



VLA MONTHLY SCANNING SURVEILLANCE REPORT JULY 2009

Highlights

- **Further outbreak of bovine psoroptic mange confirmed**
Further evidence that the disease is spreading within Wales. Sixty five percent of cattle movements from Welsh farms are within Wales. The west (15%) and northern (13%) regions of England are next most at risk.
- **Increase in bovine Salmonellosis in the South West**
Anecdotal reports from the south west are supported by the detection of a cluster of S. Dublin cases in the first part of the year. This may be related to the increase in Fasciolosis in the area
- **Idiopathic Haemorrhagic Diathesis of calves (blood sweating disease) diagnosed by five laboratories**
. A variety of different breeds have been involved including beef and dairy cattle. Herd morbidity rates remain very low but case fatality rates remain high
- **Clinical Visna in a ewe**
This case underlines the insidious nature of this slow virus infection. Farmers may not recognise the early signs of disease. This could contribute to the high sero-prevalence often seen in infected flocks by the time the disease is diagnosed
- **Mycobacterium tuberculosis infection in a pet dog**
Strong circumstantial evidence that the dog was infected from the owner
- **Duck Virus Enteritis causing mortality of swans in a rescue centre**
The spread of this virus in a rescue centre indicates the need for wildlife organisations running these centres to have a health plan and biosecurity arrangements.

CATTLE

Reproductive diseases

BVD

Penrith diagnosed BVD virus infection as the cause of abortion and the birth of live weak calves in a 290 dairy cow herd having identified the virus by RTPCR in foetal viscera and positive brain immunohistochemistry. On a second farm investigated, five abortions had occurred over the last few months at between five and eight months gestation. This prompted the submission of twin foetuses from which BVD was detected by PCR in foetal thymus.

Bacillus licheniformis

Four laboratories reported this organism as a cause of abortion in cattle. Shrewsbury diagnosed *Bacillus licheniformis* infection as the cause of a single abortion in a Belgian Blue crossbred cow in a group of 18 cattle.

Alimentary tract diseases

Salmonellosis

Starcross commented on the increased incidence of Salmonellosis in the South-West having investigated incidents on five farms during the month. This was supported by a report from Langford identifying a statistically significant cluster of *S. Dublin* cases in cattle in Somerset, Dorset and Devon between December 2008 and June 2009. There were 28 cases involving 23 farms; 18 (64.3%) involved dairy cattle, 5 (17.9%) beef sucklers, 3 (10.7%) finishers and 2 (7.1%) cattle of unknown purpose. There were no unusual presenting signs, with 19 (67.9%) exhibiting diarrhoea, 4 (14.3%) malaise, 2 (7.1%) abortion, 1 (3.6%) found dead, 1 (3.6%) wasting and 1 (3.6%) unknown. The reason for this cluster is unknown but the increased regional incidence of Fasciolosis over the winter period may have been involved.

Shrewsbury investigated four outbreaks of *Salmonella* Montevideo infection in herds in south Cheshire. In one dairy herd 4 of 6 diarrhoeic neonatal calves had died in a group of 15. Evaluation of colostom intake by ZST testing of 5 of the calves indicated negligible and low intakes in four. The other cases were in dairy cows where mortality was not a feature and included one herd where sporadic disease has been identified over the last 18 months. In another herd co-infection with fluke was identified in the single affected animal.

Penrith isolated *Salmonella* Heidelberg in pure culture from the faeces of an adult Holstein cow demonstrating pyrexia and enteritis post-calving. The source of infection was not established. They also isolated *Salmonella* Dublin on four occasions from adult dairy cows with dysentery, all on separate premises.

Coccidiosis

Penrith reported an unusually high number of diagnoses of coccidiosis (nine), including one in a 10-month-old animal within two weeks of turn-out. This latter case proved to be a mixed infection of *E.bovis* and *E.zuerni*.

