

DEPARTMENT OF AGRICULTURE

OTTAWA

HEALTH OF ANIMALS

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MALADIE DU COIT

BY

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MALADIE DU COIT.

This disease which has long been known in the old world was introduced to this continent in 1882 by a Percheron stallion imported from France, and used for service in Illinois. Unfortunately the nature of the affection was not discovered until several years had elapsed, during which period a considerable number of stallions and mares had become infected. Some of these infected animals were removed from the district before quarantine was imposed, with the result that a number of disease centres have been established in various parts of the United States. The large influx of American horses is undoubtedly responsible for the introduction of this loathsome malady to western Canada, where its existence was first reported from the Lethbridge district in March, 1904.

Since that time active measures have been adopted for its repression, but owing to the nature of the malady and the loose conditions under which horses are handled in the range country, it is a matter of great difficulty to deal with it effectually. A copy of the regulations now in force is printed herewith, and the hearty co-operation of horse owners in enforcing the same is earnestly solicited. Compensation on a most liberal scale, when the intrinsic value of a diseased animal is considered, is paid for all animals slaughtered by order of an authorized inspector, except when the owner has been guilty of an infraction of the Animal Contagious Diseases Act, or of the regulations passed under the authority of the said Act.

Maladie du Coit, wherever it exists, paralyzes horse-breeding operations and ruins those engaged in the horse-breeding industry. It is, therefore, the plain duty of all interested in horses or horse-breeding to second in every possible way the efforts of the inspectors of this department to stamp it out wherever found. As its eradication is a matter of public and not private interest, every breeder is urged to report immediately any suspicious case of the existence of which he may become aware, whether among his own animals or those of others.

Maladie du Coit (Dourine) is a malignant, insidious, incurable disease peculiar to the horse, supposed to be due to the entrance into the system of a micro-organism, known as the *Trypanosoma Equiperdum*.

This disease, as its name implies, is essentially one of coition, being transmitted during the act of service, from stallion to mare, and vice versa. Some authorities report however, that they have succeeded in inducing it, by experimental inoculation, in the horse and in several other animals of different species.

The symptoms, as in other contagious diseases, differ considerably according to the susceptibility of the animal, the nature of its surroundings, and the vitality of the virus. Some cases, therefore, are acute, the various stages of the disease following each other rapidly, and these generally reach a fatal termination within a very short time. Unfortunately, however, this is rarely the case, the disease generally following a chronic, insidious and semi-latent course, making it, in view of the constant danger of infection, a most serious menace to the horse-breeding industry.

In reading the following description of the symptoms as presented in the three stages of the malady, it will be well to bear in mind the great liability to variation, such as the appearance of characteristic symptoms in one animal, and their total, or partial, absence in another. The stages are not ushered in uniformly, neither are they of regular duration, as in many cases almost all evidence of disease will occasionally disappear for a time, only to recur later and with renewed virulence.

The duration of the disease varies, and may extend from a month to several years, the average time, however, being about eighteen months. After copulation with an infected animal, the germ, having been transmitted during this act, commences to multiply rapidly or tardily, according to its vitality, the susceptibility of the infected

individual and the favourable or unfavourable condition of its surroundings in the generative organs. This constitutes the incubative period, which may last from one to two weeks or much longer.

THE PRIMARY STAGE is ushered in after the germs have developed sufficient activity to produce irritation in the adjacent tissues, whether observable or not. In the stallion the mucous membrane of the urethral canal (passage through which urine is voided) exhibits the first sign of irritation; its external opening at the end of the penis (*Meatus Urinarius*) assumes a bright red colour, accompanied by swelling, which may cause it to bulge out prominently, followed by a discharge, at first almost imperceptible, but increasing in quantity as the disease progresses.

The above mentioned symptoms are often very meagre, and frequently overlooked, especially so with the unsuspecting. During this period, however, the stallion is a positive infective agent, his desire for serving mares being greatly increased and his ability to perform this function not seriously impaired.

The possibility of widespread infection, if such a case is not detected and immediately placed under restraint, can be readily appreciated.

