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REPORT  
to the  
**Montana Livestock Sanitary Board**  
July 1, 1962 through June 30, 1963

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Helena, Montana

August 15, 1963

Honorable Tim Babcock  
Governor of Montana  
Capitol Building  
Helena, Montana

Dear Governor Babcock:

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, 1962, through June 30, 1963.

Respectfully submitted,

MONTANA LIVESTOCK SANITARY BOARD



J. W. SAFFORD  
Executive Officer

MONTANA LIVESTOCK SANITARY BOARD

\* \* \* \* \*

Archie W. Wilson, St. Xavier, President

John W. Black, Hinsdale, Vice President

Melvin Peterson, Wisdom

Manly A. Moore, Powderville

Henry Miller, Missoula

F. T. Saylor, Choteau

\* \* \* \* \*

JOHN W. SAFFORD

Executive Officer

and

State Veterinarian

Helena, Montana

July 1, 1963

Hon. Livestock Sanitary Board  
Helena, Montana

Gentlemen:

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, 1963.

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

A meeting was held in Helena on August 2, 1962.

A meeting was held in Bozeman on September 24, 1962.

A meeting was held in Great Falls on December 3 and 4, 1962.

A meeting was held in Helena on March 20 and 21, 1963.

A meeting was held in Billings on May 15, 1963.

A meeting was held in Billings on June 16, 1963.

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, at the Capitol, in Helena.

#### FOREWORD

Moisture and grass have been plentiful throughout most of the State during the fiscal year. Montana is beautiful this year and is truly living up to its reputation of being a livestock paradise. The calving and lambing season was accompanied with most favorable weather. It has been a good year.

Montana livestockmen should be most proud of their ability to produce food and fiber that contribute mightily to keeping this Nation strong. This is particularly significant in a world in which it is said fifty percent of the people are malnourished. It must be a fact that the "empty stomach" is one of the basic causes of the world situation today. A close look for the reasons some nations are indeed hungry is because livestock diseases have been permitted to run rampant among their livestock populations.

The Food and Agricultural Organization says that world food supplies must be doubled by 1980 and tripled by the end of this century. Animal products will have to be increased 85% by 1980 and 190% by the year 2000 to supply world requirements.

The United States population is increasing at a similar rate, therefore a real challenge faces the livestock industry of Montana to be able to continue to contribute to keeping this Nation strong and healthy by providing adequate amounts of food of animal origin. Animal diseases uncontrolled can prevent the production of food. By being able to reduce the diseases in livestock in Montana, shown in this report, (and Montana has one of the healthiest livestock industries in the world), by one-half or two-thirds would result in quite a tremendous increase in animal food sources.

As Montana livestockmen know, the control of many insidious wasteful animal diseases requires, often times, years of research and study, and more years of continual, coordinated effort of applying scientific facts before control or elimination of an animal disease is effected. To prevent introduction of disease requires constant vigilance year after year. Therefore, for the livestock industry to be able to meet their challenge of tomorrow they must take care of the livestock disease problems today and plan now to meet the problems of tomorrow.

We believe this challenge can be met if the livestock industry and the Livestock Sanitary Board can attract and keep the services of men highly trained in the arts and science of veterinary medicine and dedicated to the study and application of the control and eradication of animal diseases.

## CATTLE DISEASES

Montana veterinarians reported 49 diseases of cattle involving 17,070 head of cattle on 5,723 ranches. This is a decrease of two diseases and 927 cattle, but an increase of 172 ranches involved over the preceding fiscal year. We recommend a study of the disease reports of Montana veterinarians, the laboratory reports and meat inspection reports to evaluate the economic and public health impacts of specific livestock diseases found in Montana.

Anthrax - No cases of anthrax were reported in Montana during the spring and summer of 1962. At the close of the fiscal year, on June 30, 1963, anthrax again appeared in Montana, south of Poplar on the Missouri River.

We recommend annual vaccination of cattle in the known "anthrax areas" in eastern Montana. Vaccinated herds along the river in the anthrax areas have not sustained losses in this most recent outbreak.

Bacillary Hemoglobinuria (Redwater) - Veterinarians reported 141 cases of redwater on 107 ranches in western Montana during the fiscal year.

It is a pleasure to report that the field trials for the Clostridium hemolyticum vaccine, developed by the Montana Veterinary Research Laboratory, is underway. Dr. Glenn Halver, of the Montana Livestock Sanitary Board, and Dr. Tats Matsuoka, of the Montana Veterinary Research Laboratory, have been assigned to conduct the field trials in western Montana. At the close of the fiscal year the preliminary arrangements have been made and procedures required have been established. It is anticipated that all field-trial cattle will be vaccinated during the fall and winter of 1963. The results of the field trials will be known in two years.

This is a big project and will require careful records and continuity of effort if reliable results are to be obtained.

Brucellosis - During the fiscal year a total of 107,404 Montana cattle were tested for brucellosis, revealing 227 reactors, or 0.202%. Of the total, 52,380 were tested at slaughter as the result of backtagging and utilizing the screen-test procedure to recertify counties and locate foci of infection.

A total of 10,085 ABR tests were made on milk and cream samples, 50, or 0.49%, were suspicious to the test.

All Montana counties are now engaged in brucellosis eradication work. Fifty-four Montana counties are modified certified brucellosis areas. The Montana Livestock Sanitary Board declared Custer and Powder River Counties brucellosis disease-control areas on April 5, 1963, following requests of the Custer and Powder River County Commissioners. The relatively small amount of testing remaining to be done in Custer and Powder River Counties could be completed by January, 1964, thus permitting the two counties and the entire State of Montana to qualify as a modified certified brucellosis area.

I wish to report to the Board that even though the incidence of bovine brucellosis is the lowest in history, down to 0.15% of the herds infected, the brucellosis eradication work is now at its most critical point. Thirty-six counties (see Table II) have no known infected herds and only 44 infected herds remain in the State (compared with 2,434 in 1954). The critical period arises

because the incidence of brucellosis has been reduced to such a low point it no longer causes widespread economic loss nor extensively endangers public health. This results in a complacency and indifference which tend to nullify that last concentrated effort that must be applied to finish the job of eradication. As long as foci of infection remain, livestock health is in danger. Complacency must not be permitted to become preponderant. There are indications that this might be so because five counties have more brucellosis-infected herds than one year ago. It is most sincerely hoped that the Livestock Sanitary Board will be permitted to sustain their effort to eradicate brucellosis until the last infected animal is found.

The following tables show the progress made to eradicate bovine brucellosis from the start of the work in 1954 to the end of the fiscal year 1963:

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

First area test	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%

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

<u>County</u>	<u>Herds Infected</u>		<u>Herds Infected</u>	
	<u>Initial</u>	<u>Area Test</u>	<u>June 30, 1963</u>	
	<u>No.</u>	<u>Percent</u>	<u>No.</u>	<u>Percent</u>
1. Beaverhead	75	18.7	None	None
2. Blaine	30	4.6	"	"
3. Broadwater	54	23.6	"	"
4. Carbon	149	13.9	"	"
5. Cascade	140	13.9	"	"
6. Chouteau	35	5.2	"	"
7. Daniels	18	5.9	"	"
8. Dawson	34	4.6	"	"
9. Deer Lodge	26	24.7	"	"
10. Flathead	30	2.6	"	"
11. Gallatin	62	6.4	"	"
12. Golden Valley	24	12.1	"	"
13. Granite	28	16.3	"	"
14. Jefferson	32	13.6	"	"
15. Judith Basin	59	12.6	"	"
16. Liberty	7	4.2	"	"
17. Lincoln	15	5.3	"	"
18. Madison	87	14.2	"	"
19. McCone	17	3.6	"	"
20. Meagher	54	34.3	"	"
21. Mineral	3	4.3	"	"
22. Missoula	60	10.3	"	"
23. Musselshell	27	9.0	"	"



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

<u>County</u>	<u>Herds Infected</u>		<u>Herds Infected</u>	
	<u>Initial</u> <u>No.</u>	<u>Area Test</u> <u>Percent</u>	<u>June</u> <u>No.</u>	<u>30, 1963</u> <u>Percent</u>
24. Petroleum	27	19.1	None	None
25. Phillips	30	4.8	"	"
26. Pondera	36	6.4	"	"
27. Prairie	30	11.9	"	"
28. Roosevelt	50	8.4	"	"
29. Sheridan	23	3.7	"	"
30. Silver Bow	8	8.7	"	"
31. Teton	35	5.2	"	"
32. Toole	13	4.6	"	"
33. Treasure	26	15.8	"	"
34. Valley	33	4.4	"	"
35. Wheatland	17	12.3	"	"
36. Yellowstone	91	7.7	"	"
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1. Fergus	106	10.7	1	0.10
2. Garfield	27	7.5	1	0.25
3. Hill	31	6.1	1	0.20
4. Powell	51	17.4	1	0.25
5. Richland	46	3.9	1	0.10
6. Stillwater	52	7.1	1	0.10
7. Sweet Grass	56	12.1	1	0.20
8. Wibaux	23	8.4	1	0.10
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1. Carter	34	7.9	2	0.40
2. Lewis & Clark	67	17.1	2	0.40
3. Sanders	47	7.4	2	0.30
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1. Fallon	18	5.3	3	0.90
2. Glacier	88	17.7	3	0.60
3. Lake	105	7.8	3	0.15
4. Ravalli	35	3.2	3	0.27
5. Rosebud	39	3.9	3	0.72
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1. Park	50	10.6	4	0.80
2. Big Horn	91	13.2	5	0.70
3. Custer	(Initial area test not completed.)			
4. Powder River	"	"	"	"

Table III. Comparative Number of Calves Officially Vaccinated with Brucella Abortus Vaccine

<u>County</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>
Beaverhead	20,373	23,554	17,544	20,502	12,739
Big Horn	16,847	14,124	15,581	13,013	11,030
Blaine	9,439	8,421	6,627	5,555	7,625
Broadwater	4,400	2,571	2,917	2,513	2,847
Carbon	8,986	2,945	3,480	1,969	2,776
Carter	4,288	3,945	4,041	2,567	4,651

Table III. Comparative Number of Calves Officially Vaccinated with Brucella Abortus Vaccine (Continued)

<u>County</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>
Cascade	9,687	5,645	6,622	4,479	4,340
Chouteau	7,261	2,600	4,983	3,293	4,961
Custer	10,562	7,719	9,262	8,728	9,125
Daniels	572	181	888	783	1,958
Dawson	2,669	1,486	2,109	2,079	4,506
Deer Lodge	1,478	477	143	751	677
Fallon	3,029	1,927	1,856	2,136	3,566
Fergus	10,316	9,630	8,676	7,677	10,685
Flathead	1,467	1,054	1,384	1,533	1,189
Gallatin	9,313	6,548	5,945	5,312	8,427
Garfield	3,836	4,013	4,313	2,751	5,946
Glacier	3,475	3,149	2,590	3,174	2,967
Golden Valley	2,738	2,670	1,990	1,891	2,370
Granite	4,704	4,032	3,861	4,797	3,760
Hill	3,133	2,181	2,202	1,313	1,879
Jefferson	3,521	1,590	2,125	1,510	2,012
Judith Basin	7,660	3,590	5,714	5,232	6,727
Lake	5,795	3,882	4,492	4,310	4,674
Lewis and Clark	5,921	4,174	4,548	4,416	4,871
Liberty	1,871	1,312	1,063	956	1,144
Lincoln	746	563	176	453	522
Madison	10,060	4,387	7,825	4,813	7,907
McCone	1,639	1,305	2,343	1,921	4,082
Meagher	6,672	4,821	4,368	8,427	8,038
Mineral	234	47	54	123	116
Missoula	3,614	734	887	959	1,044
Musselshell	3,910	3,564	2,610	2,184	3,076
Park	6,067	2,529	1,230	3,896	5,076
Petroleum	2,319	2,476	2,671	1,413	3,081
Phillips	8,941	6,240	10,529	9,020	8,949
Pondera	2,314	1,402	1,138	1,370	1,838
Powder River	6,896	6,612	4,908	4,512	7,438
Powell	7,179	6,732	6,740	7,307	7,961
Prairie	3,398	2,146	2,094	2,489	3,901
Ravalli	8,061	3,198	3,514	3,434	3,869
Richland	2,935	2,007	2,330	1,777	3,991
Roosevelt	1,301	1,159	2,445	2,742	3,802
Rosebud	8,129	6,906	6,966	4,340	8,432
Sanders	2,452	1,822	3,535	1,851	2,131
Sheridan	892	422	1,708	1,346	2,124
Silver Bow	1,077	251	313	406	292
Stillwater	6,413	3,800	2,661	3,068	4,824
Sweet Grass	6,621	4,480	4,952	5,000	5,212
Teton	3,871	3,087	3,613	3,610	3,687
Toole	2,202	1,582	1,410	967	1,090
Treasure	2,659	3,175	2,474	1,451	2,099
Valley	5,560	6,283	7,859	6,805	7,663
Wheatland	5,389	4,633	3,741	3,279	4,515
Wibaux	1,143	646	710	206	1,944
Yellowstone	8,620	4,614	3,766	6,483	4,683
T O T A L S	294,265	215,043	224,576	209,472	250,899

In addition to Table III, reports were received that 8,726 doses of Brucella abortus vaccine were sold, indicating that many calves were unofficially vaccinated.

Coccidiosis - A total of 2,622 cases was reported on 315 ranches during the year. The incidence of coccidiosis is the second highest reported cattle disease.

This protozoan disease has for a good many years taken a heavy toll in midwinter on coming yearling calves. Although management of weaning and feeding practices can reduce the occurrence of the disease, it is believed that more knowledge concerning the development of immunity in calves might be useful in reducing losses. The number of cases occurring year after year and the overall accumulated loss sustained by the cattle industry would seem to justify considerable intensified research on coccidiosis in Montana beef calves.

