and appeared safe and wholesome. The meat was imported through the Seattle Port where it was inspected by the U. S. Department of Agriculture.

The inspections revealed that the previous fall (October 1963) six establishments had purchased and used imported meat.

The implementation of meat products and labeling inspection would provide for proper inspection of all meats used in meat products.

A detailed report of diseases found, animals inspected and condemned under Montana Livestock Sanitary Board meat inspection is shown on the next page.

SUMMARY OF POST-MORTEM INSPECTION

SPECIES	CATTLE	SWINE	CALVES	SHEEP
Food	37,254 3/4	67,843	962	5,678
Cooking				
Condemned	133 1/4	150	3	2
Total:	37,388	67,993	965	5,680

DISPOSITION OF CARCASSES & PARTS

DIAGNOSIS	CATTLE		SWINE		CALVES		SHEEP	
	Cond.	Parts Cond.	Cond.	Parts Cond.	Cond.	Parts Cond.	Cond.	Parts Cond.
Abscesses	6	584	19	2879	1			48
Actinomycosis		364		3				
Adenoma		1						
Adhesions		30						
Anasarca	1							
Arthritis	1	1	11	25				
Ascites	2							
Bruises, injuries, etc.	16 1/4	248	7	172				
Cachexia	23	1	3					
Cancer			1					
Contamination		23		235				
Caseous lesions								246
Cysticercosis, bovis		1						
Cysticercosis, tenui.								26
Edema	2							
Emphysema			3					
Empyema			1					
Enteritis			5					
Epithelioma	37	100	1	87				
Erysipelas			1	1				
Hemorrhagic enteritis			2					
Hydrops	1							
Hyperkeratosis					1			
Icterus			26	4			1	
Keratitis		8						
Livers		26		25368		3		436
Lymphadenitis	1							
Lymphocytoma			1					
Lymphoma, malignant	1							
Melanosis		1						
Metastasis	1							
Metritis			4					
Metritis & septicemia	1							
Nephritis	4							
Parasitism		3						324
Pericarditis	5	26	1	735				1
Peritonitis	4		1					
Pleuritis			2					
Pneumonia	3		42				1	
Pyelonephritis	3							
Pyemia	1		1					
Sarcosporidiosis	1							
Scirrhus cord		1						
Septicemia	9		16					
Sex odor			2					

DIAGNOSIS:

	CATTLE		SWINE		CALVES		SHEEP	
	Cond.	Parts Cond.	Cond.	Parts Cond.	Cond.	Parts Cond.	Cond.	Parts Cond.
Sinusitis		1						
Stomatitis, mycotic		1						
Streptococci	1							
Submaxillary phlegmon	1							
Tuberculosis				1484				
Ulcer		1						
Unclean heads				1267				
Uremia	2				1			
Urinary calculi	6							
TOTALS:	133 $\frac{1}{4}$	1521	150	32860	3	3	2	1081

BEEF LIVERS CONDEMNED:

Abscesses	7,240
Cirrhosis	95
Telangiectasis	73
Sawdust	436
Carotenosis	9
Distomiasis	1,854
Miscellaneous	427
Contamination	8
TOTAL:	<u>10,142</u>

RENDERING PLANTS

Twelve rendering plants were issued licenses by the Livestock Sanitary Board during the year, an increase of one over last year.

This very important service provided by rendering plants in 12 areas in Montana assists very materially in protecting livestock and human health if properly conducted; if not, the rendering plant and its operation serve to endanger livestock and human health. We recommend continued strict enforcement of sanitary operation of these plants and their vehicles.

SWINE GARBAGE FEEDING

Twenty-two garbage-feeding establishments were licensed, an increase of two over the previous year.

The enforcement of the garbage-cooking law has been an important factor in eliminating hog cholera and vesicular exanthema in swine, and in materially reducing the public health danger of trichinosis.

With the cooperation of the USDA, Agricultural Research Service, 528 inspections of garbage-feeding establishments were made during the year.

ARTIFICIAL INSEMINATION

There was again a marked increase in the number of artificial inseminator's licenses issued. Licenses were issued or renewed to 189 artificial inseminators. There were 86 licenses issued in 1963, 45 in 1962, and 22 in 1961. This reflects the great increase in artificial insemination of beef cattle in the state.