As the disease advances the irritation of the generative organs increase, frequent erections of the penis follow, this organ often attaining unusual proportions, and occasionally swelling to such an extent as to prevent its complete return to the sheath. Urination is performed often and incompletely, the urine being mixed with a mucous discharge varying in quantity, and the act is often accompanied by switching of the tail or stamping of the feet, due to the irritable condition of the parts.

Red spots may appear on the penis and adjacent parts; these may disappear rapidly with a tendency to return, or they may increase in virulence, forming discharging sores.

White spots, due to loss of pigment (colouring matter of the skin), may indicate previous eruptions on the penis, sheath and surrounding tissues. This condition is often well marked, in some cases the spots forming large patches, which may involve the major portion of the penis, changing it to a dirty yellowish white, rough and unhealthy looking organ, while in others, they are only slightly perceptible or altogether absent.

A gradual swelling of the sheath becomes noticeable, and is frequently the first symptom observed; this swelling often involves the scrotum and testicles, and may extend to the abdomen and limbs. The character of the swelling is generally cold, doughy and passive, and it may obstinately persist, disappear rapidly, remain absent, or return frequently. Occasionally it is hot, tender and painful and shows a tendency to the formation of vesicles and erosions of the tissues, accompanied by a purulent discharge.

The penis, in many cases, becomes protruded from the sheath continually, the animal being unable to retract it, owing to the loss of such power, or to the excessive amount of swelling present. The appetite still remains unimpaired, and no serious constitutional disturbances are yet observable.

In the mare the symptoms are somewhat similar, differing only in accordance with the anatomical and physiological structures of the generative organs. The same variable incubative period follows infection as in the male. The preliminary symptoms are also of a very imperfect type, and difficult to detect, unless suspicions have been previously aroused. They are most frequently insidious, and consequently very dangerous, necessitating, as in the stallion, every precaution, where the slightest cause for suspicion exists.

On close observation, however, a discharge may be noticed from the vulva (external opening), the mucous membrane lining it and the vagina (canal from external opening to the womb) gradually assumes a discoloured, thickened and rough appearance, giving evidence of increasing irritation and the consequent inflammatory results. Red spots may make their appearance on the vaginal membrane, and when present, are especially noticeable in the region of the already thickened and erect clitoris (the part commonly

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exposed by mares in season), a condition of this organ which, to a greater or less extent, is persistently present throughout the course of the disease.

An abnormal sexual desire is intermittently present, the mare, at intervals, continually exposing the clitoris. Urine, mixed with mucous, is frequently voided in jets. This causes increased irritation, followed by stretching, stamping the feet, and switching the tail. An extremely irritable condition has been observed accompanying these symptoms, the animal rubbing itself violently against any object.

The discharge from the vulva becomes sticky and irritating, adhering to adjacent parts and scalding the contact tissues. The discharge may increase or decrease in quantity, and become more purulent as the disease advances. Local swellings appear, as in the stallion, at any stage of the disease, and may also, in the mare, be the first noticeable symptom; these frequently affecting one side of the vulva and may extend to the other, or spreading rapidly, involve the mammary glands, abdomen and limbs, or they may confine themselves persistently to more limited areas, often giving the vulva a puckered and deformed appearance.

As in the stallion, these swellings may persist, disappear suddenly, remain absent, or recur frequently. They are generally of a doughy consistency, cold and painless, but occasionally appear in an acute form, with heat and pain present, accompanied by a tendency to the formation of vesicles, followed by erosion and discharge.

As the disease advances, the lining membranes of the vulva and vagina assume a yellowish colour, the clitoris distinctly presenting a white or yellowish, and slightly corrugated appearance. White spots appear in the locations of previous vesicles, which vary considerably from small indefinite ones to most decided and marked patches. Constitutional symptoms may not appear for weeks, and often months, and in some cases not until the local symptoms have been absent for some time, the animal still maintaining a good appetite.