Pulmonary Emphysema (Asthma) - A total of 245 cases was reported on 146 ranches during the year. This is a reduction of 461 cases and 119 ranches compared to one year ago. Just why this reduction occurred is not known, but it does seem to be associated with the fact that range conditions during the fall were above average.

Pulmonary emphysema was first observed in Montana in 1937 and described in considerable detail in the report to the Montana Livestock Sanitary Board in 1939. Our knowledge as to the cause of the disease has not increased to the point of being beneficial since that time, yet substantial losses have been reported each year since 1937.

It is encouraging to report that research on pulmonary emphysema is attracting wider attention. It has not only become one of the major research projects of the Montana Veterinary Research Laboratory this year but is being included as a Western Regional Research Project.

Salmonellosis in Calves - One hundred fifty-six cases were reported on seven ranches. As reported last year, all cases were diagnosed in very young dairy calves imported from Wisconsin.

It does appear that this highly fatal enteritis, caused by Salmonella typhimurium, may be present in Montana for a long time. There can be little doubt that the introduction and wide distribution in the State the past three years can be attributed to the unscrupulous and inhumane Wisconsin baby calf dealer and the people in Montana who unwisely purchased the calves.

The introduction of Salmonella typhimurium enteritis poses another public health problem in Montana.

It is hoped that Montana Livestock Sanitary Board Order 199, adopted March 21, 1963, will be effective in stopping the introduction of this serious calf disease into Montana.

Shipping Fever - Montana veterinarians reported 4,196 cases of shipping fever on 454 ranches. As reported a year ago, shipping fever in cattle is again the most frequently reported disease and, no doubt, the one cattle disease that causes the most serious loss and trouble in Montana.

This has not always been so, but the changes in ranch management and

marketing practices the past thirty years have created an overall situation very favorable to permit the development of shipping fever.

Field trials are being conducted by several commercial biological companies using vaccines that incorporate viruses isolated from cattle affected with shipping fever. It is sincerely hoped that this work proves successful and can be used in reducing the incidence of shipping fever.

Urolithiasis - The report of 311 cases of urolithiasis on 559 ranches indicates that "water belly" remains a major disease problem in coming yearling steer calves each winter.

Ample water supply with assurance of adequate intake by the animals, salting hay or feed to increase water consumption and delayed castration have all been shown to reduce the incidence of "water belly", but the mechanics of the "stone" formation in the calf and ways to prevent such "stone" formation remain unexplained. The research work being done on this condition must be carried on if the problem is to be solved.

Vibriosis - Although only 35 cases were reported in 20 herds, we believe the problem is much more widespread. The disease primarily manifests itself as infertility in beef cattle. Vibriosis is extremely difficult to positively diagnose as a cause of infertility. Because of a lack of diagnostic tools and ability, there leaves little doubt that vibriosis is the cause of many cases of infertility in beef cattle that remain undiagnosed and unreported.

Other diseases, such as trichomoniasis, closely resemble vibriosis as it appears in cattle. It is important to be able to more readily and more surely diagnose vibriosis. The impact of a high rate of infertility on herds of cattle can be economically disastrous, therefore it is imperative that we learn as soon as possible more effective means to diagnose and combat vibriosis.

The Montana Stockgrowers Association is cognizant of this potential threat to its industry as shown by the resolution adopted at its convention in May, 1963. We were asked by Ralph Miracle on behalf of the Montana Stockgrowers Association to form a technical committee on vibriosis to advise the Executive Board of the Montana Stockgrowers Association of the technical aspects of vibriosis, possible areas of research needed and an overall review of the present and future potential of vibriosis. At the request of the State Veterinarian, Drs. Hadleigh Marsh and J. H. Newhall and Mr. Bert Firehammer have kindly consented to serve on the technical committee. One meeting was held in June to plan the vibriosis study and review. It is expected that by October, 1963, the committee will have its report available to the Montana Stockgrowers Association and the Livestock Sanitary Board.

Various Cattle Diseases - The perennial diseases, actinobacillosis, actinomycosis, cancer eye, infectious keratitis, continue year after year, but we just seem to accept them. The report of 6,432 cases this past year accounts for 33% of all cattle diseases reported by veterinarians and serves to indicate that these four diseases are widespread and continue in their insidious way to nibble many profits from the industry. A loss of just \$50 a head caused by these four diseases would result in a \$321,600 a year loss from just reported cases. We believe a loss of \$100 a head is more realistic. This would easily indicate a \$1,000,000 annual loss from four diseases to which "we do not pay much attention". We recommend to the Board that more effort be made, utilizing known facts, to reduce

the loss from these four diseases.

Two diseases more frequently reported the past few years as 'mycotic stomatitis' and 'atypical photosensitization' have caused considerable concern to the State Veterinarian's office and staff. In some respects the symptoms reported and observations made in the field of the two diseases appear similar. We believe the use of the term 'mycotic' in connection with the stomatitis observed in range cattle may be misleading. To our knowledge no one has ever proven that a fungus could produce the stomatitis observed. The pattern of outbreaks of the condition 'photosensitization' does not conform with the old classical description of photosensitization attributed to certain specific plants. Oftentimes, it appears the mouth lesions observed in the field of animals described as being affected with 'atypical photosensitization' and/or 'mycotic stomatitis' are very similar. In other states a condition that appears similar in symptomatology has been attributed to the bluetongue virus. It is important that the problem of 'photosensitization' and 'mycotic stomatitis' in cattle in eastern Montana be clarified. We hope, with the present full veterinary staff at the laboratory, that a concentrated attempt can be made with a combined field and diagnostic laboratory approach to thoroughly investigate outbreaks of these two reported diseases.

Tuberculosis - The tuberculin test was applied to 8,835 dairy cattle and 14,051 beef cattle during the year, a total of 22,886. Three dairy cattle and two beef cattle gave positive reactions to the tuberculin test, 0.021%. The three dairy cattle were found in two herds and the two beef cattle in one herd. Two sixty-day retests of the entire herds in which the tuberculin reactors were found failed to reveal more reactors. Tuberculosis lesions were not demonstrated in any of the tuberculin reactors at slaughter.

All herds of origin in which tuberculosis lesions were reported in cattle at slaughter which were tested revealed no tuberculin reactors.

All Montana counties are currently recognized modified accredited tuberculosis-free areas.

The utilization of backtags to assist in tracing back to the herd of origin of cattle found with tuberculosis lesions and the utilization of backtag results of cattle showing no lesions at slaughter to reaccredit counties as modified accredited areas are proving most effective, particularly in the range and semi-range areas. We are confident this procedure, along with the tuberculin test of herds where indicated, will hasten the day of finding that last tuberculosis-infected animal. We recommend to the Board that the utilizing of the backtag on animals marketed for slaughter be intensified.

## SHEEP DISEASES

Twenty-one sheep diseases were reported by Montana veterinarians during the year on 258 ranches. Three diseases were observed and reported for the first time in Montana. They were bacillary hemoglobinuria, bluetongue and epididymitis.

Bacillary Hemoglobinuria (Redwater) - Redwater in cattle has been a serious problem in Western Montana since its first appearance in 1939. From 1939 to 1961 the disease had not been observed in sheep. On May 5, 1961 Dr. Kenneth A. Gerner suspected bacillary hemoglobinuria in a sheep in Ravalli County. He submitted the liver which contained an anemic infarct quite similar to the pathognomonic infarct seen in cattle livers. The laboratory was able to isolate Clostridium hemolyticum, Newhall variant, from the liver.

To our knowledge this is the first case of "redwater" reported in sheep in Montana. From the history of the disease in other states we do not anticipate that "redwater" in sheep will become of serious economic importance.

Bluetongue - Bluetongue, a virus disease, has been known in South Africa since 1905. It appeared in Texas in 1947 and in California in 1948. Since then the disease spread to all eleven Western States with the exception of Wyoming and Montana.

The summer of 1962 brought unusual heavy moisture to Southeastern Montana. The insect population in that area - gnats and mosquitoes - was heavier than "ever before witnessed" by the "oldtimers." Bluetongue is an insect-vector-transmitted disease. Apparently the stage was all set in Montana.

On August 30, 1962 bluetongue was diagnosed by Doctor Solee on sheep presented to him from Powder River County. The diagnosis was confirmed in the laboratory. Field investigations conducted by district deputy State veterinarians starting August 31, 1962 revealed bluetongue was widespread in the area. The field investigations further suggested that the disease had been present in the area since about August 15th.

The extensive investigations by deputy State veterinarians determined the following:

	<u>County</u>	<u>Sheep Inspected</u>	<u>Number of Sheep with bluetongue</u>	<u>Number of Infected flocks</u>
1.	Carter	99,265	202	24
2.	Custer	6,230	220	11
3.	Fallon	5,330	39	4
4.	Powder River	53,075	1,961	30
5.	Prairie	295	32	1
6.	Rosebud	10,305	17	1
Total:		174,500	2,471	71

The outbreak was most intense along the Powder River and the Mizpah River in Powder River County. Infected flocks were found in an area extending 50 miles from either side of the Powder River from the Wyoming border north to the Yellowstone River.

Rather intense frosts early in September assured a decrease in the vector population, thus a marked decrease in bluetongue-virus transmission. A total of 166,075 sheep were vaccinated in the area. The last cases observed were the first of October. Since the disease is only vector-transmitted quarantine measures are ineffective in controlling the disease, therefore they were not used.

The outbreak was contiguous with an outbreak extending across the Wyoming border into Wyoming, and on into the western edge of South Dakota.

At the writing of this report moisture conditions are far above normal so far in the summer of 1963 in Southeastern Montana. The vector problem is again intense. These circumstances may be a prelude to another bluetongue outbreak in Montana the early fall of 1963.

Culicoides variipennis were collected and identified by the Rocky Mountain Laboratory during the outbreak. This Culicoides gnat was a proven bluetongue vector in Texas. Blood samples were obtained for the United States Department of Agriculture laboratory in Denver. The United States Department of Agriculture laboratory confirmed the diagnosis of bluetongue made in the field and at our laboratory.

Epididymitis - Although only two cases were reported in one flock this past year, this report to our knowledge is the first time it has been recognized in Montana.

California, New Zealand and Australia workers have isolated a bacteria as the causative agent of epididymitis in rams and abortion in ewes. The New Zealand and Australian workers have classified the organism as a new specie of Brucella and proposed the name of Brucella ovis. The California workers have isolated the identical organism but do not consider it a Brucella.

The diagnosis of the disease in Montana must alert us to the condition to determine just how prevalent it may be. It must not be overlooked in determining the cause of abortions in ewes.

Infectious Footrot - The unusually large number of cases of footrot (3,838 cases in 49 flocks) can be largely attributed to the concentrated effort to eradicate the disease in four western counties. The report on this project was described in last year's annual report.

Fifty infected flocks were found on the eradication program in four western counties. Repeated inspections and treatment of the sheep in the infected flocks have reduced the number to two at the end of the fiscal year. We are confident these two flocks will soon be rid of the disease. We are hopeful that every precaution will be taken to not permit reintroduction of footrot following the elimination of the disease this past year from the farm flocks in Western Montana.

One range band in Southwestern Montana was found to be severely infected with footrot. Good progress has been made in controlling and eliminating the disease. We are confident continual good effort will prove successful by the end of the year in this one infected range band in Montana.

Parasitism - The reporting of only 461 sheep in four flocks with lice indicates that regulations adopted by the Board in 1961 requiring quarantine and treatment of infested flocks is proving successful in preventing the widespread dissemination of lice infested sheep. It would appear that the mere knowledge that lice infestation in sheep is quarantinable has, in itself stimulated efforts to make certain only lice-free sheep appear at the market place by eliminating the lice in flocks at home. This is being accomplished by individual ranch effort thus eliminating the necessity so far, of going to the expense of conducting flock inspections on an area basis.

Internal parasites - intestinal roundworms, intestinal and hepatic tapeworms and lungworms are important. The veterinarians' field reports and the laboratory reports indicate that Montana sheepmen must be made aware of the internal parasite problem, use management practices based on the life cycles of the parasites common to the area, and fully utilize effective treatments available if they are to avoid undue economic loss.

Scabies - It is again, a pleasure to report that Montana remained free of sheep scabies another year. The possibility of introduction from states in which scabies continues to exist has required considerable concern the past year as in previous years. Every effort was made to prevent an introduction.

It is encouraging that there appears to be considerable federal-state cooperative effort to eradicate sheep scabies from the Central States where it has been permitted to exist far too long. If they are successful in eliminating scabies from these remaining infested area, then we in Montana will be able to reduce the continual expenditure required to prevent scabies introduction into the State.



## SWINE DISEASES

A total of 19 diseases were reported in 2,098 swine on 147 premises during the fiscal year.

Atrophic Rhinitis - It is indicated that atrophic rhinitis, with 464 cases reported on 43 premises, is Montana's most serious swine disease this past year.

There have been no practical procedures that could be readily utilized to control the disease. At the close of the fiscal year, Ross, Duncan and Switzer at the College of Veterinary Medicine, Iowa State University have reported that the bacteria Bordetella bronchiseptica has been isolated from pigs with atrophic rhinitis. They were able to experimentally produce the disease in pigs with this bacteria. They further report successful treatment of infected pigs and treatment of sows with sulfamethazine in preventing new-born pig infection.

If it can be substantiated in Montana that Bordetella bronchiseptica is the primary etiological agent of atrophic rhinitis in swine, then the work of Ross, Duncan and Switzer will constitute a major step in the control of the disease. Every effort will be made by the diagnostic laboratory to attempt Bordetella bronchiseptica isolations from infected pigs. We will recommend that the treatment used by the Iowa workers be tried in Montana. We are hopeful their work will prove successful in Montana because, for the first time, we will have specific methods of control available.

