



Chemical Food Safety

CHEMICAL FOOD SAFETY QUARTERLY REPORT

NO. 24

POTENTIAL FOOD SAFETY INCIDENTS OCTOBER TO DECEMBER 2008

FSI No	Date	Regional Lab	Species	Toxin	Source
2008- 088	01/10/08	Penrith	Cattle	Botulism	Poultry litter
2008- 089	10/11/08	Thirsk	Cattle	Botulism	Poultry litter
2008- 090	21/11/08	Thirsk	Cattle	Botulism	Poultry litter
2008- 091	21/11/08	Luddington	Cattle	Metaldehyde	
2008- 092	10/12/08	Thirsk	Sheep	Botulism	Poultry litter
2008- 093	31/12/08	Preston	Cattle	Oil	Machinery

The fourth quarter was quiet taking the total number of incidents in 2008 to 93 (there were 103 in 2007). Botulism incidents continued to be reported during this quarter. Following the publication of an article in Poultry World on the benefits of using poultry litter as a fertiliser, Veterinary Laboratories Agency (VLA) responded with a letter to the journal warning of the risks of botulism in cattle and sheep associated with exposure to poultry litter. This letter also led to a further correspondence from Rafik Mikaiel of the Faccenda Group commenting on his research findings and reiterating that caution is required when using poultry litter close to cattle grazing fields (Poultry World, December 2008).

Two higher profile contamination incidents occurred in the UK this quarter. The first involved the arrival of melamine contaminated soya expeller into Europe, including the UK. Further information is available on <http://www.food.gov.uk/foodindustry/farmingfood/animalfeed/melamine/>. As a result of this incident, VLA raised awareness among veterinarians for clinical signs that may occur if animal feed is contaminated with melamine. In brief, any livestock presenting with signs of urolithiasis or renal disease should initially include melamine contamination as a differential diagnosis.

The second incident involved PCB and dioxin contamination of pig meat in Ireland due to the contamination of bread and bakery products during animal feed production. Further information is available at <http://www.food.gov.uk/enforcement/alerts/2008/dec/dioxins>

BOTULISM INCIDENTS

FSI	Nos. affected	Type	Age	Direct/indirect	Results
08/088	1 in a group of 60	Dairy	2 y.o. Heifer	Indirect poultry litter	Toxin type D
08/089	2 in a group of 65	Beef	Adult	Indirect poultry litter	No toxin and organism identified
08/090	5 in a week on a large beef finishing unit	Beef	2 y.o. Beef finishers	Direct. Poultry litter used as bedding.	Toxin type D
08/092	10 in a group of 300	Sheep	Adult ewes	Direct. Poultry litter stacked in grazing field.	No testing

BOTULISM INCIDENTS

FSI 2008-088

Botulism was suspected to be the cause of recumbancy in a two-year-old dairy heifer replacement. She was the only affected heifer in a group of 60. The clinical suspicion of botulism was supported by the presence of type D botulinum toxin in the intestinal content of the affected heifer. The source was suspected to be broiler litter spread onto field adjacent to where the heifers were grazing.

FSI 2008-089

Botulism was suspected to be the cause of recumbancy and death in a three-year old suckler cow. She was the first of two cows to be affected in a group of 65. The cows had been housed for a two week period whilst their calves were weaned and then let out onto a field of stubble turnips and pasture. The first case occurred one week later. The suspected source was a stack of poultry litter in the adjacent field. The litter contained poultry carcasses and was therefore in breach of the Animal By-Products Regulations. Trading Standards were informed of the breach.

FSI 2008-090

Botulism was part of the differential diagnosis during an investigation into the cause of malaise with recumbancy and death in 5, approximately 2 year old beef finishers. Botulism was considered to be a differential diagnosis because poultry litter was used beneath the straw bedding in the bull pens. The affected bulls were either found dead or died within 18 hours of presenting with malaise. Post mortem was carried out on two bulls. Sever pneumonia was observed from which *Histophilus somnii* was isolated. (This organism has been associated with pneumonia outbreaks and also with meningitis and urinary tract infections). It was considered a significant pathogen in the presentation of this disease outbreak. Type D botulinum toxin was isolated from the intestinal content of both bulls supporting concurrent exposure of the bulls to Clostridia botulinum organism and its toxin. Both botulism and *Histophilus* infection may have been contributing to losses in the group of cattle. The use of poultry manure as animal bedding is not illegal unless the litter contains obvious carcase material. However it is not a recommended practice because poultry litter is palatable to cattle. In addition to increasing the risk of clinical botulism, there is an increased risk of transmitting other diseases, including zoonoses such as salmonella infection.

FSI 2008-092

Botulism was suspected to be the cause of recumbancy, flaccid paralysis and one death in ten sheep in a group of 300 ewes. The source of botulism was suspected to be a stack of poultry litter in the sheep grazing field which had been heavily trampled by the sheep. There were no poultry carcasses observed in the litter. The poultry litter was subsequently fenced off and the sheep moved to alternate pasture.

Botulism Controls

The restriction recommendations following an outbreak of suspected Type D botulism in sheep, such as 2008-092, are still currently different to those in cattle primarily because the Advisory Committee on the Microbial Safety of Food (ACMSF) has not finalised an opinion in sheep whereas it has done so in cattle. In cattle restrictions are only applied to cattle showing clinical signs but in sheep restrictions are currently on the affected group regardless of whether they are clinically affected or not. Further information is available at:

<http://www.foodstandards.gov.uk/consultations/ukwideconsults/2008/acmsfbotulism>

OTHER INCIDENTS

FSI 08-091

Metaldehyde toxicity was diagnosed in a group of 25 eighteen-month old dairy heifers which broke into an adjacent field where a pallet of metaldehyde pellets was waiting to be applied to a rape crop. Fourteen heifers died within a day and two further deaths occurred the following day. Nine others showed tremors and nervous signs which were exacerbated by excitement.

FSI 08-093

Oil intoxication was suspected in a group of 80 suckler cows and calves. Three cows died, each with dullness, lethargy and malaise with animals described to vocalize, become recumbent and die. Post mortem examination of one cow revealed oily non-aromatic material within the rumen. There was also abomasal ulceration and haematuria. The cattle were grazing an area of 200 acres with access to an open fronted barn in which there were various heavy machinery, waste metal and plastic, engines and fuel containers. The disease outbreak followed the introduction of very dry haylage and freezing weather conditions which were likely to have increased the cattle's demand for fluid encouraging them to drink this oil based fluid rather than water. None of the cattle were close to entering the food chain.

PLANT POISONING

Bracken poisoning : A farm visit was carried out following the diagnosis of bracken poisoning in two, eight month old Welsh Black bullocks at necropsy. The first of these animals had a *Bibersteinia trehalosi* septicaemia which was thought to be a 'one off' diagnosis. A further four deaths occurred in this group of thirty one heifers and a second animal at necropsy had large infarcts in the liver and free blood in the abdominal cavity. It was at this stage that the farmer admitted that they had been fed haylage containing a large amount of bracken since they have been housed two months previously. The cause of mortality was then suspected of being bracken poisoning and haematology results from five other animals showed a significant neutropenia and thrombocytopenia, supporting the diagnosis.

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