THE SECONDARY STAGE is the result of the migration of the micro-organisms with their accompanying toxins, into the general system, which may occur from one to three months after infection, but differs largely in individuals. The disease now commences to mark its progress in no uncertain manner, and it is at this stage that the inexperienced realize that there is something seriously wrong. One or more, or all symptoms become aggravated, constitutional symptoms supervene, the condition of the skin and hair becomes dry and harsh, the rounded form disappears and the outlines of the ribs, haunches and spine gradually gain prominence, the eye takes on a dull, expressionless stare, the ears lop over, the lips often hang pendulous, the eyelids droop, owing to partial paralysis of the nerves supplying the parts, and a general marked unthrifty appearance presents itself.

In the stallion the appetite may be capricious, but is rarely impaired, languor and dullness replace his former vigour, occasional trembling may be noticed over the surface of the body, especially so when other horses are approaching. Although stupid, and apparently not interested in his surroundings, he frequently neighs persistently.

The swellings, when present, become hard and chronic, the testicles either enlarged (this condition being due to the thickening of the membranes enveloping the organs, and not the testicular substance proper) or atrophied, either hanging abnormally pendulous or lying close up to the abdomen.

The infection may now show its presence along the course of the lymphatics, by the formation of ulcers in the various glands, which may discharge a purulent fluid, or, on the other hand, a marked swelling and thickening of the glands may exist including the sub-maxillary under the lower jaw.

Rather peculiar, but characteristic elevations make their appearance at irregular intervals during this stage of the disease, and have been called, very appropriately, 'plaques.' They vary largely in dimensions and may appear rapidly, disappear as quickly, show a tendency to persist, remain absent, or break out in other localities. They are, in the majority of cases, neither hot nor painful, but occasionally may assume an irritable aspect.

Plaques may appear singly, or in groups, and are seen most frequently in the region of the croup, abdomen, chest, shoulders and neck, and are better described as flat elevations, raising up the skin, with defined edges, in some cases quite prominent, in others only perceptible by taking a position alongside, in front of, or behind the animal, and viewing the outline of the body. Marked alterations in the animal's gait soon become apparent, when standing he maintains his position imperfectly, moves his weight from one limb to another, keeping one limb in a semi-flexed position, and often raising it from the ground. When walking, knuckling over, or the dragging of a hind limb are often distinctly noticeable. Upon trotting, a stilty, jerky and swaying motion is quite apparent, the animal often falling down unexpectedly, showing a general inability to control his movements. He now prefers a lying posture, and when rising, manifests difficulty, and exhibits evidence of pain in doing so.

The stallion is unable to cover, the erections of the penis being feeble and incomplete, and his inability to handle himself well marked.

In the mare, the same constitutional symptoms prominently develop. The local swellings also assume a hard and chronic form, giving the vulva a distorted appearance. They may also occur on each side of, or below the vulva, which at this stage, often remains partially open at its lower extremity, due to the chronic thickening of the clitoris. The mucous membrane of the vagina presents a dirty yellowish, rough appearance, the discharge, when present, acquiring a more purulent nature, and irritating the adjacent parts. Plaques may make their appearance in the same manner as in the stallion, and in the same irregular way.

The infection of the lymphatic system also shows the same inclination as in the male, causing enlarged glands, or suppurating sores. Marked depression and stupidity intervene, with the same inability to control movements, the lying posture being favoured.

THE TERTIARY STAGE in both sexes is marked by extreme depletion of the system, the progression of the disease having produced secondary lesions of a grave nature in the more important organs of the body. The senses become more and more blunted, the discharge from ulcers and generative organs may be profuse, in some cases there is a catarrhal discharge from the nostrils, sometimes accompanied by an inflammatory condition of the eyes.

The patient, at this stage, has difficulty in maintaining a standing posture, generally requiring support. When moving, it sways from side to side and stubs the toes. The knees and pasterns finally give way, the animal falls and is unable to rise again. General paralysis, pneumonia, or other results of septic infection intervene, and hasten the end.

Cases have been known in which animals have reached the tertiary stage and have then made an apparent recovery. In all such cases, however, the disease has again manifested itself in a most severe form, ending in the death of the affected animal.

An apparent recovery, therefore, should be looked upon with grave suspicion.

CONGENITAL EXANTHEMA.