Preston also remarked on an increased incidence of coccidiosis, reporting oocysts counts per gram of faeces varying from 6,200 to 191,200.

Starcross diagnosed *Eimeria alabamensis* infection in a six-month-old Friesian heifer, submitted for post-mortem following acute onset lethargy, recumbency and death. It was the second animal in a group of 17 to die in this way since turn-out to a grazing paddock.

Langford also diagnosed coccidiosis on eight occasions in calves ranging from four to ten weeks of age.

Traumatic reticuloperitonitis

Carmarthen diagnosed traumatic reticuloperitonitis in a 9 year old Ayrshire cow submitted for necropsy. She was one of three cows to have died in the past 3 months, and three others were reported to be showing similar clinical signs of malaise and milk drop. A 6 cm long wire was found in the centre of one of two liver abscesses. Necropsy revealed multiple adhesions in the peritoneal cavity and abscesses were also found in the spleen and lung. Five pieces of metal of varying shape and thickness were found in the reticulum. Advice was given on the prevention of further cases by the use of intraruminal magnets and identification of the source of the wire.

Johne's Disease

Luddington reported Johne's disease continuing to be a common cause of enteric disease having diagnosed the condition on seven farms. Six of these affected adult dairy cows, usually post calving and one was a Simmental cow that had calved four weeks previously. Of the histories supplied, all had a recent history of weight loss and intermittent scour.

Parasitic Gastroenteritis

Truro received a three-month-old Jersey cross calf for necropsy. It was the third calf in a month in a group of 29 organically reared calves to have died after a brief period of malaise and weakness. Post mortem examination revealed coalescing superficial ulcers and multifocal 1-2mm diameter ulcerations and raised nodules in the abomasal mucosa. A gut wash on the abomasum detected 4,000 *Ostertagia ostertagi* worms, consistent with type 1 ostertagiasis.

Respiratory Diseases

RSV

Luddington investigated a case in which two dairy cows in a 500-cow herd became recumbent. One developed respiratory signs and was treated with antibiotics but subsequently died. Necropsy revealed a severe bronchopneumonia with abscesses in the lung tissue. A fluorescent antibody test for RSV was positive and culture yielded a pure heavy growth of *Arcanobacterium pyogenes*.

Atypical Interstitial Pneumonia

Six adult suckler cows from a group of 17, including a bull and four calves at foot, were found dead over a period of less than 48 hours shortly after moving to new pasture. Two days previously they had experienced an unusual degree of activity after having been rounded up to treat the calves for an eye condition. Two other cows exhibited increased respiratory rate and effort, one dying a few hours later. Veterinary examination of the survivor indicated some rasping and crepitus in the chest. Two animals were necropsied at Bury and although rapid decomposition was a problem due to the hot weather,

interlobular emphysema and changes consistent with atypical interstitial pneumonia (fog fever) was demonstrated in both animals.

Histophilus somni

Thirsk diagnosed pneumonia caused by *Histophilus somni* in an eight-week-old Saler cross bull calf submitted for post-mortem investigation. Three calves out of a group of 33 had been found dead with no premonitory signs. The group were with their mothers out at grass and all were in good body condition. Post-mortem examination revealed severe consolidation of cranioventral areas of lung tissue extending into the cranial 20% of the caudal lung lobes.

Lungworm (Dictyocaulosis)

Fewer cases of lungworm were reported this month. Langford investigated a case in which a Holstein/Friesian dairy herd had been dispersed in September 2008 and replaced by the purchase of an entire Guernsey herd. The Guernsey cows were housed over the winter and turned out in April 2009. Coughing on exertion, affecting 20 of the 40 milking cows became apparent in the last month. One of the affected cows was found in respiratory distress and died shortly after. Post mortem revealed a severe, purulent tracheobronchitis with numerous lungworms present confirming parasitic bronchitis.

