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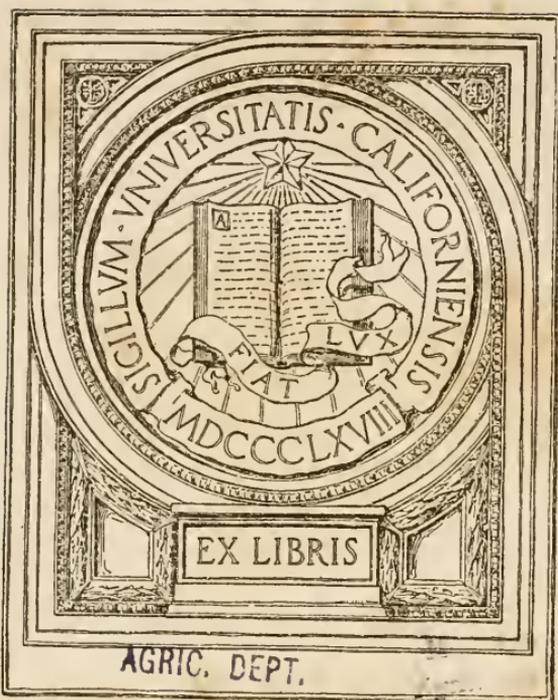
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BOARD OF AGRICULTURE
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DISCRIPTION
OF CERTAIN DISEASES
OF ANIMALS

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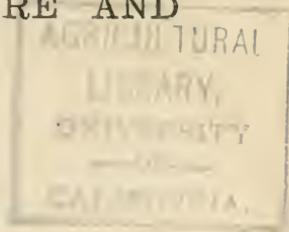
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DISEASES OF ANIMALS ACTS,
1894 TO 1911.

DESCRIPTION
OF
CERTAIN DISEASES OF ANIMALS.

1st September, 1912.



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BOARD OF AGRICULTURE AND FISHERIES.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

DESCRIPTION OF CERTAIN DISEASES OF ANIMALS.

The following description of the diseases which are at present (1st September, 1912) the subject of administrative action by the Board has been prepared by the Veterinary Officers of the Board with the view of assisting Inspectors, as well as stock owners, in Great Britain, to detect those diseases.

ANTHRAX.

Definition.—A contagious disease caused by a microbe—*Bacillus Anthracis*.

Animals affected.—Human beings and all animals are liable to Anthrax. The disease is seen chiefly in cattle, pigs, and sheep, but not uncommonly in horses.

Symptoms.—The disease shows itself suddenly. It is very fatal, usually within 48 hours. It does not often in the United Kingdom spread with rapidity from animal to animal, but it may affect a number of swine at the same time if they have been fed on Anthrax flesh or organs.

A beast which a short time before appeared to be well is found dead or in a dying condition. Frequently blood oozes from the nostrils and the anus. In cattle there are no typical symptoms, but in horses and pigs the region of the throat is often found to be swollen.

Post-mortem.—The carcase is swollen. Blood is found around the nostrils and anus. The muscles are often infiltrated with blood at certain points. The lungs and glands are congested. The spleen is very much enlarged; it is softer and darker than normal, and its substance usually resembles tar.

In most parts of this country the enlargement of the spleen is of great diagnostic importance, but in those districts where Redwater exists, enlargement of the spleen may also be expected. In this case, however, the spleen substance has not the same fluid tarry appearance. The flesh is dangerous to animals and human beings. It is the height of folly on the part of a farmer to open an animal suspected to have died of Anthrax, as he may thereby cause further infection of his premises. In cases of sudden death he should await a skilled opinion before disposing of the carcase.

older nodules are hard and shot-like to the touch; some of them are gritty—calcification. The number of nodules in a lung varies from one or two to hundreds. The donkey suffers from an acute form of Glanders, in which the lungs are inflamed over a large surface. The tissue is solid, and on section the surface of the lung has a greyish red colour.

EPIZOOTIC LYMPHANGITIS.

Definition.—A contagious and eruptive disease caused by the *Cryptococcus Farciminosus*.

Animals affected.—Horses and mules. The ox is susceptible, but seldom takes the disease under natural conditions.