Brucellosis - No cases of swine brucellosis have been reported either in the laboratory or by veterinarians in the field.

The following swine producers have established their swine herds free of brucellosis in accordance with the standards established under Regulation 314 and their herds have been officially declared "certified brucellosis-free herds" during the year. The United States Department of Agriculture, Agricultural Research Service has recognized this work and has officially declared the herds "validated brucellosis-free herds."

		<u>Effective Date</u>
1.	Walter Herman                      Bozeman	11-3-62
2.	James Camp                            Bozeman	11-14-62
3.	John D. Chapman                    Bozeman	11-21-62
4.	James Schweitering                Bozeman	2-25-63
5.	Robert Rogers                        Hamilton	3-2-63
6.	M. E. Muller & Sons                Corvallis	3-9-63
7.	Kurk Brothers                        Bozeman	4-1-63
8.	Sherman Smith                        Bozeman	4-1-63
9.	Warren Hastings                    Ulm	5-13-63

Brucellosis in cattle has been very markedly reduced in Montana under an extensive eradication program. The very real public health danger attendant with swine brucellosis and the infectivity of swine brucellosis to cattle required that we determine the incidence of swine brucellosis in Montana swine. At the close of the fiscal year a comprehensive swine brucellosis survey was inaugurated. Montana meat inspectors have started the collection of blood samples of Montana swine submitted to slaughtering establishments. This source of sample from widespread areas in statistically significant numbers should be most informative in guiding future action of the Board of the necessity of a swine brucellosis eradication program. It is our belief, based on past reports,

that swine brucellosis is not a problem in Montana. The swine brucellosis survey will either substantiate conclusively this belief or indicate the amount of brucellosis present.

Hog Cholera - One outbreak of hog cholera was reported in Montana during the fiscal year. This is the first occurrence of hog cholera in the last three years. The outbreak occurred in recently introduced feeder pigs originating in a north central state. The disease was recognized early affording measures to be taken to prevent further spread of the disease and to eliminate the disease from the herd.

In the 1962 annual report the number of outbreaks of hog cholera was reported each year since 1927. This report shows conclusively that the Montana Livestock Sanitary Board efforts to eradicate hog cholera from 1927 to the present have been successful. Montana is free of hog cholera and will remain free providing hog cholera can be kept out of the State. The Board's import regulations will do much to prevent a reintroduction if they are closely observed. It will pay beyond measure to utilize these regulations exactly, if swine must be imported.

Since Montana has been able to eradicate hog cholera and since hog cholera is ever present in many major hog-producing states, and since it has been a good number of years since the Montana livestock markets have been responsible for spreading hog cholera from their markets, the Board has refused to adopt the provisions of the United States Department of Agriculture, Agricultural Research Service regulations (9 CFR, Part 76) which would permit swine from any state to come into Montana's so-called "federal-state approved markets" without first meeting Montana import requirements. The risk of introducing hog cholera into Montana through such an "open market" scheme simply could not be accepted.

The United States has embarked upon an all-out hog cholera eradication program. In states in which the disease still exists the program will require expenditures of considerable sums of state and federal money. We are fortunate in Montana that the job is done and if Montana swine producers and the Board can keep the disease out of Montana until hog cholera is eradicated from other parts of the United States, we will avoid an expensive eradication program and at the same time avoid the severe losses from hog cholera outbreaks. We hope that this office and the Board can make the Montana swine producer aware of this situation. Once aware, he will use extreme caution in purchasing swine.

## HORSE DISEASES

A total of 14 diseases of horses was reported in 856 horses on 480 premises. This is a reduction by about one half of the number of horses and premises as was reported the previous year.

Distemper - The number one horse disease in Montana continues to be distemper. A total of 762 cases was reported on 417 premises. This is a reduction of 586 cases reported a year ago. We are hopeful that this reduction can be attributed to the horseman utilizing good management practices, particularly with those horses brought together in common stables, rodeos, fairs, etc.

Encephalomyelitis - The number of cases of equine encephalomyelitis reported this year is about one third of those reported the previous year. Twenty-one cases were reported on 21 premises. The public health significance of this disease should always be kept in mind.

White muscle disease - Drs. J. K. Ward and William Hadlow of Hamilton report two cases of white muscle disease in foals on one ranch in Ravalli County. White muscle disease has long been a problem in lambs and calves in Western Montana, but to our knowledge this is the first confirmed report of white muscle disease in foals, although it has been observed in other countries particularly the Scandinavian countries.

## DOG DISEASES

A total of six diseases of dogs was reported in 1,648 dogs. Leptospirosis is the one disease reported in dogs of public health significance. There were 179 cases.

Rabies - The one canine disease of most serious public and animal health significance was again not reported this year. For this we can be most thankful.

The laboratory found the following animals to be negative to biological tests for rabies during the fiscal year: 10 bats, 23 cats, 4 cattle, 18 dogs, 1 fox, 4 gophers, 7 hamsters, 1 horse, 10 mice, 1 muskrat, 2 rabbits, 2 rats and 1 skunk. A total of 84 animal brains was submitted, the majority of which had a history of having bitten a child.

A great deal of emphasis is being placed on increased tourist business for Montana, particularly in connection with Montana's Centennial Year. A good many tourists bring their dogs with them from states in which rabies is enzootic. We recommend that every effort be made to acquaint tourists with the Montana Livestock Sanitary Board regulations pertaining to the rabies vaccination requirements of dogs entering Montana. Compliance with this regulation could prevent Montana from the tragedy of rabies which could mar an anticipated enjoyable historic occasion.

## POULTRY DISEASES

There were ten poultry diseases reported in 7,932 poultry on 24 premises.

The absence of such diseases as Newcastle disease, laryngotracheitis, fowl pox and the presence of infectious bronchitis on only one premise this past year again attests to the soundness of the Livestock Sanitary Board in preventing the indiscriminate distribution of live-virus vaccines, which, in themselves, are capable of spreading and perpetuating the above diseases. In states and areas where these live-virus vaccines are indiscriminately used the poultry disease report is entirely different. It is our firm conviction that the poultry industry of Montana has benefitted tremendously over the years by living without diseases rather than perpetuating and living with costly diseases.

Pullorum - As required by Livestock Sanitary Board regulations, all poultry in all flocks producing hatching eggs were tested for pullorum-typhoid by expert employees of the Board during the year. Eggs from "pullorum-typhoid clean" flocks are the only eggs permitted to be sold for commercial hatching purposes. The results have been that for several years not one outbreak of pullorum disease has been traced to commercial Montana hatcheries using Montana hatching eggs. At one time outbreaks of pullorum were common and very costly to both hatcherymen and poultrymen alike.

A total of 56,988 birds were tested during the year and 16 reactors were found - 0.028% infection.

Montana poultrymen continue to have outbreaks of pullorum disease in chicks hatched from eggs procured from out-of-state and baby chicks shipped from out-of-state. In instances these outbreaks are traced back to hatcheries and flocks that have the United States Department of Agriculture rating of "pullorum-typhoid clean". We believe this can be attributed to the fact that under United States Department of Agriculture "National Plan" the "pullorum-typhoid clean" classification is permitted, and used by some states, after a ten percent "chick test". Under the annual permit system granted out-of-state hatcheries, this department immediately revokes the shipping permit of that hatchery proven to have shipped pullorum-infected eggs or chickens into Montana. We refuse to accept a 10% flock test of the producing flocks supplying eggs to that hatchery proven to have shipped pullorum-infected eggs. We are requiring that the hatchery show proof of a 100% test of all flocks resulting in the establishment of a pullorum-typhoid clean rating of each flock, and proof of cleaning and disinfection of that hatchery all under direction of responsible livestock health authorities of the respective state before the permit is renewed. We recommend continuance of this requirement.

Infectious Bronchitis - One outbreak of infectious bronchitis in one flock was reported during the year. This was attributed to the introduction of "started chicks" obtained from out-of-state sources into the flock. In recent years the purchase of "started chicks" has to a great extent, replaced the purchase of day-old chicks. In some states of origin viral diseases are rampant, thus many "started chicks" have been vaccinated with several live-virus vaccines in those states prior to shipment into Montana. Such recently live-virus-vaccinated chicks could serve as media for the introduction of virus diseases into Montana flocks. In order to try to prevent the introduction of disease through recently vaccinated chicks, the import regulations have been revised during the year requiring that started chicks shipped into

Montana must be accompanied by an official health certificate of the state of origin certifying that the birds have not been vaccinated with live-virus vaccines within thirty days of shipment. We recommend continued enforcement of this revised regulation.

Imported Poultry - In general every serious poultry disease problem Montana poultrymen have had to meet, has been introduced by hatching eggs or poultry shipped into Montana. There are many safe sources to purchase good quality eggs and live poultry in the United States. We know all Montana hatcheries using Montana hatching eggs and their own hatched chickens, are safe sources of poultry. Unfortunately our experience has shown that there are also a good number of unscrupulous dealers and hatcheries lurking around waiting for an opportunity to unload their diseased hatching eggs or chickens on to some unsuspecting poultryman or hatcheryman in our State - quite often at a bargain. The results are frequently disastrous. We know Montana hatcherymen and poultry producers do not and are not permitted to deal in diseased poultry. We would strongly recommend that wherever possible, poultry and hatching eggs be obtained in Montana. If it is necessary to purchase hatching eggs and poultry from out-of-state we urge that every precaution be taken not to introduce poultry diseases into Montana.

Tuberculosis - Actually there is no reason why tuberculosis should be found or tolerated in poultry flocks. A poultry flock infected with tuberculosis is of no value for a source of eggs or meat and only remain to infect poultry added to the flock, a source of tuberculosis in swine, a source of avian tuberculosis in cattle and quite possibly jeopardize human health.

It has been repeatedly demonstrated that tuberculosis in poultry can be eliminated by relatively simple procedures. (1) Do not keep poultry over a year old (chickens over a year old are not as productive). (2) Eliminate the entire flock in which tuberculosis appears. (3) Thoroughly clean and disinfect all poultry premises before restocking with tuberculosis-free poultry each year. (4) Burn or bury all tuberculosis-infected birds. (5) Do not permit poultry to run with swine or cattle.

MONTANA VETERINARIANS' DISEASE REPORT  
July 1, 1962 - June 30, 1963

<u>CATTLE:</u>	<u>CASES</u>	<u>HERDS</u>	<u>SHEEP:</u>	<u>CASES</u>	<u>HERDS</u>
Actinomycosis-bacillosis	2,180	1,801	Bacillary hemoglobinuria	1	1
Anaplasmosis	20	20	Black disease	7	4
Anthrax	8	1	Bluetongue	2,470	71
Anemia - hemolytic strep.	2	2	Contagious ecthyma	1,338	29
Avitaminosis A	51	4	Enterotoxemia	322	46
Bacillary hemoglobinuria	141	107	Epididymitis	2	1
Blackleg	135	82	Foot rot	3,838	49
Botulism	4	1	Helminthiasis	1,100	3
Brisket edema	1	1	Listeriosis	3	2
Cancer eye	1,826	1,294	Lungworms	2	1
Coccidiosis	2,622	315	Malignant edema	16	1
Diphtheria	61	48	Pasteurellosis	51	2
Encephalitis	3	1	Pediculosis	461	4
Enteritis	67	13	Photosensitization	2	2
Enteritis, <u>S. typhimurium</u>	156	7	Pneumonia	25	1
Enteritis, <u>E. coli</u>	4	1	Pregnancy disease	16	1
Enterotoxemia	38	20	Posthobalanitis	51	9
Foot rot	320	171	Tetanus	15	4
Grass tetany	122	62	Vibriosis	51	6
Helminthiasis	6	4	Virus abortion	53	4
Infectious keratitis	1,426	74	White muscle disease	43	17
Leptospirosis	282	77	Total:	9,867	258
Listeriosis	3	3			
Lungworms	20	5	<u>SWINE:</u>		
Malignant edema	11	9	Atrophic rhinitis	464	43
Mandibular phlegmon	24	22	Avitaminosis A	536	2
Mucosal disease	103	31	Colibacillosis	4	1
Mycotic stomatitis	391	64	Enteritis, non-specific	60	4
Necrotic stomatitis	6	5	" <u>E. coli</u>	6	1
Photosensitization	209	76	" necrotic	50	1
Pneumonia	76	30	" T.G.E.	105	3
Poisoning, arsenic	10	2	" vibrionic	50	2
" lead	4	1	Erysipelas	374	70
" mercury	2	1	Hog cholera	66	1
" nitrate	13	5	Influenza	100	1
" molybdenum	50	1	Leptospirosis	4	1
" sodium fluro-acetate	1	1	Mange, Sarcoptic	24	5
Pulmonary emphysema	245	146	Necrotic rhinitis	8	1
Rhinotracheitis	717	58	Poisoning, mercury	26	2
Shipping fever	4,196	454	" salt	34	2
Taeniasis	26	2	Pediculosis	10	1
Trichomoniasis	1	1	Pneumonia	170	5
Tetanus	3	3	Salmonellosis	7	3
Urolithiasis	911	559	Total:	2,098	149
Vesicular vaginitis	353	5			
Vibriosis	35	20			
Virus diarrhea	6	3			
Warts	22	6			
White muscle disease	157	94			
Total:	17,070	5,723			

Veterinarians' Disease Report continued:

<u>HORSES:</u>	<u>CASES</u>	<u>HERDS</u>
Colibacillosis	2	2
Coughing syndrome	5	1
Distemper	762	417
Encephalomyelitis	21	21
Infectious anemia	7	7
Infectious bronchitis	46	20
Malignant edema	1	1
Periodic ophthalmia	2	2
Pneumonia	2	2
Salmonellosis	2	2
Strongyle embolism	2	2
Tetanus	1	1
Virus abortion	1	1
White muscle disease	2	1
Total:	<u>856</u>	<u>480</u>

<u>DOGS:</u>		
Coccidiosis	6	6
Distemper	1,313	1,265
Infectious hepatitis	145	141
Leptospirosis	179	158
Mange, demodex	1	1
Septicemia, <u>E. coli</u>	4	1
Total:	<u>1,648</u>	<u>1,572</u>

<u>POULTRY:</u>		
C.R.D.	3,020	7
Coccidiosis	100	1
Enterohepatitis	1	1
Erysipelas	400	1
Infectious bronchitis	4,000	1
Infectious sinusitis	1	1
Infectious synovitis	5	1
Leukosis	68	7
Pullorum	222	2
Tuberculosis	115	2
Total:	<u>7,932</u>	<u>24</u>

<u>DEER:</u>		
Abscesses	4	4
Fascioliasis	1	1
Neoplasm, skin	1	1
Sarcosporidiosis	1	1
Cysticercosis	<u>4</u>	<u>4</u>
Total:	11	11

GRAND TOTALS: 39,482 8,315



## LIVESTOCK MARKETS

It is a pleasure to report to the Board that we again can state that Montana livestock market operators have been most cooperative in assisting in the control of livestock diseases. During the year not one single serious livestock disease could be attributable to dissemination through any of the public livestock markets. We know this is the way the market operators want it. In fact the yards, being capable of being maintained in a sanitary condition and cooperating in disease control, have been able to effect taking diseased animals "out of circulation" thus preventing further dissemination of that disease. We are confident that this spirit of cooperation can be maintained to the benefit of Montana's livestock industry.

