Botulism in Livestock

Department of
Agriculture and
Rural Development
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AN ROINN
Talmhaíochta agus
Forbartha Tuaithe

MÄNNYSTRIE O
Fairms an
Kintra Fordèrin

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Background

There has been a major increase in the number of cases of botulism in cattle within Northern Ireland in recent years. Investigations by AFBI's Veterinary Sciences Division (VSD) have provided strong circumstantial evidence that broiler litter is a risk factor for many of these outbreaks.

Botulism is caused by toxins produced by *Clostridium botulinum* bacteria.

These bacteria are commonly found in the environment and will grow to high levels in decaying organic matter including animal and bird carcasses and vegetable matter. It is believed that contamination of broiler litter with the carcases of chickens that have died, from various causes during production, can render the litter dangerous to cattle.

It is speculated that even small fragments of carcasses transferred onto pasture by scavenging animals, such as foxes, dogs or crows, can pose a risk to grazing cattle. Scavengers may gain access to this material after it has been stacked outside or spread on pasture. Therefore, poultry litter should not be accessible to foxes, dogs or crows and other scavengers, which may carry carcasses onto adjacent pasture or into cattle housing.

Control of Botulism

Treatment of botulism in cattle is rarely successful. It is therefore better to prevent the disease occurring. There are two important ways in which you can reduce the chances of an outbreak of botulism in your cattle.

- Prevent access to contaminated feedstuff and bedding.
- Where there is an unavoidable chance of exposure to broiler litter, vaccinate prior to turnout.

Careful disposal of all animal or bird carcases and poultry litter is essential to minimise the risk of botulism. Poultry carcases should be promptly removed from chicken houses and disposed of as required by EU regulation 1774/2002.

Following removal of the broiler crop, all poultry house doors should be kept closed until litter is removed. The litter should not be removed from the house until it can be loaded directly onto spreading equipment, covered vehicles or immediately stacked and covered. At no time should it be accessible to foxes, dogs, crows or other scavengers that may carry carcases onto adjacent pasture or into cattle housing. All washings from poultry houses and yards should be collected rather than be allowed to flow onto adjacent land.

Poultry litter should not be spread on agricultural land that is to be grazed, or from which silage or hay is to be harvested, in the same year. This is because fragments of carcases, containing Botulinum toxins, may persist on pasture for some considerable time. If litter must be spread, it should be deep-ploughed into arable ground. If this is not an option and litter must be disposed of by spreading, cattle should not have access to the treated fields for at least several months. However, there is no guarantee that the treated fields would be safe and it is important to remember that fragments of carcases may be transported by scavenger animals and birds.

Spreading litter on windy days may also pose a risk of contamination to adjacent fields.

Any animal or bird carcases, or portions of carcases, visible on pasture or in cattle houses, should be promptly removed. Even small fragments of such material may be dangerous to cattle and should be disposed of, as required by current legislation.

Silage - If litter has been spread on silage ground, it is advisable to raise the cutting blades, so that the grass is cut less close to the ground. This will reduce the risk of decaying matter being included in the silage cut.

Contaminated bedding - Do not use litter, or sawdust or shavings that may have had contact with broilers, as bedding for cattle.

Vaccination

No vaccine is available under general licence in the UK for protection against botulism. However, following representations from DARD, the Veterinary Medicines Directorate (VMD) has authorised a commercial company to hold a supply of cattle botulism vaccine in the UK. This vaccine is available under “special treatment certification”, to veterinary surgeons in Northern Ireland for the protection of cattle at risk of botulism. It covers cattle against botulism types C and D which are the two most common types of botulism found in cattle in Northern Ireland.

Further details on vaccination can be obtained from your Private Veterinary Surgeon.

Vaccination should not be used as a substitute for the hygiene measures described above

If you suspect botulism in your cattle

- Contact your veterinary surgeon as soon as possible.
- Remove the affected group of cattle to alternative grazing/housing as soon as possible.

What are the clinical signs?

1. Botulism causes muscle paralysis and can affect cattle of all ages.
2. Lack of muscle tone resulting in progressive flaccid paralysis.
3. Muscle tremors, in co-ordination, hind limb stiffness, reluctance to move.
4. Muscle weakness, first in the hindquarters, then progressing to the forequarters, head and neck.
5. Animals may lie on their chest with the head turned towards the flank (similar to cows with “milk fever”).
6. Inability to chew or swallow or drooling of saliva and or protrusion of the tongue.
7. Sudden death.

Public Health

The risk to humans from cases of botulism in cattle appears remote. The toxin types associated with botulism in humans are typically not the same as those seen in cattle. However, the Food Standards Agency states that the sale for human consumption of all milk and meat from clinically affected cattle is not permitted under EU legislation. There are no restrictions on the sale of milk or meat from healthy cattle on affected farms.

Further information and advice may be obtained from AFBI's laboratories at Belfast and Omagh by telephoning **028 9052 5680** or **028 8224 3337**.

Or by following these related links.

www.food.gov.uk/news/newsarchive/2006/dec/botulismcattle

www.food.gov.uk/news/newsarchive/2009/may/changefsaadvicebotulism

www.dardni.gov.uk/botulism-in-cattle