Footrot (foul foot) of cattle

C R. Toop
Department of Agriculture

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ALTHOUGH it cannot be regarded as a disease of serious economic importance, footrot in cattle may at times become a source of considerable loss to individual dairy farmers. The occurrence of the disease is usually confined to a small number of isolated cases which may make their appearance in the herd during the course of the season, but sometimes it assumes what has been described as a contagious form in which a large number of animals may become affected in rapid succession.

The disease is caused by infection with the necrosis bacillus (*Fusiformis necrophorus*) which is widely distributed in nature and is frequently present in the soil in the vicinity of cow yards. It gains entrance to the tissues of the foot through small wounds and abrasions and is apparently also able to invade tissues which have become softened by constant exposure to mud and water.

The majority of outbreaks of footrot consequently occur during winter when conditions underfoot are wet and muddy, but the disease is by no means confined to this period.

During recent years many quite serious outbreaks have been encountered during the summer months and it is presumed that the feet have become wounded or abraded by contact with sharp objects or rough surfaces and that infestation has subsequently occurred by contact with contaminated mud in the vicinity of dams or water troughs or from organisms which have persisted in the dry soil.

SYMPTOMS

Affected animals show symptoms of lameness, at first slight, but later becoming severe and this is accompanied by rapid loss of condition and a marked drop in milk production. The lameness is usually confined to one limb, but both fore and hind feet appear to become affected with equal frequency. The affected foot is inflamed and swollen to the level of the fetlock. A close examination will in most cases reveal necrosis or sloughing of the skin between the claws and the presence of a purulent discharge. In some cases an abscess may form above the coronet and unless opened and drained may eventually rupture.

In old-standing cases in which the joints and tendons have become involved there is chronic lameness and permanent enlargement of the extremity.

TREATMENT

Prior to the advent of the sulpha drugs, the treatment of footrot presented a difficult problem. Recovery was usually slow and in the meantime a marked loss of condition and milk production occurred. The treatment recommended consisted of the immersion of the affected foot for several hours daily in a warm antiseptic solution, but this method was seldom applicable under practical dairying conditions. A more practical approach consisted of the application of a mixture composed of Stockholm tar 1 pint, finely powered blue-stone 1 ounce, lysol 1 ounce, to the affected parts with a stiff brush after thorough cleansing of the foot and the removal of necrotic tissue. It was necessary to repeat this treatment twice daily and to keep the animal on clean dry ground until recovery occurred.

It has recently been shown that a satisfactory response in the treatment of footrot in cattle may be obtained from the administration of certain of the sulphamides which renders local treatment unnecessary.

Sulphamezathine.

Sodium sulphamezathine 33½ per cent. solution is the drug of choice. This preparation is now freely available in bottles of 100 c.c. and 500 c.c. from chemists and livestock agents. The dosage for adult cattle is 100 c.c. administered by subcutaneous injection. This injection should be made beneath the skin of the neck or behind the shoulder using a syringe or injec-
tion apparatus of suitable capacity. A four ounce metal syringe fitted with a short length of rubber tubing and a 12 gauge needle or a milk fever injection outfit may be found convenient for the purpose.

Sulphamezathine is non-irritant to the tissues so that the development of a swelling or abscess formation at the site of injection need not be feared. Following treatment, a marked improvement in the condition of the animal will be observed within 48 hours and by the end of the third day, recovery in the majority of cases will be complete. Should the response not be satisfactory, treatment should be repeated after an interval of three days. The cost of each injection is about ten shillings, but when treatment is undertaken early no loss of condition or of production need occur and the saving thus effected will more than offset the expense involved.

Equally good results may be obtained from the injection of sodium sulphapyridine in a dosage of 60 grams (2 oz.) dissolved in 500 c.c. of water. This preparation must however be given by intravenous injection and it is consequently not suitable for use by the dairy farmer.

Satisfactory results have also been reported from the use of sulphanilamide, given by the mouth in a dosage of eight ounces and repeated at intervals of three days when necessary. This drug does not however appear to be so reliable as sulphamezathine and its administration is not so convenient.

**PREVENTIVE MEASURES**

It is difficult to recommend any effective method of prevention. Sharp objects which are likely to injure the feet should be sought for and removed. Approaches to gateways and lanes should be built up and yards should be paved so as to avoid exposure to foul, muddy conditions. The application of a heavy dressing of slaked lime in the vicinity of entrance or exit gates has been advocated, but this appears to be of doubtful value. A concrete foot bath containing a 10 per cent. solution of bluestone (1 lb. bluestone to the gallon of water) at the entrance to the milking shed may in some cases be found helpful.

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