Just about all bovine semen used in artificial originates is from bull studs maintained in other states. Montana law provides that all sires used as a source of semen to be used for artificial insemination in Montana must be proven free of contagious, infectious diseases and proven to be pure of breed and devoid of hereditary defects. With the increase of artificial insemination in the state, there has been in some instances difficulty in obtaining proof of freedom of disease and purity of breed from some operators of bull studs. The proof of health and purity of breed is obtained on individual sire health certificates as recommended by the National Association of Artificial Breeders and the United States Livestock Sanitary Association. These must be obtained by the Board annually to renew permits to ship semen into Montana. To facilitate compliance with the artificial insemination law and Regulation 1523, Order No. 207 was adopted. At the end of the fiscal year it does appear that Order No. 207 will be most useful in obtaining compliance by the out-of-state bull studs.

It is fortunate, prior to this increase in artificial insemination of cattle, that Montana has a good law to prevent the dissemination of disease through bovine semen and artificial insemination. The potential of one diseased bull through artificial insemination spreading disease is truly great. We recommend the Board insist on complete compliance with this livestock health protective measure.

QUARANTINED FEEDLOTS

One quarantined feedlot was maintained under the provisions of the regulation contained in Chapter 20. The advances made in bovine brucellosis eradication make it unnecessary to maintain brucellosis quarantined feedlots for the purpose of feeding untested and brucellosis-infected cattle. The maintenance of such centers could be a detriment to brucellosis-free herds and areas. We therefore recommend that the establishment and maintenance of brucellosis quarantined feedlots be discontinued.

LITIGATION

There was no litigation during the year.

REGULATIONS

No new regulations were adopted during the year.

ORDERS

The following official orders were issued during the fiscal year:

- | | |
|---------------|---|
| Order No. 202 | Assigning official code numbers to pasteurization plants licensed by the Board. |
| Order No. 203 | Declaring Custer County a modified certified brucellosis area. |
| Order No. 204 | Declaring Powder River County a modified certified brucellosis area. |
| Order No. 205 | Placing Carter and Fallon Counties under rabies quarantine. |
| Order No. 206 | Placing Powder River County under rabies quarantine. |
| Order No. 207 | An order establishing procedures for obtaining a permit, as required by Regulation 1523, to ship bovine semen into Montana. |

PERSONNEL

One of the most serious problems continues to be the inability to maintain a complete scientific staff. During most of the fiscal year the position of district deputy state veterinarian in charge of District 6, with headquarters at Butte, remained vacant. After remaining vacant for approximately two years, the position was filled. The position for a qualified person to be in charge of the dairy and milk inspection program has been vacant for over six months. Through retirement, positions for meat inspection will soon have to be filled, with no prospects for filling them. Adequate key personnel must be maintained at the laboratory.

Technological advances in preventative medicine and veterinary medicine, new laboratory techniques, new livestock disease problems and how to cope with them demand dedicated individuals with extensive education and scientific training and background on the Livestock Sanitary Board staff if the people and livestock industry of Montana are to receive the kind of service they deserve and demand by statute.

Scientifically trained and skilled people, especially those who must denote eight to ten years of formal education to acquire basic technical knowledge to enable them to start to develop their skills, are in short supply in the nation. Private practice, private industry, and the federal government have been able to financially compete and obtain the services of those available. This then, unfortunately, makes it most difficult for many states to maintain adequate scientific staffs or forces them in to trying to maintain services with inadequately trained scientific personnel. Either situation is not good. We sincerely believe that if the states are to maintain adequate protection for their livestock industries and the milk and meat consuming public from the ravages of livestock diseases, this situation will have to be resolved in the near future.

LIVESTOCK SANITARY BOARD STAFF

The contents of the annual report represent the dedicated and hard work of many in the field, in the laboratories, in the packing plants, and in the office. I sincerely hope it adequately reflects their good work in the public service. It is a privilege for me to recommend to the Livestock Sanitary Board that they commend the entire staff for their accomplishments during the year.

CO-OPERATING AGENCIES

The Montana Livestock Sanitary Board's duties and responsibilities are accomplished through the co-operation, advice and assistance of many. To the following we express our sincere thanks:

1. Agricultural Research Service, U. S. Department of Agriculture, and Dr. O. J. Halverson, who is in charge of their Montana activities
2. Montana Veterinary Research Laboratory, Bozeman
3. Rocky Mountain Laboratory, Hamilton
4. Montana State Board of Health
5. U. S. Public Health Service
6. Montana Agricultural Extension Service
7. City and county health departments
8. Montana Stockgrowers Association
9. Montana Woolgrowers Association
10. Montana milk distributors
11. Montana milk producers
12. Montana hatcherymen