Regulation 2602 pertaining to Livestock Sanitary Board requirements to paving of surface areas in livestock markets, with the advice and counsel of the Montana Livestock Auction Markets Association, was revised and officially adopted. We believe this revision is a practical and a sensible change and will at the same time afford every protection to the livestock industry and permit the markets to fully comply with its requirements.

The United States has inaugurated an all-out hog cholera eradication program. Montana is free of hog cholera. To be in a position to have the State recognized as a hog cholera-free state it was necessary to revise the regulations requiring hog cholera vaccination of stocker and feeder swine sold from the markets. The vaccination procedure was revised, eliminating the use of hog cholera antiserum alone. Regulation 1007 was also revised requiring identification of officially vaccinated swine by tags and official certificates before release from markets could be effected. This regulation was put in effect with very little difficulty. We feel this action will result in three things: (1) Provide additional safeguards in preventing hog cholera; (2) Help prevent the markets from gaining the stigma of spreading hog cholera and (3) Place Montana in a more favorable position to have its hog cholera-free status recognized on a national basis.

Deputy state veterinarians inspect all the livestock at each market. All diseased animals found are handled and released to safeguard livestock and human health.

The number of livestock inspected by deputy state veterinarians at the 15 livestock markets in Montana is as follows:

	<u>1958-59</u>	<u>1959-60</u>	<u>1960-61</u>	<u>1961-62</u>	<u>1962-63</u>
Cattle	574,016	702,846	683,621	694,333	656,336
Sheep	215,279	274,563	302,443	258,678	230,169
Horses	3,256	10,611	8,883	8,229	10,543
Swine	<u>50,249</u>	<u>62,271</u>	<u>79,953</u>	<u>93,019</u>	<u>112,138</u>
Total:	842,800	1,050,291	1,074,900	1,054,259	1,009,186

## LIVESTOCK IMPORTS

There were 216,983 head of livestock from 34 states and 3 foreign countries shipped into Montana during the fiscal year.

Montana is a livestock-producing state. To a major extent the economy of our State and the health of Montana people, is dependent upon a healthy, thriving livestock production. Disease can most assuredly cripple, and has the potential to wipe out livestock production. We are dependent upon marketing the livestock produced in this State to many areas in the nation. No other state wants, nor will federal regulations permit, the movement of livestock that are diseased or exposed to disease. It is an historical fact that every major disease problem that Montana ranchers have had to control and eliminate was introduced into Montana through animals brought into the State. It is a fact that many diseases such as rabies, cattle and sheep scabies, equine peraplasmosis, fowl pox, laryngotracheitis, Newcastle disease, hog cholera and others exist in other states and not in Montana. Their introduction and spread could cause untold loss to ranchers, in some cases create a real human health danger and bring forth embargoes against Montana livestock. We wish to report to the Board that the responsibility assigned to them by law to prevent the introduction of such diseases constitutes one of the major continual activities of the State Veterinarian's office. We believe that if every importer of dogs, livestock and other animals would most conscientiously comply with Livestock Sanitary Board regulations, the livestock industry would be much safer, the constant worry and strain would be somewhat relieved and misunderstandings could be avoided. To us, knowing the livestock disease situation, it just seems inconceivable a few would risk their entire livestock enterprise along with that of the entire State, by some of the deliberate gambles and risks knowingly taken with the importation of exposed or diseased livestock.

We depend, and it has been most successful through the years, upon official documents of the state of origin - the health certificate - issued by qualified and approved veterinarians in the state of origin, to assure us that "safe" livestock are being shipped into Montana. With very few exceptions this has proven to be very effective in preventing damaging importations. It is a pleasure to report that the majority of Montana livestockmen make certain they have thorough inspections and valid health certificates before they bring livestock into the State. This has been one of the major reasons we can report that we remain remarkably free of many serious livestock diseases.

A detailed listing of livestock imports this year can be found on the next page.

The comparative number of livestock imported into Montana the past 7 years is as follows:

	<u>1956-57</u>	<u>1957-58</u>	<u>1958-59</u>	<u>1959-60</u>	<u>1960-61</u>	<u>1961-62</u>	<u>1962-63</u>
Cattle	34,288	68,481	78,424	62,477	49,357	91,956	107,942
Horses	1,030	1,397	1,888	2,078	2,230	1,957	2,529
Sheep	73,701	83,077	117,905	73,926	36,171	70,953	78,741
Swine	23,687	26,288	20,524	13,831	25,694	31,278	27,194
Dogs	606	576	573	584	701	565	577
Total:	<u>133,312</u>	<u>179,819</u>	<u>219,314</u>	<u>152,896</u>	<u>114,153</u>	<u>196,709</u>	<u>216,983</u>

MONTANA LIVESTOCK SANITARY BOARD COMPILATION  
OF IMPORTATIONS 7/1/62-6/30/63

STATE	HEALTH	TEST	HORSES		CATTLE		SHEEP	SWINE	DOGS
	CERTIFICATES	CHARTS			HC	TC			
Canada	343	394	1064	1939	21670	12218	6		
Alaska	25							36	
Arizona	32	1	58	709	9			5	
Arkansas	8			37				7	
California	110	2	60	168	8	95		79	
Colorado	195	31	69	13478	460	969	18	17	
Connecticut		2			15				
Florida	2			205				1	
Germany	1							2	
Idaho	355	32	218	15508	286	2522	20	26	
Illinois	10	6	26	7	33		2	4	
Indiana	5	1			2		2	4	
Iowa	45	40	13	240	301		1015	19	
Kansas	23	37	47*	699	373			7	
Kentucky	1		10						
Louisiana	7			928					
Mexico	2			1559					
Michigan	8	1	3		1	7		3	
Minnesota	74	37	12	1011	383	104	1054	41	
Mississippi	1							1	
Missouri	20	12	1		71	2**	686	11	
Nebraska	132	21	64	799	370	16	9261	42	
Nevada	5		3	829				2	
New Mexico	27		22	2883					
New York	1							1	
North Dakota	701	140	227	10714	797	4935	1542	5	
Ohio	7		1					6	
Oklahoma	11		11	4		11**	7	4	
Oregon	120	6	36	1100	86	5489	12	46	
South Dakota	452	87	147	6185	1013	13765	12907	4	
Tennessee	4							4	
Texas	167	7	46	18518	90	12568		43	
Utah	86	2	34	1583	150	141		26	
Washington	296	38	144	5281	179	10356	56	106	
Virginia		1			73				
Wisconsin	56	72	8	1857	2520		556	14	
Wyoming	348	83	205	11995	311	15543	50	11	
<b>TOTAL:</b>	<b>3680</b>	<b>1053</b>	<b>2529</b>	<b>98236</b>	<b>29201</b>	<b>78741</b>	<b>27194</b>	<b>577</b>	

\* Includes 39 mules

\*\* Includes 11 goats

OFFICIAL ANIMAL INSPECTIONS  
July 1, 1962 - June 30, 1963

<u>HORSES:</u>		
Inspected for interstate shipment	3,892	
Inspected at markets	10,543	
Miscellaneous inspections	<u>122</u>	14,557

<u>CATTLE:</u>		
Dairy cattle tested for tuberculosis	7,457	
Beef cattle tested for tuberculosis	11,554	
Dairy cattle TB reactors	3	
Beef cattle TB reactors	2	
Accredited tuberculosis-free herds tested	3	
Cattle in accredited tuberculosis-free herds tested	348	
Tuberculin tested at destination	397	
Tuberculin tested for interstate shipment	3,130	
Inspected at destination	3,621	
Inspected for interstate shipment	664,125	
Inspected at markets	656,336	
Miscellaneous inspections	<u>76,206</u>	1,423,174

<u>SHEEP:</u>		
Inspected for interstate shipment	577,485	
Inspected at markets	230,169	
Miscellaneous inspections	60,209	
Bluetongue inspections	<u>174,500</u>	1,042,363

<u>SWINE:</u>		
Inspected for interstate shipment	1,161	
Inspected at markets	112,138	
Miscellaneous inspections	<u>8,333</u>	121,632

<u>POULTRY:</u>		
Miscellaneous inspections	615,827	615,827

<u>DOGS:</u>		
Inspected for interstate shipment	1,305	<u>1,305</u>

GRAND TOTAL:		3,218,858
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DIAGNOSTIC LABORATORY  
July 1, 1962 - June 30, 1963

The results of the work for the fiscal year of the diagnostic laboratory are tabulated on Tables I through VI immediately following.

A total of 145,701 tests and analyses represents a broad field - from a comparatively simple scientific test on through to the most complicated series of tests and analyses. We know a review of the results of the laboratory work graphically shows that the demands placed upon the laboratory are great and only a staff possessing highly skilled professional abilities and continuous training can begin to approach the problems presented to the laboratory.

Very frequently the laboratory is working under tremendous pressure. The result of their work confirms the diagnosis of the disease present, the poison involved, the adulteration of milk and meat. The result of their work frequently activates animal disease control measures on a statewide basis; inaugurates preventive activities; determines the start of a course of therapy, immunization and sanitation; frequently shows the exact cause of severe losses; checks the sanitation of milk and meat products utilizing prescribed scientific tests; provides evidence for settling legal disputes; and last, but not least, determines the presence of animal disease to be able to accurately protect human health and even a life. The work of the laboratory is vitally important to the Livestock Sanitary Board to enable it to accurately and successfully meet their obligations to the livestock industry and the people of Montana.

It is indeed my pleasure to recommend to the Board that the small, hard-working staff at the laboratory be commended for the amount and quality of highly technical work performed during the year as reported to you in the following six tables:

Table 1. Distribution of Laboratory Tests among Animal Species

Cattle	66,884	47.0 %
Chickens	57,255	41.0 %
Milk Analysis (dairy)	10,992	8.0 %
Elk	1,114	.7 %
Swine	853	.6 %
Deer	351	.2 %
Buffalo	182	.1 %
Horses	168	.1 %
Sheep	163	.1 %
Goats	136	.1 %
Dogs	103	.09%
Cats	57 )	
Geese	23 )	
Big Horn Sheep	20 )	
Antelope	12 )	
Mice	10 )	
Chinchillas	10 )	
Bats	10 )	
Hamsters	8 )	
Rabbits	8 )	
Ducks	8 )	
Guinea Pigs	4 )	
Pheasants	4 )	.2 %
Gophers	4 )	
Grizzly Bears	2 )	
Rats	2 )	
Moose	2 )	
Parakeets	2 )	
Mountain Goats	2 )	
Skunk	1 )	
Mink	1 )	
Pigeon	1 )	
Canary	1 )	
Fox	1 )	
Peacock	1 )	
Peafowl	1 )	

Table II. Bacteriological, Pathological, Virological & Parasitological Report

<u>LABORATORY FINDINGS</u>	<u>SOURCE</u>	<u>NUMBER</u>
Abomasal rupture	Cattle	4
Abomasal ulcer, perforated	Cattle	3
Abomasal ulceration (young calves)	Cattle	3
Abscess (unidentified gram-negative rod)	Cat	1
Abscesses (mixed bacteria)	Antelope	1
Abscesses, multiple ( <u>Corynebacterium pyogenes</u> )	Swine	1
Actinobacillosis	Cattle	1
<u>Actinobacillus lignieresii</u>	Cat	1
<u>Actinobacillus lignieresii</u>	Sheep	1
Actinomyces	Cattle	2
Agalactia	Swine	2
<u>Anaplasma marginale</u>	Cattle	2
Anemia of calves (hemolytic, fatal, cause unknown)	Cattle	2
Anemia	Cattle	2
Anemia (traumatic)	Dog	1
Aphosphorosis	Cattle	1
Aphosphorosis, suspect	Cattle	1
<u>Arizona</u> sp.	Cattle	1
Arthritis, staphylococci	Sheep	1
<u>Ascaris lumbricoides</u> adults (in liver)	Swine	1
<u>Ascaris lumbricoides</u>	Swine	1
<u>Asclepias tuberosa</u> (milkweed) in hay	Cattle	1
Atrophic rhinitis	Swine	2
Atrophic rhinitis & pneumonia ( <u>P. multocida</u> )	Swine	1
Avian encephalomyelitis, suspect	Poultry	1
Bacterin contaminated but not toxic	Sheep	1
Biliary cirrhosis	Cattle	1
Biological test of moldy feed-not toxic	Cattle	2
Biological test for toxins	Grain	1
Birth injury	Cattle	3
Birth injury, suspect	Horse	1
Black disease, suspect	Sheep	1
Blackleg, suspect	Cattle	1
Bloat	Cattle	2
Bloat, acute	Cattle	1
Bluetongue	Sheep	15
Bluetongue, suspect	Sheep	1
Botulism, type C	Pheasant	1
<u>Bovicola ovis</u>	Sheep	1
Brain abscess	Cattle	1
Brain abscesses, streptococci	Horse	1
<u>Br. abortus</u>	Cattle	1
<u>Br. abortus</u> Strain 19 vaccine, satisfactory	Vaccine	14
<u>Br. abortus</u> Strain 19 vaccine, unsatisfactory	Vaccine	1
Cannibalism	Poultry	1
Carcass suitable for consumption	Moose	1
Cardiac hypertrophy	Cattle	1
Cardiac hypertrophy (neo-natal)	Cattle	1
Cardiac hypertrophy and pneumonia	Cattle	1
Castration accident	Cattle	2