Symptoms.—The eruption appears on the legs, the neck, the head, or any part of the body. Usually it starts near a wound through which the microbe has entered the tissues, but the ulcers often do not appear for months after the wound has healed. The lymph vessels in the skin stand out prominently, and small hard nodules about the size of a hazel-nut appear on their course. These nodules suppurate and discharge a thick yellowish pus. Proud flesh grows from the wounds, the lymph vessels around become inflamed, and the eruption gradually extends. A thick yellow scab may form over a patch of ulcers. The neighbouring glands are swollen and hard. The ulcers heal with difficulty, even under treatment, and they may break out again after an apparent cure has been effected.

The ulcers may appear inside the nostrils, but this is not so common as in the case of Glanders. In Epizootic Lymphangitis the glands under the jaw may also be enlarged, as in the former disease, and a discharge may appear at one or both nostrils. If taken in the early stages this disease is curable, but after an advanced stage is reached, treatment is hopeless. In the latter case the animals emaciate, and may die of exhaustion.

This disease is distinguished from Farcy (Glanders) by the presence of the *Cryptococcus* in the pus, and failure of the mallein test to produce a reaction. Both Glanders and Epizootic Lymphangitis may be present in the same animal.

Post-mortem.—On post-mortem examination one usually sees little beyond what is seen during life, but occasionally abscesses are found in the internal organs.

MANGE IN HORSES, ASSES, AND MULES.

Definition.—The same definition may be applied here as in Scab of sheep. The disease is the same, except that it is caused by different varieties of acari.

Sarcoptic and Psoroptic Mange in horses and mules often begin on those parts of the body to which the harness is applied, but they extend to other parts if neglected.

Symptoms.—Sarcoptic Mange is the more serious, as it does not yield readily to treatment. The animals rub themselves, and express satisfaction by moving the lips when scratched. Pimples and scabs appear at the seat of the disease, and the hair gets rubbed off. In neglected cases the skin becomes hard and folded, the animals emaciate, and they may die of exhaustion.

Symbiotic Mange appears at the root of the tail and on the lower part of the limbs. The symptoms are not severe, but the animals suffer a good deal of irritation, which they express by rubbing the tail and stamping the feet. Sometimes they seriously injure the coronets by tramping on the itching part.

PLEURO-PNEUMONIA.

Definition.—A contagious disease affecting the lungs and pleura, and due to an infective agent.

Animals affected.—Bovine animals.

Symptoms.—The first signs of disease often escape notice. The temperature rises. A dry, husky cough is present, especially when the animal first gets on its feet or when made to run. In marked cases the breathing is rapid, and the movement of the flanks is increased. If punched in the ribs, the animal may grunt or show signs of pain. Some of the affected animals may become greatly emaciated, but others, especially those which have passed the acute stages, may appear to be in excellent condition. It does not follow, however, that the latter are cured; they continue to infect others for a very long time.

Post-mortem.—The chest cavity often contains a yellow fluid. The lungs may be fixed to the ribs by a thick yellowish membrane.

The lungs are very solid in parts, and the surface is often yellow. The cut section is marbled in red and yellow. The septa (or fibrous tissue lines) are very broad, and a yellow fluid exudes from the cut surface. In old cases a grey area

of soft dead tissue is often present in the lung, and this may be surrounded by new fibrous tissue. Sometimes abscesses are found. The flesh may be quite good and fit for food if the animal has been slaughtered. In the acute stages, however, and in emaciated animals, it is watery, of poor quality, and should not be eaten.

RABIES.

Definition.—An inoculable disease caused by a still undiscovered agent.

Animals affected.—All animals, including human beings, may suffer from Rabies if the virulent material be inoculated, but it is chiefly by the dog that the disease is spread. In human beings the disease is called Hydrophobia.

Symptoms.—The disease is characterised in the earlier stages by maniacal symptoms, and later by paralysis.

A dog is observed to change his former habits. He is restless, and often seeks dark corners, or wanders away from his home in an aimless way. He will sometimes snap at persons, other animals and inanimate objects (furious Rabies). He may also foam at the mouth. He will tear up and swallow such articles as wood and cloth; in fact it sometimes happens that attention is drawn to his condition by the lodgment of a sharp object in his throat.

The voice becomes altered to what might be described as a weird howl.

