Monitoring ANIMAL HEALTH

Small Ruminants | Nov. 2021

Epidermolysis bullosa

Unusual findings were reported from the pathology lab in June. It was striking that exungulation occurred in a two-month-old submitted Blue du Maine lamb with multiple ulcers on the head, in the mouth, at the carpus and tarsus and in the stomach wall. These are very typical signs of epidermolysis bullosa or distrophic derma bullosa, a congenital genetic hereditary defect leading to insufficient anchorage of the epidermis to the dermis. There are various forms of this disorder; it is congenital in most cases. This disorder has been described in multiple animal species, but it can also occur in humans. There are records of the disorder in a number of sheep breeds such as the Corriedale and Suffolk, but this was the first time in Blue du Maine sheep.

Treating milk fever not without risk

Pathological examination revealed a serious case of dilated cardiomyopathy in a ewe. There was also mineralisation in the myocardium, and extensive mineralisation in the aorta, lungs and kidneys. These mineralisations were found to contain calcium salts. Miniralization of soft tissue is described within the scope of hypervitaminosis D, hypercalcaemia or following ingestion of 'calcinogenic' plants such as *Trisetum flavescen* (yellow oat grass) and a number of plants of the nightshade family. Upon enquiry, this ewe had apparently received a number of treatments with vitamin D and a calcium preparation after displaying vague post-partum clinical signs.

In the past, excessive use of vitamin D has already been determined to give the same pathological presentation in growing lambs. Vitamin preparations for ruminants are freely available and the general consensus is that they can often do no harm. GD advises farmers to only give such treatment when really necessary and in any case following consultation with a veterinarian.

Osteomyelitis in weaned kids

During a visit to a dairy goat farm, it was noted that a number of kids of a few months old had a stiff gait. Treatment using antibiotics had not improved the situation. It was decided to submit a few animals for pathological examination. Necropsy showed all cases to have severe abnormalities in the bone structure, in the sense of osteoporosis and osteomyelitis. Bacteriological examination did not provide any causative agent. Copper levels in the liver were raised. Since 2018, GD has detected such disorders in young animals at both dairy goat farms and dairy sheep farms. Stress factors are believed to play a role in their development, including for example dehorning, changes in feed ration, multiple vaccinations and moving animals. Moreover, increased liver copper values negatively affect the immune system. Copper is also an important component for regulation of bone development.

Acute tubular nephrosis in a Zwartbles lamb

In June, a Zwartbles lamb of a few months old was presented for pathological examination after the animal displayed acute neurological signs and had not reacted adequately to treatment. Necropsy showed severe acute tubular necrosis caused by deposition of crystals in the kidney tubules. Zwartbles are known for a congenital kidney disorder whereby calcium oxalates are deposited in the kidneys. The abnormality can occur in both young and adult animals and is a recessive genetic disorder. There is no effective treatment.

In the event of skin disorders, GD advises farmers to have a veterinarian undertake further examination in the form of parasite testing or examination of the skin by means of a biopsy.

Unilateral lameness following treatment with Draxxin©

At the end of July, Veekijker was approached with regard to unexplained lameness in kids. This concerned a herd of five kids, approximately four months old, who were presenting with neurological ataxia in a hind leg following treatment for coccidiosis and a Draxxin© injection.

Based on anamnesis and clinical signs, this lameness was probably caused by an intramuscular injection of Draxxin® in de gluteus medius whereby the area of the *Nervus ischiadicus* was possibly involved.

In July 2020, the same clinical signs were observed in lambs also treated with Draxxin©. At that time, all the lambs made a complete recovery.
GD advises farmers to consult a veterinarian prior to using this antibiotic, for information on how to inject it.

Animal health barometer Small Ruminants

Veterinary diseases	Brief description	Category	Quiet[1]	Increased attention[2]	Further investigation[3]
Articles 2.1.a and 2.1.b Designation of animal diseases 'Rules for Animal Health'/Implementing Regulation (EU) 2018/1882 of the Animal Health Law (EU) 2016/429 (Category A disease)					
Infectious pleuropneumonia in goats	Has never been present in NL.	A+D+E	*		
Foot and Mouth Disease	No FMD in the Netherlands since 2001.	A+D+E	*		
Infection with ovine rinderpest (commonly known as PPR, peste des petits ruminants	Has never been present in NL.	A+D+E	*		
Infection with Rift Valley fever virus	Has never been present in NL.	A+D+E	*		
Sheep pox and goat pox	Has never been present in NL.	A+D+E	*		
Articles 2.1.a and 2.1.b Designation of animal diseases 'Rules for Animal Health'/Implementing Regulation (EU) 2018/1882 of the Animal Health Law (EU) 2016/429 (Category B through E)					
Infection with *Brucella abortus, B. melitensis*	Over the course of 2020, GD has frequently communicated with farms to motivate them to submit samples for monitoring of *Brucella melitensis* and has achieved the required number.	B+D+E	*		
Infection with the rabies virus	Extremely rarely diagnosed in bats.	B+D+E	*		
Infection with the bluetongue virus (serotypes 1-27)	The Netherlands has been officially free from BT since 2012. There are a number of sources of BT within Europe. BTV-8 is found in Germany, Luxembourg and Belgium, for example. Many outbreaks of BTV-4 around the Mediterranean.	C+D+E	*		