Table 11. continued:- Page 2

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
Cellulitis	Sheep	1
Chronic passive venous congestion of liver	Cattle	1
Chronic respiratory disease	Poultry	1
Chronic respiratory disease, suspect	Poultry	3
<u>Clostridium bifermentans</u>	Cattle	1
<u>Clostridium botulinum</u> , type C	Pheasant	1
<u>Clostridium chauvei</u>	Cattle	10
<u>Clostridium hemolyticum</u>	Cattle	6
<u>Clostridium novyi</u> (atypical)	Cattle	1
<u>Clostridium perfringens</u> , type C enterotoxemia	"	4
<u>Clostridium perfringens</u> , type D	"	2
<u>Clostridium perfringens</u> , type D	"	7
<u>Clostridium perfringens</u> enterotoxemia, susp.	Cattle	2
<u>Clostridium perfringens</u> enterotoxemia, susp.	Sheep	1
<u>Clostridium perfringens</u>	Cattle	4
<u>Clostridium perfringens</u> (necrotic hepatitis)	Cattle	1
<u>Clostridium perfringens</u> & <u>Cl. septicum</u>	Cattle	1
<u>Clostridium septicum</u>	Cattle	17
<u>Clostridium septicum</u>	Sheep	1
<u>Clostridium septicum</u> , suspect	Sheep	1
<u>Clostridium septicum</u> infection & Malignant edema	Cattle	1
<u>Clostridium septicum</u> " " " "	Horse	1
<u>Clostridium sordellii</u>	Cattle	1
Coccidiosis	Cattle	2
Coccidia, suspect	Cat	1
Coccidia, ( <u>E. zurnii</u> )	Cattle	5
Coccidia	Poultry	5
Coccidia, ( <u>E. tenella</u> )	Poultry	3
Coccidia, suspect	Cattle	1
Colibacillosis	Cattle	74
Colibacillosis, suspect	Cattle	97
Colibacillosis	Chinchilla	1
Colibacillosis, suspect	Dog	2
Colibacillosis	Horse	1
Colibacillosis	Poultry	3
Colibacillosis	Sheep	5
Colibacillosis	Swine	20
Colibacillosis, hemolytic	Cattle	1
Colibacillosis, suspect	Sheep	1
Colibacillosis, suspect	Swine	6
Constipation (fatal)	Cattle	1
Constipation "	Chinchilla	1
Contagious ecthyma, suspect	Sheep	1
Contagious ophthalmia	Cattle	2
Contagious ophthalmia, diplococci	Cattle	2
Contagious ophthalmia, mixed bacteria	Cattle	4
Contagious ophthalmia, no pathogenic bacteria	Cattle	1
Corynebacterium	Cattle	1
Corynebacterium	Sheep	1
Corynebacterium	Swine	2



Table II. continued - page 3

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
<u>Corynebacterium ovis</u>	Cattle	3
<u>Corynebacterium sp.</u>	Cattle	9
<u>Corynebacterium sp. (abortion)</u>	Cattle	2
<u>Corynebacterium pyogenes</u>	Cattle	8
<u>Corynebacterium pyogenes (abortion)</u>	Cattle	1
<u>Corynebacterium pyogenes</u>	Deer	3
<u>Corynebacterium pyogenes</u>	Sheep	1
<u>Corynebacterium pyogenes (castration abscesses)</u>	Cattle	1
<u>Corynebacterium pyogenes</u>	Swine	3
<u>Corynebacterium pyogenes (pneumonia)</u>	Swine	1
Cutaneous xanthomatosis	Poultry	1
<u>Cysticercus tenuicollis</u>	Deer	1
<u>Demodex sp.</u>	Dog	1
<u>Demolimia ovis</u>	Cattle	1
<u>Dermacentor albipictus</u>	Cattle	1
Dermatitis - mixed bacteria	Swine	1
Diaphragmatic hernia	Sheep	1
Dicoumarol poisoning, suspect	Horse	1
Dictyocaulus viviparus	Cattle	2
Diphtheritic enteritis	Swine	1
Discolored meat	Swine	1
Drug, non-toxic	Cattle	2
Dystokia (fetal death)	Swine	1
Edema disease (secondary to unidentified infestation)	Cattle	1
Edema disease, suspect	Swine	1
Egg peritonitis	Poultry	4
<u>Eimeria intricata</u>	Sheep	1
Emaciation	Cattle	1
Encephalitis, cause unknown	Swine	1
Encephalitis, undiagnosed	Cattle	1
Enterotoxemia, suspect	Cattle	2
Enterotoxemia, suspect	Sheep	1
Ergot in barley	Cattle	1
<u>Erysipelothrix rhusiopathiae</u>	Poultry	2
<u>Erysipelothrix rhusiopathiae</u>	Swine	7
<u>Erysipelothrix rhusiopathiae, suspect</u>	Swine	1
<u>Erysipelothrix rhusiopathiae &amp; P. multocida</u>	Swine	1
<u>Escherichia coli (abortion)</u>	Cattle	1
<u>Escherichia coli (well water)</u>	Cattle	1
<u>Escherichia freundii</u>	Cattle	1
<u>Escherichia freundii</u>	Swine	1
Examination of culture	Cattle	1
Fatty liver	Deer	1
Feed, non-toxic	Cattle	5
Feed, non-toxic	Dog	1
Feed, non-toxic	Poultry	1
Feed, non-toxic	Rabbit	1
Fetal malformation	Swine	1
Fibrinous serositis (Glasser's disease)	Swine	1
Fistulous withers (strep. & staph.)	Horse	1

Table 11. continued - page 4

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
<u>Flavobacterium</u> sp.	Cattle	1
Frothy bloat	Cattle	1
Fungus (from vaginal mucus)	Cattle	1
Fungus ( <u>Phallus caninus</u> ) Stinkhorn	Cattle	1
Gastric ulceration	Swine	2
Gizzard penetration	Poultry	1
Goiter	Sheep	1
Goniodes (biting louse) infestation	Peafowl	1
<u>Gordius aquaticus</u>	None	1
<u>Granuloma</u> (streptococcal)	Horse	1
<u>Haemonchus contortus</u>	Sheep	2
Hay, presumed fit for animal consumption	Cattle	1
Helminthia ( <u>Toxascaris</u> )	Cat	1
Helminthia ova	Cattle	2
Helminthia (1- <u>Cooperia</u> sp.)	Cattle	2
Helminthia	Horses	7
Helminthia	Sheep	9
Helminthia (insignificant)	Sheep	3
Helminthia	Swine	1
Helminthia ( <u>Ascaris suis</u> )	Swine	2
Hematology (normal)	Dog	1
Hematology	Cattle	1
Hematology	Horse	1
Hematoma	Horse	1
Hemobartonella, suspect	Cat	1
Hemoconcentration	Cattle	1
Hemolytic anemia (hematology)	Cattle	2
<u>Hemophilus</u> sp.	Cattle	1
Hemorrhagic anemia	Cattle	3
Hemorrhagic anemia	Dog	1
Hemorrhagic anemia	Poultry	1
Hemorrhagic-hemolytic anemia (fatal)	Cattle	1
Hepatitis and nephritis	Cattle	1
High chloride content of meat	Cattle	1
Histomoniasis	Poultry	1
Hog cholera	Swine	1
Hydrocephalus	Cattle	6
Hydronephrosis	Cattle	1
Hydronephrosis	Swine	1
Hypertrophy right ventricle	Cattle	1
Hypocalcemia, suspect	Cattle	1
<u>Hypoderma lineatum</u> , suspect	Cattle	1
Hypomagnesemia, suspect	Cattle	1
IBR vaginitis, suspect	Cattle	1
Icterus (calf) cause unknown	Cattle	1
Ileal ulcers (perforated), (young calf)	Cattle	1
Infectious anemia	Horse	1
Infectious synovitis	Poultry	2
Interventricular foramen (calf)	Cattle	1
Intestinal rupture	Swine	1
Intestinal torsion	Chinchilla	1
Intestinal torsion, suspect	Swine	2

Table II, continued - page 5

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
Intussusception	Dog	1
Irritant bedding causing respiratory distress	Poultry	1
Klebsiella (atypical) orchitis	Cattle	1
Laminitis and pneumonia	Sheep	1
Larkspur poisoning	Cattle	1
Larvae, not pathogenic	Swine	1
Laryngitis (streptococcal)	Cattle	1
<u>Leptospira</u>	Cattle	10
<u>Leptospira</u> , abortion	Cattle	3
<u>Leptospira</u> , suspect	Cattle	9
<u>Leptospira</u> , suspect	Deer	1
<u>Leptospira</u> , suspect	Dog	1
<u>Leptospira</u> , suspect	Horse	1
<u>Leptospira</u> (abortion)	Swine	2
Leukosis	Poultry	3
Lindane poisoning, suspect	Poultry	1
Linognathia	Cattle	1
Lung abscesses - unidentified bacteria	Cattle	1
Lunger disease ( <u>P. multocida</u> )	Sheep	1
Lymphadenoma	Dog	1
Lymphoma	Poultry	2
Lymphosarcoma	Dog	1
Malnutrition	Cattle	1
Malnutrition	Sheep	1
Malnutrition	Poultry	4
Malnutritionagalactia	Swine	1
Mastitis (streptococcal)	Cattle	1
Meat discolored	Cattle	1
Meat fit for consumption	Cattle	3
Meat fit for consumption	Swine	1
Meat unfit for consumption	Antelope	1
Meat unfit for consumption	Cattle	3
Meat unfit for consumption	Moose	1
Meat unfit for consumption	Swine	5
Mechanical pneumonia (aspiration)	Horse	1
Melanin (normal tissue)	Cattle	1
Metritis	Cattle	1
Microcytic hypochromic anemia (fatal)	Cattle	1
<u>Microsporon</u> sp.	Horse	1
Mineral deficiency	Poultry	1
Mixed bacteria	Cattle	16
Mixed bacteria (contagious ophthalmia)	Cattle	1
Mixed bacteria and fungi	Cattle	1
Mixed bacteria (seminal vesiculitis)	Cattle	1
Mixed bacteria	Dog	2
Mixed bacteria	Horse	4
Mixed bacteria	Poultry	1
Mixed bacteria (head abscesses)	Poultry	1
Mixed bacteria	Sheep	1
Mixed bacteria	Swine	9
Mixed bacteria (Vitamin A deficiency)	Swine	1

Table II. continued - page 6

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
Molar teeth deformity	Sheep	1
Mucosal disease - virus diarrhea	Cattle	4
Mucosal disease - virus diarrhea, suspect	Cattle	2
Muscular atrophy	Sheep	1
Muscular degeneration of tongue	Cattle	1
<u>Mycobacterium paratuberculosis</u>	Cattle	3
<u>Mycobacterium tuberculosis</u> , suspect	Cattle	1
<u>Mycobacterium tuberculosis</u>	Goose	1
<u>Mycobacterium tuberculosis</u> , avian type	Pheasant	1
<u>Mycobacterium tuberculosis</u>	Poultry	9
<u>Mycobacterium tuberculosis</u>	Swine	1
Mycotic abortion	Cattle	1
Mycotic abortion, suspect	Cattle	1
Mycotic enteritis	Horse	1
Myiasis (ear)	Dog	1
Myoclonia congenita	Sheep	1
Myositis	Cattle	1
Navel ill	Cattle	1
Necrotic enteritis	Swine	1
Nematodirus	Cattle	1
Nephritis	Cattle	2
Nephritis, (streptococci)	Cattle	1
Nephritis	Dog	1
Nephritis	Poultry	5
Neurolymphomatosis	Poultry	1
Neutrophilia	Cattle	2
Neutrophilia	Dog	1
Neutrophilia	Swine	1
Nitrate abortion	Cattle	10
Nitrate poisoning, suspect (newborn calves)	Cattle	1
Normal animal	Chinchilla	1
Normal hematology	Cattle	2
Normal hematology	Dog	1
Normal tissue	Cattle	1
Normal tissue	Elk	1
Nutritional deficiency and coccidiosis	Pheasant	1
Oats (abnormal kernel hair development - unpalatable)	Cattle	1
<u>Oestrus ovis</u>	Sheep	1
Omphalitis	Poultry	2
Omphalitis and chilling	Poultry	1
Osteogenic malformation	Cattle	1
Otitis media	Swine	3
Ovaries not functional	Poultry	1
Overeating (volunteer barley)	Sheep	1
Overfeeding of grain	Cattle	1
Ovine virus abortion	Sheep	4
Ovine virus abortion, suspect	Sheep	1
Paraplegia - epidural hemorrhage	Cattle	1
Parasites	Cattle	1
Parasites	Horse	1