In the later stages paralysis sets in (dumb Rabies), which first affects the lower jaw, but may ultimately show itself in the limbs. The jaw drops, and saliva, which the dog is unable to swallow, trickles from the mouth.

Persons are sometimes inoculated by getting the saliva on the fingers and unwittingly rubbing it into the eyes or scratches.

It should be noted that the saliva has been found virulent in experimentally inoculated animals three days before the appearance of even the premonitory symptoms.

Post-mortem.—The post-mortem appearances are not constant. For this reason the head of a suspected dog should be immediately sent to a pathologist or to the Board's Laboratory, so that inoculations may be made with the brain substance.

The principal changes observed are congestion of the membrane of the throat, and a similar condition in various parts of the stomach and bowel. The stomach may be quite empty except for a variable quantity of blood-stained mucus. If, however, the dog has been killed in the earlier stages the stomach may contain a mass of foreign material such as wool, hair, wood, coal, &c.

SHEEP-POX.

Definition.—A contagious eruptive fever caused by an agent which is as yet undiscovered.

Animals affected.—Only sheep are liable to contract this disease. The possibility of its being re-introduced is remote, because — although an inoculable disease — it has never appeared in this country otherwise than by the importation of diseased living animals, and the Orders of the Board prohibit the landing in Great Britain of sheep from those countries in which Sheep-Pox exists. It might, however, arise from the importation of virus.

Symptoms.—Sometimes the disease runs a very rapid course, which ends fatally in a few days. This form of the disease is seen mostly in lambs. The chief symptoms are those of fever, intoxication, and paralysis. An eruption in the form of red spots appears on the membranes of the eyes and nose, and on the hairless parts of the skin.

In older sheep the disease begins by signs of serious ill-health. The temperature is high, and the appetite is suppressed. An eruption appears on the mucous membranes of the nose, eyes, and mouth, and on the hairless parts of the skin—inside the thighs and elbows, under the belly, on the scrotum and udder. The eruption may, however, appear also on the parts of the body covered by wool. On the hairless regions it shows itself first in the form of small pimples, which may grow to the size of a sixpenny-piece, or even larger. The larger pimples are flattened on the surface, and the skin around the base is reddened. A thick reddish-yellow discharge oozes from the pimples, and forms a yellow crust on the surface. Pregnant ewes often abort.

Post-mortem.—One finds the above-described eruption on the skin. The membrane of the throat is inflamed, and sometimes ulcerated. The covering membrane of the lungs shows red spots on its surface.

Solid grey patches are often found in the lung substance. The cavities of the chest, heart sac, and abdomen contain a reddish coloured fluid. The intestinal membrane is sometimes inflamed in patches.

The kidneys often show grey patches under the capsule.

SHEEP-SCAB.

Definition.—A disease of the skin caused by certain members of a class of small insects known as acari.

Animals affected.—Scab is popularly known in animals other than sheep as Mange. The parasites which cause Mange belong to the same family as those which cause Scab, but they are a different variety. In sheep three forms of Scab are met with. Psoroptic Scab, due to the "*Psoroptis Communis*" is the most common form found in sheep. Sarcoptic Scab or Mange, due to the "*Sarcoptes Scabei var. ovis*," occurs in sheep, but it is rare.

Symbiotic (Scab) Mange is also known.

The Sarcoptic parasites will live on other animals and on human beings. They cause severe symptoms; the other parasites only live on man for a few days, causing temporary irritation.

Symptoms.—Psoroptic Scab begins on the less woolly or hairy parts, but it soon spreads to other parts of the body. The first symptoms appear in about three weeks after infection. During the cold weather, however, the incubation period may be longer, as the eggs hatch out more slowly, and the symptoms in the latter case are not so marked. Still, it is a fact that in this country a greater number of Scab cases occur in the cold season, possibly because less dipping takes place and the sheep are more crowded together for warmth. The animals rub themselves against fixed objects and show signs of satisfaction when scratched with the hand. If the wool be parted, the skin underneath is seen to be red in patches. Small pimples, from which a thick fluid exudes, are found on the skin. This fluid coagulates, and forms scabs which agglutinate the wool. The constant biting at the skin and rubbing against fixed objects cause the wool to drop off, and give rise to extensive sores. If the animals are not treated, they become emaciated, and many of them die of exhaustion.