Nervous Diseases

Listeriosis

Carmarthen diagnosed listeriosis in a 6 year old Charolais bull which was reported to have been circling repeatedly around a tree. Ataxia had been noted but no facial paralysis. The bull was euthanased after failing to respond to treatment. *Listeria monocytogenes* was isolated from the brainstem on direct culture and the diagnosis was confirmed histologically.

Aberystwyth also diagnosed the condition as the cause of sudden onset nervous signs in a 6 year old Welsh Black which had reportedly started to walk into other cows, was seen pushing its head against walls and could not retract its tongue.

Metabolic diseases

Fatty Liver Syndrome

There were further reports of fatty liver syndrome. Starcross investigated three cases one of which involved a 26 month Holstein Friesian heifer recently imported from Germany. Langford also diagnosed a case in a dairy cow which had calved one week previously and had produced very little milk. Langford also identified energy deficiency in recently calved dairy cows in a herd of 300 after finding elevated serum BHB concentrations. Recently calved cows were losing weight and showing reduced oestrus activity.

Other Diseases

Erythropoietic protoporphyria

Penrith diagnosed five cases of erythropoietic protoporphyria (three on one farm), all affecting Limousin calves.

Idiopathic Haemorrhagic Diathesis of Calves (Blood sweating disease)

Penrith diagnosed Idiopathic haemorrhagic diathesis in a 3-week-old Holstein calf with unexplained haemorrhage from the skin, nares and rectum. Histopathological examination confirmed severe bone marrow aplasia.

Sutton Bonnington also diagnosed the condition in a seven-day-old Holstein cross Friesian heifer which had been presented for necropsy following a two day history of bloody diarrhoea with haemorrhage from injection and fly-bite sites prior to death. Necropsy demonstrated pale skeletal muscles throughout the carcass and haemorrhage within the joint capsules. Areas of haemorrhage were present on the serosal surface of the liver, ventral aspect of the tongue, epicardium, rumen and abomasum.

Preston diagnosed the condition in a two week old Irish Moiled calf submitted for necropsy and Leahurst identified the condition in a 17-day-old Holstein/Friesian heifer calf from a dairy herd milking 210 cows which had been closed for seven years.

Winchester also diagnosed a case in an 8 day old Hereford cross calf.

Babesiosis (redwater)

Carmarthen diagnosed redwater in a cow grazing rough hill grazing. Clinical signs seen were red coloured urine and recumbency. The cow was severely anaemic with a PCV of 0.07 l/l (normal range 0.24-0.46 l/l) and babesia were identified on a stained blood smear.

Starcross also diagnosed three cases. Clinical signs in all of them were similar and included weakness, passing of dark red urine and jaundice.

Psoroptic mange

Carmarthen diagnosed psoroptic mange in a Charolais bull. The animal had been purchased during February and had been 'unwell and lethargic' for a number of months before the veterinary surgeon was called. The bull was also not interested in serving cows. Severe crusting and hair loss was seen over the dorsal midline and extending down both sides of the animal. The underside of the tail was also badly affected, where the animal had been seen rubbing it on the ground. The skin lesions were infected and the animal was pyrexia. There was visible improvement after one treatment of a 4% permethrin pour-on (used under the cascade system) together with antibiotics. Possible sources of infestation included undetected disease on the farm (an absence of lesions in the cows may have been due to lower summer mite numbers) or the bull may have become infested on its farm of origin, at the market, or acquired the infestation during transport to the farm. The farmer was urged to continue treatment of the bull, to complete three treatments at 2 week intervals and also to treat all the other cattle on the farm similarly.

Yew Poisoning

Preston investigated the sudden death of six yearling dairy heifers in a group of 24; Necropsy confirmed the presence of yew leaves within the rumen. Examination of the grazing area revealed a heap of garden waste including tree clippings which had not been disposed of thoroughly. There was evidence that the cattle had been rummaging through them.