Table II, continued - page 7

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
Parasites ( <u>Chabertia ovina</u> )	Sheep	1
Parasitic ova (insignificant)	Sheep	1
<u>Pasteurella hemolytica</u>	Cat	1
<u>Pasteurella hemolytica</u>	Cattle	8
<u>Pasteurella hemolytica</u> (catalase positive)	Cattle	1
<u>Pasteurella hemolytica</u> & streptococci	Cattle	1
<u>Pasteurella hemolytica</u> (pneumonia)	Rabbit	1
<u>Pasteurella hemolytica</u>	Sheep	5
<u>Pasteurella hemolytica</u> , atypical	Swine	1
<u>Pasteurella hemolytica</u> & <u>C. pyogenes</u>	Swine	1
<u>Pasteurella multocida</u>	Cattle	3
<u>Pasteurella multocida</u> & streptococci	Cattle	1
<u>Pasteurella multocida</u>	Sheep	1
<u>Pasteurella multocida</u> & streptococci	Sheep	1
<u>Pasteurella multocida</u>	Swine	2
<u>Pasteurella pseudotuberculosis</u> , suspect	Rabbit	1
Patent foramen ovale	Cattle	2
Peptostreptococcus	Sheep	1
Pericarditis (young calf)	Cattle	1
Peritonitis	Antelope	1
Peritonitis & pleuritis (umbilical infection)	Cattle	1
Peritonitis, (ruptured oviduct)	Poultry	1
Peritonitis, streptococci	Swine	1
Pharyngitis	Dog	1
Plant poisoning, suspect	Deer	1
Plasma cell myeloma	Dog	1
Pneumonia	Cattle	2
Pneumonia (imported calf)	Cattle	1
Pneumonia (hemolytic staphylococcus)	Cattle	1
Pneumonia (no bacteria)	Cattle	1
Pneumonia ( <u>Pseudomonas</u> , sp.)	Chinchilla	1
Pneumonia ( <u>Corynebacterium</u> )	Swine	1
Pododermatitis	Sheep	1
Polyarthritis (streptococci)	Swine	2
Polyarthritis (streptococci & staphylococci)	Swine	1
Polyserositis (Glasser's disease)	Swine	2
Polyserositis (Glasser's disease, suspect)	Swine	1
Post-parturient hemoglobinuria	Cattle	1
Progressive fatal anemia	Cat	1
<u>Pseudomonas</u> sp.	Cattle	1
Pullet disease	Poultry	1
Pulmonary edema	Cattle	1
Pulmonary emphysema	Cattle	5
Pyloric obstruction	Cattle	1
Radial and ulnar hyperplasia	Swine	1
Reticulitis (perforating)	Cattle	1
Ricketts	Poultry	1
Ruptured abomasum	Cattle	1
Ruptured liver	Cattle	1
Ruptured liver	Swine	1

Table 11. continued - page 8

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
<u>Salmonella infantis</u> (necrotic enteritis)	Swine	1
<u>Salmonella java</u>	Swine	1
<u>Salmonella manhattan</u>	Swine	1
<u>Salmonella pullorum</u>	Poultry	6
<u>Salmonella typhimurium</u> var. <u>Copenhagen</u>	Cattle	2
<u>Salmonella typhimurium</u>	Cattle	2
<u>Scatophaga</u> sp.	Insect	1
Seminoma	Dog	1
Septic thrombus (streptococcus)	Horse	1
Skin wound (Diplococci)	Horse	1
Squamous-cell carcinoma	Dog	1
Squamous-cell carcinoma of penis	Horse	1
Spherophorus and diphtheroids (canker)	Horse	1
<u>Spherophorus necrophorus</u> (calf diphtheria)	Cattle	1
<u>Spherophorus necrophorus</u> (necrobacillosis)	Sheep	2
<u>Spherophorus necrophorus</u> suspect	Cattle	1
Strangulation at parturition	Elk	1
Staphylococcal abscesses	Rabbit	1
Staphylococcal dermatitis (acne)	Horse	1
Staphylococcal enteritis of calves	Cattle	3
Staphylococci	Cattle	5
Staphylococci	Dog	2
Staphylococci	Deer	1
Staphylococci	Swine	5
Staphylococci & streptococci (fibrinous peri- carditis)	Elk	1
Staphylococci & streptococci (fistulous withers)	Horse	1
Stiffness, hereditary (cause unknown)	Cattle	1
Stomatitis (staphylococcal)	Dog	1
Streptococci	Cat	1
Streptococci	Cattle	11
Streptococci	Deer	3
Streptococci	Dog	2
Streptococci	Horse	3
Streptococci	Sheep	4
Streptococci	Swine	4
Streptococci (abortion, septicemia & wound in- fection)	Horse	3
Streptococci (abortion)	Cattle	3
Streptococci (calf scours)	Cattle	1
Streptococci (cervical swab)	Horse	2
Streptococci (pneumonia)	Cattle	1
Streptococci (pneumonia)	Swine	1
Streptococci	Poultry	1
Streptococcal abscesses	Swine	1
Streptococcal arthritis	Swine	2
Streptococcal dermatitis	Horse	1
Streptococcal encephalitis (dehorning)	Cattle	2
Streptococcal nephritis	Cattle	1
Streptococcal septicemia	Cattle	1
Suffocation suspect	Poultry	1

Table II. continued - page 9

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
<u>Taenia krabbei</u> (or <u>T. ovis</u> )	Deer	3
*1080 poisoning	Cattle	1
Tetanus	Sheep	1
Tetanus suspect	Sheep	1
Tetanus (clinical-not confirmed bacteriologically)"		1
Thrombocytopenia	Cattle	1
Tissue, normal	Antelope	1
Tooth abscesses	Swine	1
Transmissible gastroenteritis, suspect	Swine	1
Transposition of great vessels	Cattle	1
Trauma	Cattle	1
Trauma (bullet wounds)	Duck	1
Trauma (bullet wounds)	Rabbit	1
Trauma (ulceration of duodenum)	Horse	1
Trauma (from bites)	Poultry	1
<u>Trichodectes</u> ( <u>Domalinia</u> ) sp. of biting louse	Goat	1
<u>Trichomonas fetus</u>	Cattle	1
<u>Trichophyton</u> sp.	Cattle	6
<u>Trichophyton</u> sp.	Deer	1
<u>Trichophyton rubrum</u>	Cat	1
<u>Trichophyton verucosum</u> , suspect	Cattle	1
Tubular nephritis	Dog	1
Uremia (nephritis)	Cattle	1
Urine analysis	Dog	1
Urine analysis & hematology	Dog	1
Vesicular vaginitis	Cattle	1
<u>Vibrio fetus</u>	Cattle	28
<u>Vibrio fetus</u> , suspect	Cattle	6
<u>Vibrio fetus</u>	Sheep	9
<u>Vibrio fetus</u> , suspect	Sheep	2
Vibrionic dysentery, suspect	Cattle	1
Vibrionic enteritis ( <u>V. coli</u> & <u>Sp. necrophorus</u> )	Swine	1
Virus diarrhea suspect	Antelope	1
Virus pig pneumonia, suspect	Swine	1
White muscle disease	Cattle	4
White muscle disease, suspect	Cattle	1
White muscle disease, suspect	Sheep	1
Worm egg counts (insignificant)	Sheep	2
Xylene poisoning, suspect	Swine	1

\*Determination carried by the U.S. Fish & Wildlife Laboratory, Denver, Colorado.

Table II. continued - page 10

MISCELLANEOUS:

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
Negative anaplasma	Cattle	2
Negative <u>Anaplasma marginale</u>	Cattle	1
Negative atrophic rhinitis	Swine	1
Negative bacterial abortion	Cattle	215
Negative bacterial abortion	Horse	3
Negative bacterial abortion	Rabbit	1
Negative bacterial abortion	Sheep	12
Negative bacterial abortion	Swine	1
Negative bacterial abortion & viral abortion	Sheep	2
Negative blackleg	Cattle	1
Negative clostridial toxemia	Sheep	1
Negative enterotoxemia & malnutrition	Sheep	1
Negative equine encephalomyelitis	Horse	1
Negative helminth ova	Cattle	1
Negative helminth ova	Dog	1
Negative hog cholera	Swine	1
Negative hydrocyanic acid	Cattle	1
Negative mange mites	Cattle	1
Negative mange mites	Deer	1
Negative mange mites	Dog	1
Negative mange mites	Sheep	1
Negative mange mites & fungi	Sheep	1
Negative microfilaria	Dog	1
Negative parasites	Cattle	3
Negative parasites	Dog	1
Negative parasites	Horse	1
Negative parasites	Sheep	4
Negative pathogenic bacteria	Cattle	217
Negative pathogenic bacteria	Cat	2
Negative pathogenic bacteria	Chinchilla	5
Negative pathogenic bacteria	Deer	2
Negative pathogenic bacteria	Dog	12
Negative pathogenic bacteria	Horse	10
Negative pathogenic bacteria	Mink	1
Negative pathogenic bacteria	Poultry	13
Negative pathogenic bacteria	Sheep	19
Negative pathogenic bacteria	Swine	29
Negative pathogenic fungi	Horse	1
Negative poisons (biological test)	Pigeon	1
*Negative psittacosis	Bird	1
**Negative psittacosis	Parakeet	2
Negative rabies	Bat	10
Negative rabies	Cat	23
Negative rabies	Cattle	4
Negative rabies	Dog	18
Negative rabies	Fox	1
Negative rabies	Gopher	4
Negative rabies	Hamsters	7
Negative rabies	Horse	1



Table II. continued - page 11

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>NUMBER</u>
Negative rabies	Mice	10
Negative rabies	Muskrat	1
Negative rabies	Rabbit	2
Negative rabies	Rat	2
Negative rabies	Skunk	1
Negative miscellaneous	Various	46
Negative ringworm	Cattle	1
Negative ringworm	Horse	1
Negative significant parasites	Cattle	1
Negative <u>Trichomonas fetus</u>	Cattle	2
Negative tuberculosis	Cattle	1
Negative <u>Vibrio fetus</u>	Cattle	5
Negative <u>Vibrio</u> and <u>Trichomonas</u>	Cattle	1
Not processed	Various	43
Unsuitable		1
TOTAL:		<u>1,750</u>

Table III. Serology Report

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>POSITIVE</u>	<u>NEGATIVE</u>	<u>SUSP.</u>	<u>UNSAT.</u>	<u>*AC</u>
Anaplasma CF test	Buffalo		58			
Anaplasma CF test	Cattle	103	688			30
Anaplasma CF test	Deer		110	7		
Anaplasma CF test	Elk		185	11	3	27
Anaplasma CF test	Guinea pig	1				3
Anaplasmosis capillary agg. test	Cattle	5	5			
Bluetongue (CFT) (Hamilton Lab.)	Cattle		11			
Bluetongue (CFT)	Sheep	2	2		2	
<u>Br. abortus</u> agg. test	Antelope		1			
<u>Br. abortus</u> agg. test	Bighorn sheep		10			
<u>Br. abortus</u> agg. test	Buffalo		63			
<u>Br. abortus</u> agg. test	Cattle	156	48,218	1,616		4
<u>Br. abortus</u> agg. test (field)	Cattle	2	5,005	23		
<u>Br. abortus</u> agg. test	Deer		105	1		
<u>Br. abortus</u> agg. test	Dog		1			
<u>Br. abortus</u> agg. test	Elk		494	4		
<u>Br. abortus</u> agg. test	Goat		129	2		
<u>Br. abortus</u> agg. test (field)	Goat		1			
<u>Br. abortus</u> agg. test	Grizzly bear		1			
<u>Br. abortus</u> agg. test	Horse		18	3		
<u>Br. abortus</u> agg. test	Human		3			
<u>Br. abortus</u> agg. test	Mountain goat		1			
<u>Br. abortus</u> agg. test	Swine		502	3	28	
<u>Br. abortus</u> agg. test (field)	Swine		2			
<u>Br. abortus</u> ring test (cream)	Cattle		5,742	14		
<u>Br. abortus</u> ring test (milk)	Cattle	10	4,086	24		
Dourine test (Beltsville, Md. Lab.)	Horse		1			
Equine encephalomyelitis CFT (Rocky Mountain Lab., Hamilton)	Horse		7			
Glanders (Beltsville, Md. Lab.)	Horse		1			
<u>Cl. hemolyticum</u> agg. test	Cattle	1				
I.B.R. (vesicular vaginitis) (Chow)	Cattle		4			
<u>L. canicola</u> agg. test	Dog		5			
<u>L. canicola</u> agg. test	Human		5			
<u>L. icterohemorrhagiae</u> agg. test	Dog		5			
<u>L. icterohemorrhagiae</u> agg. test	Human		5			
<u>L. icterohemorrhagiae</u> agg. test	Swine		1			
<u>L. pomona</u> agg. test	Antelope		1			
<u>L. pomona</u> agg. test	Bighorn sheep		10			
<u>L. pomona</u> agg. test	Buffalo	20	30			11
<u>L. pomona</u> agg. test	Cattle	175	3,482		118	
<u>L. pomona</u> agg. test	Deer	1	99		2	
<u>L. pomona</u> agg. test	Dog		4			
<u>L. pomona</u> agg. test	Elk		204			
<u>L. pomona</u> agg. test	Grizzly bear		1			
<u>L. pomona</u> agg. test	Horse	1	16		3	
<u>L. pomona</u> agg. test	Human		4		1	
<u>L. pomona</u> agg. test	Mountain goat		1			
<u>L. pomona</u> agg. test	Swine	1	130		2	
Mercuric chloride test	Horse		2			
Newcastle disease (HI test)	Poultry	1	3			
Nitrate (Diphenylamine blue) test	Cattle	53	111			