Sarcoptic Scab in sheep appears on the head and ears. Sometimes it is seen on the tails of large-tailed sheep. It gives rise to a formation of thick yellow crusts. Symbiotic Mange appears usually at the lower parts of the limbs—about the pasterns and coronets—and at the base of the tail. The symptoms are not severe, but the animals rub their legs and tails, and the wool becomes broken.

If a scraping be taken from the diseased patches and placed in the sun the moving parasites can often be seen with a magnifying glass.

SWINE-FEVER.

Definition.—A contagious eruptive disease caused by a specific virus.

Animals affected.—Swine.

Symptoms.—The disease may come on rapidly, especially in young pigs. This is the acute form, which generally ends fatally in about three days. The symptoms are less definite than in chronic cases. The temperature is high—103° Fahr., or even higher. The breathing is quick; the pigs seem to have lost control over their hindquarters, and stagger if made to walk. A red rash appears on the skin at the base of the tail, under the belly, inside the thighs, and on the ears.

Usually the symptoms come on more slowly. The pigs appear to be dull; they lie under cover and are disinclined to move. The appetite is lost; frequently the animals vomit. Constipation, followed by diarrhœa with blood-stained fæces, is often observed. A mucous discharge may be present around the eyes. Red patches, which later on assume a violet tinge, are observed at the base of the tail, inside the thighs and hocks, under the belly, and on the ears. The temperature is high—104° to 106° Fahr.

The pigs can be roused only with difficulty, and when made to move they stagger about as if inebriated. Very frequently lung symptoms are present. In this case the sick animals suffer from a short cough, and the breathing is very laboured. The lung symptoms are not necessarily due directly to Swine-Fever, but they frequently accompany it and one must always be suspicious if a number of pigs show signs of lung trouble. The animals die in from one week to three. They may, however, recover, or drag on for two months or more in an emaciated condition. In countries where the disease has been long established an infected animal sometimes appears to be in normal health.

Post-mortem.—The carcase is generally emaciated. The discoloured patches on the skin have a livid hue, but this is also seen in other diseases of swine.

In acute cases followed by rapid death, the changes are not characteristic, but one's suspicions should be aroused if a number of swine become sick about the same time. In the more chronic cases the most characteristic change—ulceration—is found in the alimentary tract. The ulcers may be present on the tongue, the stomach, or any part of the bowel, but in most cases they are confined to the more posterior portions of the latter, particularly around the junction of the ileum with the cæcum.

The most typical ulcer is about the size of a threepenny-piece. Its edges are circular, and raised above the membrane. The centre of the ulcer is soft, and often yellow or black in colour. The other parts of the bowel may be inflamed, and often the inner surface is covered by a yellowish deposit. Two loops of bowels may have grown together.

The lungs are very often, though not always, solid in patches, and fluid may be present in the chest. The glands are very red in colour in the more acute cases.



Board of Agriculture and Fisheries,
4, Whitehall Place,
London, S.W.

1st September, 1912.

TUBERCULOSIS.

Definition.—A contagious disease caused by a microbe—the bacillus tuberculosis.

Animals affected.—Human beings and most species of mammals and birds are liable to tuberculosis. Amongst the domesticated animals cattle, particularly dairy cows, and swine are most frequently affected; sheep very rarely.

Symptoms.—Sometimes not characteristic, the disease being often of a mild chronic nature. In advanced cases there is usually emaciation, when the lungs are affected there may be a chronic cough with disturbance of the respiratory function. In cows lesions in connection with the udder are sometimes present. The udder, usually in one of the posterior quarters, becomes the seat of a hard swelling of slow but steadily progressive growth—the swelling is usually almost painless.

The milk from the affected quarter at first appears normal, then becomes thin and watery, and later becomes flaked. Microscopic examination of milk from the diseased quarter shows the presence of tubercle bacilli.

During life the existence of the disease may be detected by means of the tuberculin test.

Post-mortem.—The characteristic lesion caused by the tubercle bacillus is a particular form of degeneration called caseation. The tissue affected becomes converted into a cheesy mass. Nodules of varying size may be present in the lungs, liver, kidneys, in lymphatic glands in various parts of the body, in the uterus, udder, pleura, peritoneum, membranes of the brain, etc.

Board of Agriculture and Fisheries,
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