SMALL RUMINANTS

Alimentary tract diseases

Enterotoxaemia

Penrith diagnosed *Clostridium perfringens* Type D enterotoxaemia in two Golden Guernsey goats, one aged 2½ months and the other 12 months. The goats came from a small mixed goat herd of Golden Guernsey's, British Alpines and Bagot goats. The two Golden Guernsey goats had developed watery brown scour and had both died within 24 hours of the clinical signs appearing. *Clostridium perfringens* epsilon toxin was demonstrated in intestinal contents.

RVC also investigated a case in which twelve four-month-old ewe lambs from one farm were found dead without premonitory signs over a period of two weeks. Post-mortem examination of one affected lamb revealed rapid extensive autolysis, particularly affecting the kidneys; fibrinous pericardial effusion; and swelling of the brain. The preliminary diagnosis of "pulpy kidney disease" was confirmed by the presence of *Clostridium perfringens* epsilon toxin in small intestinal contents.

Parasitic gastroenteritis (PGE)

Carmarthen diagnosed PGE as the cause of weight loss and eventual death of an adult ewe, one of two to be affected in a flock of 92 pedigree Charollais ewes. At necropsy an abomasal wash revealed 23,000 nematode worms, 85% of which were found to be *Teladorsagia circumcincta* and a further 10% identified as *Teladorsagia trifurcata*. The animal had also shown signs of photosensitisation. The farmer had noticed the ewe had a swollen head, and at necropsy the skin on the head was found to be sloughing. Liver histopathology did not reveal any lesions, suggesting liver disease was not the cause of the photosensitisation.

Winchester investigated two cases of haemonchosis. In the first the carcass of a four-year-old ewe was received that had died overnight. There was marked pallor throughout the carcass and an abomasal worm count revealed 209,000 worms of mixed species including *Haemonchus*, *Teladorsagia* and *Trichostrongylus*. In the second, three ewes with lambs at foot died over a 24-hour period in a group of 300, the lambs being unaffected.

Respiratory Diseases

Thirsk diagnosed ovine pulmonary adenocarcinoma in a four-year-old Mule ewe submitted for post-mortem examination after the animal had been found dead with no prior clinical signs. The animal was one of a group of 100 ewes and their lambs on a lowland farm; all Mule ewes were purchased and a Texel terminal sire was used. This was the second ewe to have presented in a similar way. At post-mortem examination, significant findings were restricted to the respiratory tract where a particularly notable feature was the large quantities of white thick froth present in the trachea and smaller airways.

Figure 1

Lung of a 4-year-old ewe with ovine pulmonary adenocarcinoma



Nervous diseases

Visna

A 5-year-old ewe with sudden onset hind limb paralysis and no other clinical signs was submitted to Penrith for post-mortem examination. The farmer had reported several ewes to have been affected each year. Different breeds had been affected and at all times of the year. Gross post-mortem examination was unremarkable, but the ewe was positive for Maedi-visna antibodies and histopathology revealed an encephalomyelitis consistent with Visna. It is likely that the initial mild neurological deficits were not observed prior to the paralysis.

Cerebrocortical necrosis (CCN)

Bury diagnosed two cases of cerebrocortical necrosis. In one case six ewes were affected from a flock of 925 which were split into six groups. The affected animals were scattered amongst three of the groups in different fields. The sheep were on black fenland with no supplementary feeding. One dead and two live ewes were received for post-mortem examination which revealed fluorescence under ultraviolet light immediately in one case and following 24 hours of fixation in the remaining two cases. It was decided to alter forage feeding to the sheep to manage the outbreak.

Dosing gun injury

RVC investigated a case involving a two-month-old lamb which developed ataxia and incoordination which appeared to respond to non-steroidal treatment. Approximately three weeks later it was found in lateral recumbency and despite anti-inflammatories could not support itself in sternal recumbency. Post-mortem examination revealed a focus of chronic inflammation and infection in the retropharyngeal area typical of a 'drenching gun injury'. The infection had tracked down the cervical neck muscles and

also dorsally towards the atlanto-occipital joint and spinal cord resulting in the clinical signs described.