FINANCIAL STATEMENT

July 1, 1963 - June 30, 1964

FUNDS AVAILABLE

<u>General Fund</u>	<u>Appropriation No.</u>		
Operation	647-2	\$166,585	
Capital (Encumbered from 1962-63)		176	
Capital	647-3	6,965	
Grants and Benefits	647-4	10,000	
Meat Inspection	647-6	<u>63,540</u>	
Total			\$247,266
<u>L.S.B. Earmarked Revenue Account 215100</u>			
Operation (Encumbered from 1962-63)		2,278	
Operation (Encumbered from 1962-63--Cancelled)		-1,088	
Operation	302-1	<u>126,987</u>	
Total			128,177
Total All Funds Available for 1963-64			\$375,443

EXPENDITURES

<u>General Fund</u>			
Operation	647-2	\$164,140	
Capital (Encumbered from 1962-63)		176	
Capital	647-3	6,482	
Grants and Benefits	647-4	9,535	
Meat Inspection	647-6	<u>58,099</u>	
Total			\$238,432
<u>L.S.B. Earmarked Revenue Account 215100</u>			
Operation (Encumbered from 1962-63)		1,190	
Operation	302-1	<u>101,948</u>	
Total			<u>103,138</u>
Total All Expenditures in 1963-64			<u>341,570</u>
Balance Forwarded to 1964-65 Fiscal Year			\$ 33,873

FINANCIAL STATEMENT OF LIVESTOCK SANITARY BOARD EARMARKED REVENUE ACCOUNT 215100

Cash Balance 6-30-63	\$ 17,655	
<u>Income--Interest on U.S. Government Bonds</u>	828	
-*Livestock Taxes	<u>125,378</u>	
Total Cash Balance and Income		\$143,861
<u>Expenditures</u>		
Operation (Encumbered from 1962-63)	1,190	
Operation	<u>101,948</u>	
Total Expenditures		<u>103,138</u>
Cash Balance 6-30-64		\$ 40,723
Plus Reserve in U.S. Government Bonds		<u>30,000</u>
Total Funds in L.S.B. Earmarked Revenue Account 215100 on 6-30-64		\$ 70,723

FINANCIAL STATEMENT OF LIVESTOCK SANITARY BOARD EMERGENCY REVENUE ACCT. 215000

**Reserve in U.S. Government Bonds 6-30-64 (including interest)	\$ 86,580
<u>**License Fees Collected 1963-64</u>	<u>\$ 2,503</u>

*3 mills on cattle and sheep.

**Designated to be held in reserve for emergency use in controlling dangerous disease outbreaks.

***Submitted direct to the State of Montana--General Fund.

SUMMARY OF MAJOR ACTIVITIES DURING THE FISCAL YEAR

Dairy and Milk Plant Inspections	1,945
Slaughterhouse Inspections	63
Rendering Plant Inspections	12
Cattle Backtagged	100,246
Cattle Tested for Tuberculosis	18,072
Ante-mortem and Post-mortem--Meat Inspection	111,876
Animals Inspected at Livestock Markets	1,124,086
Animals Inspected for Interstate Shipment	1,212,704
Miscellaneous Animal Inspections	222,061
Pullorum-typhoid Tests	40,866
Laboratory Tests	100,661
Chemical Analyses	<u>4,258</u>
TOTAL TESTS, ANALYSES, AND INSPECTIONS	2,936,850

Licenses issued:

Dairies and Milk Plants	558
Slaughterhouses	61
Poultry Slaughterhouses	3
Rendering Plants	12
Garbage-cooking Establishments	22
Artificial Inseminators	<u>141</u>
TOTAL	797

Respectfully submitted,



J. W. SAFFORD
Executive Officer and
State Veterinarian

INDEX

Artificial Insemination	51
Co-operating Agencies	55
Diagnostic Laboratory	26
Diseases--	
Cattle	3
Dog.	15
Horse.	14
Poultry.	17
Sheep.	10
Swine.	12
Veterinarians' Report.	20
Wild Animal.	15
Feedlots--Quarantined	52
Finances.	56
Foreword.	1
Garbage Feeding	51
Importation Report.	24
Inspection--	
Animal	25
Dairy.	43
Meat	46
Milk	43
Milk Plant	43
Post-mortem.	49
Rendering Plant.	51
Slaughterhouse	46
Laboratory Reports--	
Autopsies.	42
Bacteriology	28
Chemical	40
Parasitology	28
Pathology.	28
Serology	38
Litigation.	52
Livestock Importations.	23
Livestock Markets	22
Morbidity Report.	20
Orders Issued	53
Personnel	54
Regulations	53
<i>Summary of Major Activities During the Fiscal Year.</i>	57

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