Table III. continued - page 2

<u>LABORATORY FINDINGS:</u>	<u>SOURCE</u>	<u>POSITIVE</u>	<u>NEGATIVE</u>	<u>SUSP.</u>	<u>UNSAT.*AC</u>
Pregnancy test	Horse	1	1		
Q-fever CAT	Cattle	39	816		
<u>Salmonella pullorum</u> agg. test	Duck		7		
<u>Salmonella pullorum</u> agg. test	Geese		12		
<u>Salmonella pullorum</u> agg. test	Poultry	2	7		
<u>Salmonella pullorum</u> agg. "(field)	Poultry	16	56,988		
<u>Vibrio fetus</u> mucus agg. test	Cattle	8	9		1
<u>Vibrio fetus</u> agg. test	Cattle		8		2
Western equine encephalomyelitis CFT (Rocky Mountain Laboratory)	Horse		1		
Total Serological tests:		<u>598</u>	<u>127,422</u>	<u>1,708</u>	<u>177</u> <u>60</u>
GRAND TOTAL: 129,965					

\*Anticomplementary

\*\*\*\*\*

Table IV. Milk and Cream Samples

<u>CREAM:</u>	<u>POSITIVE</u>	<u>NEGATIVE</u>	<u>UNSATISFACTORY</u>
Bacterial counts	23	209	
Coliform counts	99	135	
Penicillin determination		231	
Q-fever CAT		15	
Total:	<u>122</u>	<u>590</u>	
<u>MILK:</u>			
Bacterial counts	261	3,023	1
Bacterial count for thermodurics	1	6	
Coliform counts	441	485	
Mastitis determination	*380	186	12
Penicillin determination	7	3,279	
Q-fever CAT	<u>16</u>	<u>1,079</u>	<u>3</u>
Total:	<u>1,106</u>	<u>8,058</u>	<u>16</u>
*Corynebacteria	1		
<u>E. coli</u>	43		
<u>E. coli</u> , staph. & strep.	4		
Hemolytic staphylococci	163		
Hemolytic " and <u>E. coli</u>	2		
Hemolytic staph. & strep.	24		
Non-hemolytic staphylococci	9		
Non-hemolytic staph. & strep.	1		
Staphylococci	74		
Staphylococci & Corynebacteria	1		
Staphylococci & <u>E. coli</u>	14		
Staphylococci & streptococci	6		
Streptococci	32		
Streptococci & <u>E. coli</u>	2		
TOTAL:		9,892	

Table V. Chemical Analyses

Toxicology:

	<u>Arsenic</u>		<u>Mercury</u>		<u>Lead</u>		<u>Strychnine</u>	
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.
Antelope kidney		1						
Antelope stomach, liver & kidney		1		1		1	1	
Avian crop & gizzard, kidney & liver		1						
Bovine bowel content		1	1			1		
Bovine contents	3	10		11		9		
Bovine kidney	1	7	1	5	2	12		
Bovine liver	4	15		11		8		
Bovine stomach contents	5	23	4	13	4	16		1
Bovine tankage		1						
Bun & fishburger		1					1	
Burlap sack	1							
Canine blood								1
Canine contents		1		1		1		2
Canine liver & kidney		3	1	1		2		
Canine stomach contents	1	4	1	1		2	15	3
Canine vomitus							1	
Deer kidney & liver		2	1	1		1		
Equine kidney		1	1			1		
Equine liver		1	1			1		
Equine stomach contents		1		1		1		
Feline kidney & liver		1		1		1		
Feline stomach contents							2	1
Food								1
Goat stomach contents		1		1		1		
Grain	1	8	1	8		5	1	
Lard wrapper							1	
Meat							4	1
Meat balls							1	
Meat & meat products							4	
Mouse bait trap							1	
Oats							1	
Ovine stomach contents	1	2	1		2	1		
Prepared sausage				2				
Porcine meat							1	
Porcine stomach contents		4		4		4	1	
Powder	1	1						
Soil		5						
Sprayed weeds	1							
Wood for poles	2	2						
T O T A L S	21	98	13	62	8	58	30	10

Table V. Continued - page 2

Blood Analyses

	<u>Calcium</u>			<u>Carotene</u>			<u>Magnesium</u>			<u>Phosphorus</u>			<u>Vitamin A</u>		
	Low	Nor.	Hi.	Low	Nor.	Hi.	Low	Nor.	Hi.	Low	Nor.	Hi.	Low	Nor.	Hi.
Bovine	53	67	31	163	98	11	8	43		115	32	48	147	152	22
Canine												1			
Elk													6	102	10
Equine	3	7	3	9						3	9	1	7	3	
Porcine		1	2	1				1		1	1	1			2

Miscellaneous Analyses

Chemical analysis:	
Milk and cream samples	1,100
Water	61 fit; 5 questionable; 36 unfit
Chloride analysis:	
Bovine meat	34 parts/1,000
Globulin turbidity tests on newborn calves' serum	189 high; 13 low
Ketosis analysis:	
Bovine blood	Negative
Nitrate analysis:	
Bovine blood	19 fit
Feeds & forage	17 fit
Hay samples	182 fit; 2 questionable; 14 unfit
Water	22 fit; 5 questionable
Salt for solubility and % chloride determination	1
Urinary calculi - canine	1
Vitamin A analysis:	
Bovine liver	6
Elk liver	65
Porcine liver	2
<b>TOTAL CHEMICAL ANALYSES</b>	<b>3,222</b>

Table VI. Autopsies Performed

Antelopes	3
Bats	6
Canary	1
Cats	18
Cattle	386
Chickens	165
Chinchillas	8
Colts	3
Deer	7
Dogs	12
Ducks	3
Goose	1
Gopher	1
Hamsters	8
Horses	7
Mice	3
Parakeets	4
Peacock	1
Pheasants	27
Pigeon	1
Rabbits	11
Rats	4
Sheep	76
Swine	<u>110</u>
TOTAL	672

TOTAL LABORATORY TESTS	83,664
TOTAL FIELD TESTS	<u>62,037</u>
GRAND TOTAL	145,701

## MILK AND DAIRY INSPECTION

The continual assurance of a safe milk supply for all the people of Montana is a public trust placed upon the Livestock Sanitary Board. The dairy and milk inspection work that must be carried on to fulfill this trust is designed and functions to prevent the tragedy of a milk-borne disease outbreak; not to try to correct the situation after such a tragedy has occurred. We wish it could be made very clear to a very few in the dairy industry that this is solely and strictly the one and only purpose of the dairy and milk inspection work and will always remain that purpose.

The outstanding co-operation of the vast majority of dairymen and milk plant operators with the dairy and milk inspection work of the Board has made it possible to again report, as has been reported for a number of years, to the Board that not a single milk-borne disease outbreak was reported during the year from milk produced by licensed dairies. We believe the licensed dairymen and milk plants can take a special pride in this.

Modern milk production and distribution have incorporated technical advances which have in many aspects been definite aids in protecting public health. At the same time, this has permitted a far greater distribution of milk from one source. Faulty sanitation or contamination of a single source with disease organisms could therefore effect the lives and health of many more people than ever before possible. This potential and the utilization of advanced dairy equipment require stricter enforcement of basic sanitary principles and require knowledge of application of new technical skills to adequately carry out proper dairy and milk inspection work.

The advent of the paper carton provides six sides upon which printed material can be presented. Food "fadists", vitamin and mineral enthusiasts, reducing "experts" and those who lean toward misrepresentation and fraudulence have been attracted to the six labeling spaces on a paper milk container. This past year has required quite considerable emphasis of reviewing milk and milk product labels to determine their compliance with Board regulations. We can report that at present all labels used by Montana dairymen are factual and do not misrepresent the products to which they are attached.

We regret we have to report to the Board that it was necessary to issue degrading orders (rescind the dairy license) on 33 dairies and 6 milk plants during the fiscal year. This action was required because of violations of sanitary requirements needed to produce and distribute a safe milk for human consumption. In most instances the violations were corrected and the license was reinstated.

We are pleased to report to the Board that the availability of the new milk-testing laboratory in our diagnostic laboratory building now makes it possible to test the required number of milk samples essential to protecting public health.

It has been well established that a milk shed that consistently maintains a sanitation compliance score of 90% or higher is using every reasonable precaution and will produce a safe milk supply. Good progress has been made to establish the routine dairy, milk and milk plant inspection work on a continuous survey rating basis. Inspections and ratings are made and determined as recommended in the Public Health Service Publication No. 678, "Methods of Milk

Sanitation Ratings of Milk Sheds". This will provide a continuous, up-to-date sanitation situation report of all licensed dairies and milk plants; it will provide an overall picture of the work progress and quality of work performed, which is essential to proper administration; and will afford maximum protection to the consumers of milk and milk products.

In utilizing this milk sanitation rating system, it is shown that the milk plants and their producer dairies have a state-wide pasteurized milk rating of 88.0084% compliance with Livestock Sanitary Board regulations. The retail raw dairies have a compliance rating of 84.972%.

Montana licensed milk plants distribute 58,823 gallons of milk and cream daily. Retail raw dairies distribute 850 gallons of milk and cream daily. Three percent of the milk used in Montana is 'raw' milk and 97% used in Montana has the added public health protection of pasteurization.

The individual sanitation compliance ratings of milk plants, milk plant producer dairies and pasteurized milk are shown in Table I and the raw dairies in Table II. The summary of the dairy inspection work for the year is illustrated in Table III.

Table I. Sanitation Compliance Scores (Percent Compliance of Montana Milk Plants, Their Dairy Producers and Their Pasteurized Milk

<u>Milk Plant</u>	<u>Gallons Sold Daily</u>	<u>Plant Score %</u>	<u>Producer's Score %</u>	<u>Pasteurized Milk Rating</u>
1	3,005	98	88	94
2	2,899	81	86	84
3	230	65	81	73
4	496	72	73	73
5	425	79	85	82
7	1,140	87	87	88
8	150	72	89	81
9	55	90	77	84
10	6,352	100	89	95
11	107	77	87	82
12	209	53	57	55
13	15	42	45	44
14	130	52	65	58
15	101	92	77	84
16	4,050	82	88	85
17	47	90	81	86
18	4,300	88	86	87
19	1,450	75	92	84
20	4,130	94	87	91
21	2,330	81	80	81
22	45	91	92	92
23	152	96	86	91
24	200	97	91	94
25	1,845	86	87	87
26	330	91	77	84
28	2,030	93	80	87
29	109	95	98	97
30	1,350	76	83	80
31	1,205	98	87	93



Table I. (Continued)

<u>Milk Plant</u>	<u>Gallons Sold Daily</u>	<u>Plant Score %</u>	<u>Producer's Score %</u>	<u>Pasteurized Milk Rating</u>
32	4,000	97	83	91
33	254	98	96	97
34	232	75	83	80
35	415	90	82	87
36	156	88	94	91
37	467	92	92	92
38	2,530	89	79	84
39	1,685	57	90	74
40	1,200	84	80	82
41	402	83	35	80
42	513	76	81	79
43	116	82	80	81
44	1,874	88	88	88
45	55	82	82	82
46	827	88	82	85
47	5,130	90	92	91
49	20	69	79	74
T O T A L	58,823			

Table II. Sanitation Compliance Scores of Retail Raw Dairies

<u>Dairy</u>	<u>Gallons Sold Daily</u>	<u>Dairy Score %</u>
R- 1	35	100
R- 2	40	87
R- 4	30	85
R- 5	41	82
R- 6	200	92
R- 7	40	87
R- 8	30	65
R-10	30	91
R-11	35	96
R-15	37	86
R-19	70	64
R-20	58	82
R-21	30	81
R-24	15	72
R-25	26	91
R-26	60	81
R-28	36	78
R-29	30	91
R-30	7	100
T O T A L	350	

Table III. Summary of Milk, Dairy and Milk Plant Inspection Work

No. of producer dairies issued licenses	540
No. of retail raw dairies issued licensed	23
No. of milk plants issued licenses	50
No. of dairy inspections	1,572

Table III. (Continued)

No. of milk plant inspections	220
No. of dairies issued degrading orders	33
No. of milk plants issued degrading orders	6
No. of dairy cows tested for tuberculosis	8,835
No. of brucellosis ABR tests	9,366
No. of Q-fever tests (retail raw dairies)	1,968
No. of bacterial counts-milk and cream	4,684
No. of antibiotic detection tests	3,517
No. of chemical analyses-milk and cream	1,100
No. of mastitis bacterial determinations	566

MEAT AND SLAUGHTERHOUSE INSPECTION

Slaughterhouse Inspection - Livestock Sanitary Board licenses were issued to 64 slaughterhouses and 2 meat depots during the fiscal year. A total of 66 slaughterhouse inspections were made.

Meat Inspection - Meat inspection was maintained in 15 slaughtering establishments by the Montana Livestock Sanitary Board. These establishments are:

<u>ESTABLISHMENT NUMBER</u>	<u>NAME</u>	<u>ADDRESS</u>
2	John R. Daily, Inc.	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 Co.	Dillon
18	Mickey's Packing Plant	Great Falls
19	Schumaker's	Butte
21	Rocky Mountain Packing Co.	Havre
22	Miller-Winckler, Inc.	Lewistown
23	Montana State College	Bozeman

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 Co.	Billings
691	Pierce Packing Company	Billings

Forty-five 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>FIFTEEN PLANTS STATE MEAT INSP.</u>	<u>FORTY-FIVE PLANTS WITHOUT MEAT INSP.</u>
Cattle	51,440	36,063	11,697
Calves	80	1,705	219
Swine	209,092	73,169	14,439
Sheep	389	7,505	717
Totals:	261,001	118,442	27,072

A total of 406,515 animals were slaughtered in licensed establishments last year. Of the total, 64.2% were slaughtered in the four plants under federal meat inspection, 29.1% were slaughtered under State meat inspection and 6.7% were slaughtered without meat inspection.