Maladie du Coit is frequently confounded with another, much more common but, fortunately, far less dangerous venereal disease of horses known as Coital or Congenital Exanthema. This affection, which is not at all uncommon in Canada, generally makes its appearance during the breeding season, attention being directed to it by the fact of various mares served by the same horse becoming affected at once.

Such mares show the presence of vaginal irritation by frequent attempts to urinate and by switching of the tail. Examination shows the vagina inflamed and studded with small vesicles which break leaving ulcers which, however, heal readily leaving temporary scars. These vesicles also appear frequently on the external surface of the vulva leaving in this situation small white spots about the size of grains of shot, which gradually become recovered with pigment. There is, during the acute stage, more or less muco-purulent discharge from the vagina, which, however, soon ceases as

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the irritation disappears. The disease is not of a malignant nature, although it is undoubtedly contagious. It yields readily to simple treatment and, except when complicated by co-existent strangles or other disease, generally runs its course in from two to four weeks.

In the stallion the vesicles appear on the penis and sheath and present characteristics similar to those described as occurring in the mare. Sometimes, when the horse is kept at service by an ignorant or unscrupulous groom, the ulcers become greatly irritated, with the result that prolonged rest and careful treatment are necessitated in order to restore the parts to a normal condition.

Coital Exanthema is not a serious disease, its principal ill effect being the loss due to the non-impregnation of breeding mares at the proper season. While no great alarm need, therefore, be felt on discovering its presence, it is strongly recommended, in view of the existence in Canada of the greatly more serious *Maladie du Coit*, that owners of mares or stallions showing any abnormal condition of the generative organs should immediately subject them to a careful examination at the hands of a qualified veterinary practitioner. After such examination if any doubt remains as to the nature of the disease the matter should be at once reported to this department and to the nearest veterinary inspector.

DOMINION OF CANADA.

REGULATIONS RELATING TO MALADIE DU COIT.

Authorized by Order in Council dated the 22nd day of July, 1905, in virtue of 'The Animal Contagious Diseases Act, 1903.'

1. No animal which is affected, or suspected of being affected, with *Maladie du Coit* shall be permitted to run at large or to come in contact with any animal which is not so affected, and no such animal shall, in any case, be used for breeding purposes.

2. Any veterinary inspector may declare to be an infected place within the meaning of 'The Animal Contagious Disease Act, 1903,' any common, field, stable or other place or premises where animals are found which are affected or suspected of being affected with *Maladie du Coit*.

3. No animal shall be removed out of an infected place without a license signed by an inspector.

4. The Veterinary Director General may, from time to time, order the slaughter, castration, or other disposition of animals affected with *Maladie du Coit*.

5. Every veterinary inspector shall have full power to order animals affected, or suspected of being affected with *Maladie du Coit* to be collected for inspection, and, when necessary, to be detained and isolated or otherwise dealt with in accordance with the instructions of the Veterinary Director General, and no indemnity shall be allowed to the owner in case of damage arising out of or resulting from such actions, except as hereinafter provided.

6. The expenses of and incidental to the collection, isolation, seizure, castration or otherwise dealing with horses for the purposes of these regulations shall be borne by the owners of the animals.

7. No entire horse or ridgling more than one year old shall be permitted to run at large on unfenced lands in the province of Alberta or in that portion of the province of Saskatchewan lying west of the third principal meridian.

8. Any entire horse or ridgling more than one year old found running at large within the area defined above may be seized and held on the order of any duly authorized veterinary inspector of the Department of Agriculture, who shall forthwith whenever

possible notify the owner of the said horse of such seizure, and the said horse, if not claimed within thirty days of such seizure, may be castrated, and no indemnity shall be allowed to the owner in case of damages arising out of or resulting from said castration, seizure or detention.

9. Animals affected with *Maladie du Coit* may, on an order signed by a duly appointed veterinary inspector acting under special instructions from the Veterinary Director General, be forthwith slaughtered, and the carcasses disposed of as in such order provided, and compensation may be paid to the owners of such animals if and when the Act so provides.

10. Before an order is made for the payment of compensation in any of the cases aforesaid there must be produced to the Minister of Agriculture a satisfactory report, order for slaughter and certificate of valuation and slaughter, all signed by an inspector.

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