PIGS

Alimentary tract diseases

Salmonellosis

Thirteen out of 800 eight-week-old pigs were found dead overnight in outdoor cosikennels on a unit where pigs were weaned outdoors from an indoor breeding unit. Other age pigs were healthy. Four dead pigs were submitted to Bury and in three of these the necropsy findings comprised a necrotising typhlocolitis suspicious of salmonellosis. *Salmonella* Typhimurium phage type 120 was isolated by direct culture from the intestines confirming the diagnosis.

Thirsk carried out a *Salmonella* advisory visit on a 250-sow breeder finisher unit with a history of clinical salmonellosis associated with *S. Typhimurium* in finishing pigs. The farm had experienced an outbreak of clinical salmonellosis from which *Salmonella* Typhimurium U288 had been isolated. The investigation revealed a number of areas requiring attention including a large mouse population and the continued presence of salmonellae in buildings after depopulation and cleaning indicating inadequate disinfection.

Other diseases

Epiphysiolosis

An adult breeding boar was submitted to Bury having been culled after being stiff on its back legs for two weeks. The boar was in good body condition and the cause of hind limb stiffness was found to be a very severe fibrinopurulent arthritis associated with epiphysiolysis in the left hip. In the right limb there was also a serofibrinous arthritis with sinuses of fibrinopurulent material discharging into subcutaneous tissues associated with the stifle and hock. No *Mycoplasma* species were detected and no significant bacteria were isolated, probably due to the antibiotic treatment which had been given.

Erysipelas

Clinical signs of wasting and respiratory disease (thumping but not coughing) developed in approximately 10% of pigs aged 12 to 24 weeks over a two week period. The pigs were outdoor reared and the older pigs showed some lameness. Two 24-week-old pigs and one 12-week-old pig underwent necropsy at Bury. All three had valvular endocarditis of the left atrioventricular valve with diffuse pulmonary oedema and congestion. The two older pigs both had pericarditis and epicarditis as well as a chronic synovitis with one pig having fibrin strands within excessive joint fluid. *Erysipelothrix rhusiopathiae* was isolated from the valvular lesions in the two older pigs and was presumed also to be the cause of endocarditis in the younger pig. There was no evidence of underlying PCV2 or PRRSV infection. The pigs were not tail docked or tooth clipped, however ear notching was a possible route of infection.

BIRDS

Commercial Layers and Layer Breeders

Vent Pecking

Cannibalism and vent pecking were seen in two free-range flocks of 28 and 64 weeks of age. Findings at post-mortem examination were of chronic vent pecking damage associated with *E coli* egg peritonitis and pale carcasses in which often the entire length of the intestinal and oviduct tract were missing.

Red Mite

A commercial unit hatching rare breed chicks every 10 days for the “hobby sector” was experiencing increasing mortality up to 10 days of age. Somewhat unusually in such a small flock, a heavy red mite infestation (*Dermanyssus gallinae*) was evident. Birds were noticeably anaemic in appearance, and most birds had not fed. Relevant advice on ectoparasite control was given.

Broilers and Broiler Breeders

Gizzard impaction

Impaction of gizzard and upper intestine was seen in three batches of free range broilers aged 26, 43 and 56 respectively all from the same farm. The history was of poor performance and unevenness. Post-mortem examination revealed a marked distension of the gizzard and duodenum with large bundles of long plant fibres (probably a mixture of the straw bedding and grass), with virtually no grit present. A review of grit provision and bedding / pasture management was indicated.

Infectious laryngotracheitis

Infectious laryngotracheitis (ILT) was diagnosed in a house of 57-week-old birds with a sudden increased in mortality. Birds were seen with watery eyes and mild dyspnoea. Lesions at post-mortem examination included plugs of necrotic caseous debris occluding the larynx. Histological examination confirmed a severe tracheitis with numerous syncytia containing intranuclear inclusion bodies consistent with ILT.