A total of 61 diseases and other conditions were found in the animals slaughtered under State 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 State meat inspection:

<u>NUMBER OF ANIMALS</u>		<u>ESTIMATED DRESSED WEIGHT</u>
96	Cattle	52,800 lbs.
4	Calves	800 "
122	Swine	17,080 "
11	Sheep	517 "
Total:	<u>233</u>	<u>71,197</u> "

In addition to the condemnation of entire carcasses, 46,738 parts on post-mortem inspection were found unfit for human consumption and removed from human food channels. Approximately 207,949 pounds of potentially dangerous meat were condemned in the 15 plants under State meat inspection.

A ten-month meat inspection report of condemnations and diseases found on ante-mortem and post-mortem inspection in the plants under federal meat inspection shows the same rate of finding animals and meat unfit for human consumption as found under State meat inspection. Applying the same rate of condemnations at the plants operating under State and federal meat inspection to the number of animals slaughtered without meat inspection would indicate that approximately 47,358 pounds of meat were sold for human consumption that was unfit or dangerous. This could probably be more because, generally speaking, establishments operating without meat inspection are not as selective in their animal purchases as those operating under meat inspection.

The meat inspection report reveals that one-third of the livers from cattle are condemned. Condemnation because of liver abscesses account for 70% and liver flukes about 20%. This would amount to 24,792 beef livers condemned from the 99,200 cattle slaughtered in Montana last year. Beef livers at 40¢ a pound would show abscessed livers and the liver fluke parasite cost livestockmen and meat packers \$99,168.00 a year on just the cattle slaughtered in Montana. This figure applied to all Montana cattle slaughtered within and out-of-state would imply that liver abscesses and liver flukes cause a million dollar loss annually. We believe this fact warrants attention of the Livestock Sanitary Board, Montana cattle owners, meat packers and the Montana Veterinary Research Laboratory.

The sale of prepared and processed meats is becoming big business. We believe consumers of these prepared and processed meat products are entitled to know the products are made from wholesome, safe meat, prepared under ideal sanitary conditions and bear accurate labels as their true content. There is sufficient evidence to indicate that processed meat products are not always made from wholesome meat, are not always made under sanitary conditions, are not always processed to destroy Trichina, and are receptively or fraudulently labelled or bear no labels whatsoever. Montana has adequate meat inspection laws and under the provisions of these laws the Livestock Sanitary Board in 1944 promulgated meat products inspection and labelling regulations. It is with regret that I must again report to the Board, that funds were not appropriated to carry out the meat processing and labelling inspection for the

coming biennium. We do recommend that this work be done to help protect the health of Montana people and prevent fraud and deception.

The detailed report of diseases found, animals inspected and condemned on meat inspection is shown on the next page.

SUMMARY OF POST-MORTEM INSPECTION

SPECIES	CATTLE	SWINE	CALVES	SHEEP
Food	35,966½	73,047	1,701	7,494
Cooking				
Condemned	96½	122	4	11
Total:	36,063	73,169	1,705	7,505

DISPOSITION OF CARCASSES & PARTS

<u>DIAGNOSIS</u>	<u>Cattle</u>		<u>Swine</u>		<u>Calves</u>		<u>Sheep</u>	
	<u>Cond.</u>	<u>Parts Cond.</u>	<u>Cond.</u>	<u>Parts Cond.</u>	<u>Cond.</u>	<u>Parts Cond.</u>	<u>Cond.</u>	<u>Parts Cond.</u>
Abscesses	4½	665	17	2682			4	147
Actinomycosis		469						
Adhesions		5		6				
Arthritis		1	8	29				
Ascites	1		1					
Asthma	1							
Big brisket	2							
Bruises, injuries, etc.	3	209	1	133	1			2
Cachexia	14		4		1		3	1
Cancer	1							
Cas. lymphadenitis							2	208
Contamination		54		481				8
<u>Cysticercus bovis</u>	4							
<u>Cysticercus tenuicollis</u>				9				73
Edema	1							
Enteritis			10					
Epithelioma	12	165	3	80				
Erysipelas			7					
Gut edema			3					
Hematoma, infected	1							
Hepatitis	1							
Hydrocephalis					1	1		
Hydronephrosis			1	50				
Icterus			15				1	
Jaundice			1					
Keratitis		1						
Leptospirosis			1					
Livers, misc. lesions				26498				823
Lymphoma, malignant	1							
Mammitis	1							
Mastitis	2							
Mesenteric emphysema			1					
Metritis	4		1					
Metritis, septic	2							
Osteoma	1							
Parasitism								693
Pericarditis	3	58	1	696				
Peritonitis	3	1	2					
Pneumonia	7	4	18	2	1			
Polyarthritis	1							
Polyarthritis, purulent			2					
Prolapsed rectum							1	
Pyelonephritis	4	1						

DIAGNOSIS:

	Cattle		Swine		Calves		Sheep	
	Cond.	Parts Cond.	Cond.	Parts Cond.	Cond.	Parts Cond.	Cond.	Parts Cond.
Pyemia	1		2					
Pyometra	1							
Reticulitis, Tr.	1							
Septicemia	8		15					
Sex odor			2					
Sour	1							
Submaxillary phlegmon	1							
Suffocation			4					
Toxemia	1							
Tuberculosis		2	2	2129				
Tumor, malignant	1							
Uremia	4							
Urolithiasis	3							
Totals:	96½	1635	122	32795	4	1	11	1955

BEEF LIVERS CONDEMNED:

Abscesses	7,340
Cirrhosis	92
Telangiectasis	149
Sawdust	329
Carotensis	4
Distomiasis	2,006
Contamination	16
Miscellaneous	416
	<u>10,352</u>

### RENDERING PLANTS

Eleven rendering plants were issued licenses by the Livestock Sanitary Board during the year.

Rendering plants perform a very important service to the areas they serve. If these services are not performed in a manner that heeds the basic concepts of sanitation and disease control, they can become a definite detriment to livestock and human health. It is our opinion and recommendation that more rigid enforcement of Livestock Sanitary Board regulations pertaining to rendering plants must be carried out.

### SWINE GARBAGE FEEDING

Twenty garbage-feeding establishments were licensed during the year.

There can be no doubt that the garbage-cooking law enacted in Montana has had many beneficial effects. Hog cholera and vesicular exanthema are no longer problems. We are certain the trichinosis danger to man has been greatly reduced.

With the cooperation of the United States Department of Agriculture, Agricultural Research Service Animal Disease Eradication Division, 349 inspections of garbage-feeding establishments were made during the year to enforce the garbage-feeding law and regulations.

### ARTIFICIAL INSEMINATION

There was again a marked increase in artificial inseminators' licenses issued this year. A total of 86 were issued or renewed as compared with 45 last year and 22 the year before.

We wish again to thank the staff of Montana State College who so ably assist the Livestock Sanitary Board in carrying out the law for licensing artificial inseminators by conducting a short course and examination to determine the qualifications of the license applicants.

### QUARANTINED FEED LOTS

Six quarantined feed lots were maintained in accordance with Livestock Sanitary Board regulations during the year. We hope it will be possible to discontinue approved quarantine feed lots as the volume of brucellosis-infected cattle becomes less and less.

### LITIGATION

There was no litigation instituted during the fiscal year. We believe that this indicates the soundness of the laws and regulations of the Livestock Sanitary Board, especially when the volume of regulatory work done under these laws and regulations during the year is considered.



## REGULATIONS

The following regulations were adopted during the year:

Chapter 35 - Poultry Slaughterhouse, Poultry Meat Packing House, and Poultry Meat Depot; Sanitary Requirements

Chapter 36 - Carcasses and Parts of Carcasses of Poultry Intended for Sale as Human Food

The following regulations were revised during the year:

Regulation 2602 - Surface areas of public livestock markets that must be concrete.

Regulation 1007 - Hogs sold from public livestock markets must be vaccinated.

Regulation 1522 - Health requirements for swine imported into Montana.

Regulation 420 - Individual tuberculosis accredited herd plan.

Regulation 421 - Tuberculosis modified accredited area plan.

Regulation 1520 - Health requirements for poultry imported into Montana.

## ORDERS ISSUED

The following orders were issued during the year:

Order 99 - Importation of calves under eight weeks of age.

Order 200 - Declaring Powder River County a brucellosis disease control area.

Order 201 - Declaring Custer County a brucellosis disease control area.

## PERSONNEL

During the fiscal year four positions remained vacant, as they have for most of the biennium. One position was for a qualified veterinarian on the laboratory staff, another for an experienced and qualified veterinarian to fill a district deputy state veterinarian's position and two veterinary meat inspector positions. There were periods when dairy and milk sanitarians' positions were not filled. The result was that monies to be used for salaries and expense of these positions were not utilized and reverted to the general fund.

The competition for competent men with specialized scientific training and experience is keen throughout the Nation. Positions requiring specialized, scientific, veterinary skills remain vacant in private industry, educational institutions and their research staffs, and in both state and federal government. We believe the salary increases granted during the fiscal year for these positions may prove helpful, but they will not be the answer until sufficient young people in the United States become willing to put in the long arduous years of scientific education and training required to meet the demands of these positions.

With the reduction of twelve districts to six districts a few years ago, vacancies of any district position for any length of time leave the Livestock Sanitary Board with a weak and vulnerable field staff. With increased demands placed on the diagnostic laboratory, a vacancy existing among the three key staff members is most serious. With these vacancies existing we were able to just get by overall, because, fortunately, we had no serious disease outbreak and because private practicing veterinarians have been most helpful in meeting small crises and in fulfilling some of the routine work.

I am most convinced that we just cannot afford to risk the health and welfare of our most important industry by not having a qualified minimum staff. Nor do I believe we can afford to slight the animal disease-control work, and the milk and meat inspection work for the same reason at the risk of the health and lives of Montana people. I know the Board members are cognizant of this, our most serious problem during the year, but the answers will have to be found.

#### LIVESTOCK SANITARY BOARD STAFF

It is a privilege for me to recommend to the Livestock Sanitary Board that they commend the entire full-time staff--in the districts, at the laboratory, at the packing plants, in the Helena office and the many practicing veterinarians who so willingly help as deputy state veterinarians--in their all-out efforts to control animal diseases and protect public health in Montana. I hope this report properly reflects the scope of their combined activities and vast amount of good work accomplished by so few. They are dedicated to public service.

### 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 was 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 Wool Growers Association
10. Montana milk distributors
11. Montana milk producers
12. Montana hatcherymen

FINANCIAL STATEMENT

July 1, 1962, through June 30, 1963

FUNDS AVAILABLE

General Fund Appropriations

Salary of Department Head	\$ 10,000.00
Operation Cash Balance 6-30-62	1,167.47
Operation	117,241.00
Meat Inspection Cash Balance 6-30-62	6,924.05
Meat Inspection	60,000.00
Capital Cash Balance 6-30-62	601.00
Capital	3,000.00

Refunds

Operation	4.95
Meat Inspection	99.00

Salaries & Expenses

Encumbered Funds from 6-30-62	<u>33.02</u>
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Total \$199,070.49

Livestock Sanitary Board - Fund 151

Cash Balance 6-30-62 (Including 302-1 & 302-2)	\$100,297.23
*Livestock Taxes	109,389.69
U. S. Govt. Bonds Redeemed (Prin. & Int.)	46,317.00
Refunds (302-1)	762.62
Refunds (302-2)	15.78
Collections	<u>1,204.70</u>

Total 257,987.02

Total All Funds Available \$457,057.51

EXPENDITURES

General Fund

Salary of Department Head	\$ 10,000.00
Operation	19,060.88
Meat Inspection	57,560.00
Capital	3,582.59
Salaries & Expenses (Returned to General Fund)	<u>33.02</u>

Total \$ 90,236.49

Livestock Sanitary Board - Fund 151

Operation (302-1)	\$212,947.20
Brucellosis Control (302-2)	19,731.72
Diagnostic Laboratory Building (Fund 151)	<u>7,653.34</u>

Total 240,332.26

Total All Expenditures \$330,568.75

BALANCES 6-30-63

General Fund (Reverts to General Fund)	\$108,834.00
Livestock Sanitary Board Fund (Forwarded to 1963/64)	<u>17,654.76</u>
Total	<u>\$126,488.76</u>

1962-1963 Appropriation from Livestock Sanitary Board Fund 151

Operation (Fund 302-1)	\$170,070.00
Brucellosis Control (Fund 302-2)	<u>20,000.00</u>
Total	<u>\$190,070.00</u>

Reserve in U. S. Government Bonds - Fund 151 \$ 30,000.00

\*\*Reserve in U. S. Government Bonds - Fund 150 (Including Int.) 82,941.50

Total Reserve Funds \$112,941.50

\*\*\*License Fees Collected \$ 2,200.00

\*3 mills on cattle and sheep

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

\*\*\*Submitted to the State of Montana - General Fund

SUMMARY OF MAJOR ACTIVITIES DURING THE FISCAL YEAR


Dairy and Milk Plant inspections	1,792
Slaughterhouse Inspections	66
Rendering Plant Inspections	14
Cattle Tested for Brucellosis	107,404
Cattle Backtagged	100,390
Cattle Tested for Tuberculosis	22,886
Ante-mortem and Post-mortem - Meat Inspection	118,442
Animals Inspected at Livestock Markets	1,009,186
Animals Inspected for Interstate Shipment	1,247,968
Sheep Inspected for Bluetongue	174,500
Miscellaneous Animal Inspections	760,693
Quarantined Feedlot Inspections	6
Pullorum-typhoid Tests	57,004
Laboratory Tests	85,475
Chemical Analyses	3,222

TOTAL TESTS, ANALYSES AND INSPECTIONS 3,689,048

Licenses issued:

Dairies and milk plants	613
Slaughterhouses	64
Rendering Plants	11
Garbage-cooking Establishments	20
Artificial Inseminators	<u>86</u>
T O T A L	844

Respectfully submitted

  
J. W. SAFFORD  
State Veterinarian

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