



Vet Steve Borsberry, from the Warwickshire-based 608 Farm Vets (a member of the XLVet Group), shares some tips on disease prevention and tackling health problems in dairy herds, drawing from his many years of on-farm experience. Here he takes a closer look at a serious problem that can occur at any time of the year.

Be cautious with chicken litter and remove wildlife carcasses

Deadly and devastating

It's quite rare, but the effects of botulism in a dairy herd can be devastating. In late 2011, a suspected outbreak on a unit in North Yorkshire led to the death of 120 cows from a herd of 160 – that's a loss of 75%.

Suspected is the key word here – it's difficult to get a positive diagnosis. The Animal Health Veterinary Laboratory Agency carried out post-mortem examinations but it was unable to confirm the cause with toxin testing. So botulism was suspected on clinical grounds.

There was no link with poultry litter in this instance, which is the commonest source of the bacteria – *Clostridium botulinum* – which produces an almost always deadly neurotoxin.

Of the 40 cases that I've seen, no cattle have survived. Animals are typically found dead, with no previous signs of the infection. Sub-acute cases, which do occasionally occur, can be confused with milk fever. Cows appear uncoordinated and tend to stumble. But they're usually found down, lying on their side and a tell-tale sign of botulism is a slight protrusion of the tongue. This is because the neurotoxin causes loss of muscle control. The only other disease that has this symptom is foot and mouth.

Single cases can occur but multiple cases within a herd are more common.

The cause is often the result of a carcass – usually a dead rabbit – ensiled in grass silage. Big-bale silage tends to be more prone to carrying botulism the pH of bales doesn't fall

as low as that for clamped silage and a low pH will tend to prevent the growth of the bacteria. Another source is chicken litter, which shouldn't contain chicken carcasses, but unfortunately sometimes it does. So if it's piled up in a field, waiting to be spread, cows are naturally curious and will investigate. And sometimes they get much more than they bargained for. I've even seen cows lying on piles of chicken litter. So I strongly advise producers to keep their cows away from it.

Botulism is a notifiable disease, so if you suspect it then you or your vet must contact DEFRA.



The encyclopaedia **Botulism**

Cause

Clostridium botulinum is a Gram-positive bacterium that produces neurotoxins. Cattle typically come into contact with it when carcasses are ensiled in grass silage, such as dead rabbits, or where chicken litter containing dead chicken is spread.

Symptoms

Cattle are usually found dead – they die without any previous signs of ill health.

But in sub-acute cases symptoms are similar to that of milk fever. Cows will be either uncoordinated and staggering

or down. They tend to lie on their side and the tongue can protrude.

Diagnosis

It's very difficult to isolate toxins in dead animals. Confirmation tends to be clinical and via a process of elimination.

Prevention

Keep cattle away from chicken litter and remove any dead carcasses from pasture. Be extra vigilant when opening and feeding big-bale silage and discard suspect bales.

Treatment

There is no treatment – most cattle die from infection with this bacteria.