Gamebirds

Smothering

Two thousand six to eight week old pheasant poults had been bought in and housed in release pens. During the first night following arrival 60 birds died, the next night 50 were found dead and the following night a further 50. Six dead birds were presented to Sutton Bonnington for necropsy which revealed t two birds to have fractures to the distal humerus without associated haemorrhage and another bird significant haemorrhage along the body wall. Most of the birds had empty crops. The finding suggested that that the poor weather following release had caused the birds to huddle together resulting in suffocation and trauma.

Spironucleosis

Carcases of 11 partridge and pheasant poults were submitted to Langford following a history of poor body condition and loose droppings. The problem appeared to be more severe in younger birds but all groups had shown losses of up to 10% from a flock with a total of 20,000 pheasant poults and 2,000 partridge poults. Post-mortem examination revealed evidence of Spironucleosis (hexamita infection)

MISCELLANEOUS SPECIES

MCF in a Moose

A 14-month-old female moose, imported from Sweden with a male of the same age in Sept 2008, was found dead in the field which they had shared with one red deer, for one week. The moose had been inappetent for a few days but had shown no other signs of clinical disease. Necropsy revealed evidence of OvHV-2 by PCR in the submandibular lymph node and histopathology of brain confirmed a diagnosis of Malignant Catarrhal Fever.

TB In a Dog

Following the diagnosis of TB in a dog's owner, the dog itself lost condition and developed a cough. Radio opaque areas dorsal to the heart were demonstrated on X-rays by the veterinary practice. Following euthanasia, the dog was submitted for post mortem examination which revealed large tumour-like masses in the mediastinum involving the mediastinal and bronchial lymph nodes and numerous tumour-like lesions in the liver and in one kidney. Although the lesions were grossly suggestive of neoplasia, material was forwarded for TB culture which resulted in the confirmation of *Mycobacterium tuberculosis* in this animal. The circumstantial evidence strongly indicated that the dog had acquired TB from its owner. (See figure 2)

Figure 2.
Tumour like lesion caused by *M. tuberculosis* in the liver of a dog



WILDLIFE

Red Squirrel deaths

A total of 11 red squirrels (*Sciurus vulgaris*) were examined at Penrith this month. Squirrel pox virus was demonstrated in three, predator attack was responsible for the death of a further three animals and one squirrel died as a result of a road traffic accident. Adenovirus infection was seen in two squirrels. In one case, acute adenovirus enteritis was diagnosed in a red squirrel found dead in North Cumbria. Gross examination of the alimentary system revealed blood-stained mucoid opaque fluid in the small and large intestines with oedema and mild congestion of the intestinal mucosa. Although limited by autolysis, histopathological examinations demonstrated a number of enterocytes with intranuclear inclusions.

Duck Virus Enteritis

Two swans were submitted to Luddington from a rescue centre having died suddenly. Necropsy revealed a few loops of small intestine from the first swan with multiple necrotic plaques 5-7mm long on the mucosa. Haemorrhagic and red erosive foci were present in the distal oesophagus of the second swan, and in the terminal 1-2cm, raised, necrotic plaque-like areas were observed. Haemorrhagic contents were also observed in the duodenum of the second swan, although the mucosa was grossly normal. Gross findings were consistent with duck virus enteritis, and the diagnosis was confirmed by isolation of the virus. Up to 100% morbidity was experienced at the centre with a high mortality or euthanasia rate subsequently reported.

Trichomoniasis in Chaffinch

Caseous necrosis of the crop suggestive of Trichomoniasis was diagnosed by Newcastle following post-mortem examination of a chaffinch, which had been found dead in a garden. Several birds had been found dead under similar circumstances in recent weeks. It was suggested that the organism was probably contaminating the environment around the bird feeders.