



CCPA

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## Introduction

Salmonella as a cause of sporadic diarrhoea in cattle has been known about for a long time. The recent intensification of milk production and calf management have resulted in the evolution of a more epidemic disease picture.

## Aetiology

Salmonella are Gram negative bacteria that cause a wide spectrum of diseases ranging from peracute septicaemias to calves being inapparent carriers.

Historically, Salmonella typhimurium was the common cause of enteric salmonellosis in cattle and S. dublin was associated with abortion, but now a variety of serotypes, including S. newport, S. infantis, S. montevideo, S. anatum and S. muenster, are frequently encountered.

A recent survey in the USA showed some 4% of animals to be shedders of salmonella. Factors associated with this included free stall housing, access to surface water, eating forage from fields where manure had been spread, herd size, presence of diarrhoea and recent use of antibiotics.

One concern with some of the salmonella isolates from cows and calves has been their multiple drug resistance. These include S. typhimurium DT 104 and S. newport. Most multiple drug resistant strains are resistant to tetracyclines, sulphonamides and most  $\beta$ -lactams.

S. typhimurium is typically associated with a clinical picture of a herd outbreak of scouring and septicaemias. Abortions may be seen.

Group C salmonellas, such as S. newport and S. infantis do not present a specific clinical sign because the salmonella survives in the herd for a long time. Carriers play a role and infection may also be perpetuated by the salmonella being continuously cycled through wild birds, insects or rodents.

Calves showing acute, carrier or chronic forms of salmonellosis shed varying levels of salmonella in their faeces, which is a major source of infection to naïve herd mates by the faecal-oral route.

Calves with peracute or acute salmonellosis are often septicaemic and may also shed salmonella via other secretions, such as urine and saliva.