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Table continuation

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Articles 2.1.a and 2.1.b Designation of animal diseases 'Rules for Animal Health'/Implementing Regulation (EU) 2018/1882 of the Animal Health Law (EU) 2016/429 (Category B through E)					
Epididymitis in sheep (*Brucella ovis*)	Examination of rams for export purposes.	D+E	*		
Infection with *Mycobacterium tuberculosis*- complex (*M. bovis, M. caprae, M. tuberculosis*)	The Netherlands has been officially free from bovine tuberculosis since 1999.	D+E	*		
Anthrax	Last registered outbreak in cattle in 1993. No infections registered since then.	D+E	*		
Paratuberculosis	Regular cases especially in dairy goats and occasionally in sheep.	E	*		
Coxiella burnetii - Q fever	In 2016, the final dairy goat farm was certified free from infection with *Coxiella burnetii*.	E	*		
Echinococcosis	No confirmed cases in recent years.		*		
Trichinellosis	No known cases of trichinellosis in sheep or goats.		*		
Article 2.1.c Designation of animal diseases 'Rules for Animal Health' of the Dutch Animal Act					
Transferable TSEs (scrapie, BSE)	Hardly any cases among sheep in the past 10 years. In the annual random sampling, all the rams examined had the required genotype. In goats, the first case of scrapie was in 2000 and the last case in 2001.		*		
Article 3a.1 Reporting of zoonoses 'Rules for Animal Husbandry' of the Dutch Animal Act					
Campylobacteriosis	A few cases each year.		*		
Leptospirosis	No cases in sheep or goats for many years.		*		
Listeriosis	Encephalitis caused by *Listeria monocytogenes* is regularly found in sheep but especially in dairy goats. It is unknown how long *Listeria* spp. are excreted into the milk. Both *L. monocytogenes* and *L. ivanovii* can cause abortion in sheep and goats.		*		* Further investigation is required into the types found in people and animals.
Salmonellosis	Since 2016, recurrent and large-scale losses of kids at dairy goat farms caused by a multiresistant *S. Typhimurium*. Also a number of cases of illness in people caused by the same MLVA strain of the bacterium. The infection source is unknown; it is also unknown where the bacteria exist outside the kidding season. *Salmonella* spp. detected in numerous aborted foetuses submitted from sheep farms; further typification showed this to be *S. diarizonae*.		*		* Further investigation has been initiated for dairy goats.
Yersiniosis	A few cases each year. Detected at three goat farms in 2020, as the cause of diarrhoea and mortality.		*		
Toxoplasmosis	A few confirmed cases each year; high seroprevalence among sheep and goats.		*		

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Table continuation

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Other OIE list diseases					
Chlamydia abortus – enzootic abortion	One of the main causes of abortion in goats and sheep for years.		*		
Caprine arthritis encephalitis-CAE	Commonly occurring disease whereby the pathogenic virus sometimes behaves differently depending on the size of the farm.		*		
MV (Maedi-Visna)	(Most) significant infectious disease at large farms.		*		
Francisella tularensis-tularaemia	Since 2011 infected hares are regularly detected, and a few human tularaemia patients in the Netherlands.		*		
Mycoplasma agalactiae	No known cases in the Netherlands.		*		
Nairobi sheep disease	Has never been present in NL.		*		
Heartwater (*Ehrlichia ruminantium*)	Has never been present in NL.		*		
Infections with *Bunyaviridae* (other than Rift Valley fever virus and Crimean-Congo haemorrhagic fever)	Annual infections with the SBV since 2012, resulting in congenital abnormalities in lambs.			*	
From monitoring					
Copper toxicity	Copper intoxication is regularly detected by means of pathological examination, at both sheep and goat farms. It is not always easy to discover the source of such excesses.			*	
Copper deficiency	Detected at multiple farms each year. An adequate copper supply is particularly challenging in backyard situations.			*	
Caseous lymfadenitis (CL)	Outbreak of CL in a herd of Schoonebekers and Drentse Heide sheep. Due to frequent animal movements, the infection is probably not limited to this herd.			*	
Osteomyelitis	Osteomyelitis as a cause of serious lameness in young kids.				

[1] Quiet: no action required or action is not expected to result in a clear improvement.
[2] Increased attention: alert to an anomaly.
[3] Further investigation: further investigation is ongoing or required.

Monitoring ANIMAL HEALTH

Animal health monitoring

Since 2002, Royal GD has been responsible for animal health monitoring in the Netherlands, in close collaboration with the veterinary sectors, the business community, the Ministry of Agriculture, Nature and Food Quality, vets and farmers. The information used for the surveillance programme is gathered in various ways, whereby the initiative comes in part from vets and farmers, and partly from Royal GD. This information is fully interpreted to achieve the objectives of the surveillance programme – rapid identification of health issues on the one hand and monitoring trends and developments on the other. Together, we team up for animal health, in the interests of animals, their owners and society at large.

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