

### Calf Crop 2018 Study

A study was carried out by Livestock Health Scotland and Aberdeen Disease Surveillance Centre to examine cow fertility and calf survival across 14 herds in 2017-2018.

A commonly cited target is to wean 94 calves per cow to the bull, which requires excellent fertility and low rates of losses (abortion, stillbirth, death in the first week of life and in older calves).

The project followed 1822 cows and heifers running with the bull. Calves that died were submitted for post-mortem investigation at the Aberdeen Disease Surveillance Centre. In total, 1502 calves were weaned representing 82% of cows to the bull (Table 1).

Table 1

FERTILITY	NUMBER		%
<b>Cows to bull</b>	1822		-
<b>Not in calf</b>	212		11.6%
<b>Twins / triplets</b>	67		3.6%
<b>Calves conceived</b>	1679		92%
CALF LOSSES	Cows	Calves	%
<b>Cow died</b>	16	16	1%
<b>Abortion</b>	53	55	3.3%
<b>Stillbirth</b>	45	52	3.1%
<b>Neonatal death</b>	29	29	1.7%
<b>Older death</b>	25	25	1.5%
<b>TOTAL</b>	<b>168</b>	<b>177</b>	<b>10.6%</b>

A diagnosis was reached in 87% of all calves submitted for post-mortem examination. The major causes of death, by category are listed in Table 2.

Table 2

	Most common	2nd most common
<b>Abortions</b>	Feed / environmental borne pathogens	Specific herd infection (BVD, Lepto, Campylobacter)
<b>Stillbirths</b>	Suffocation / trauma during calving	Feed / environmental borne pathogens
<b>Deaths in the first week of life</b>	Colostrum failure and subsequent infection	Trauma from calving
<b>Older deaths</b>	Pneumonia	Navel infection

#### Conclusions

- Breeding failure up to the point of pregnancy diagnosis (11.6%) was similar to the losses after this, up until weaning (10.6%)
- The major causes of calf loss were different between herds
- Five 'Herd Health' themes emerged from the investigation, though they did not all apply to all herds
  1. Improving fertility performance
  2. Reducing feed / environmental challenge to pregnant cows
  3. Reducing calving related stillbirths
  4. Control of specific endemic herd infections
  5. Improving colostrum uptake and early calf health



#### Summer 2019 Contents

Calf Crop 2018 Study	1
<i>Mycoplasma bovis</i> Infection in Cattle	2
Detection of Rumen Fluke Eggs in Faecal Samples from Cattle and Sheep	2
Bluetongue Update	3
Maedi Visna Costs!	3
Swine Dysentery - the Facts	4
Mycoplasma Infection in Poultry	5

# Mycoplasma bovis Infection in Cattle

In recent years we have seen an increase in the number of diagnoses of pneumonia due to *Mycoplasma bovis* in Scottish herds. At least some of this increase is due to us now having improved tests for the disease.

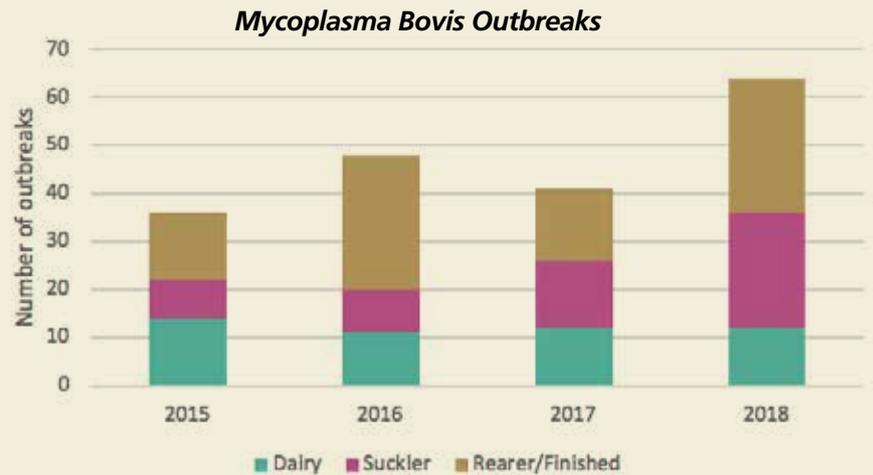
*Mycoplasma bovis* can cause a range of disease patterns from very little sign of disease right through to severe pneumonia and death.

In cattle, *Mycoplasma bovis* can cause pneumonia and mastitis. Occasionally they can contribute to other problems too, including ear, eye and joint infections. Many antimicrobials are not effective against *Mycoplasma*. Your vet needs to identify when *Mycoplasma* are involved so they can prescribe an appropriate treatment.

## Can I stop Mycoplasma getting into my herd?

Not always, but it is a very good idea to try. *Mycoplasma* do not live for long away from carrier animals, and so most spread between herds occurs by moving stock. In simple terms, the more animals you bring into your herd, the more likely you are to bring *Mycoplasma* in with them. Blood tests are available to help to identify possible carrier animals.

Other basic biosecurity measures, like maintaining fencing that prevents nose to nose contact at farm boundaries, will also help to reduce the risk.



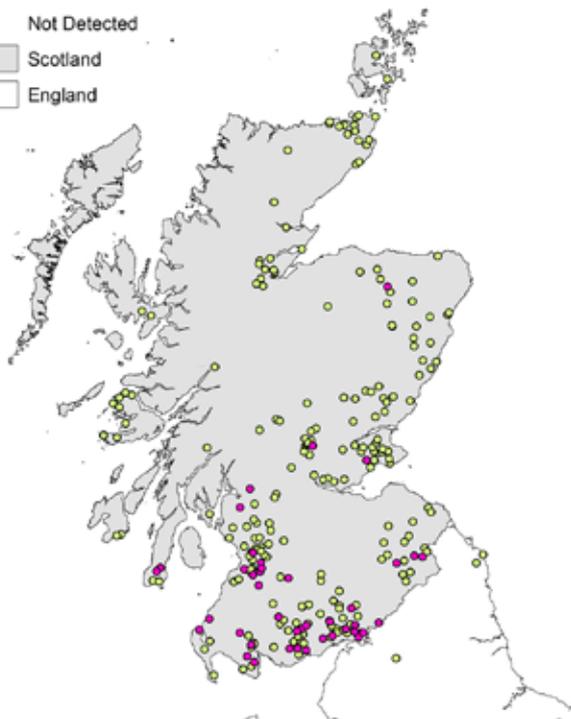
# Detection of Rumen Fluke Eggs in Faecal Samples from Cattle and Sheep

There has been a year on year increase in the percentage of sheep faecal samples submitted to Disease Surveillance Centres that were found to contain rumen fluke eggs. The maps show that over the last 5 years the detection of rumen fluke eggs has increased both in frequency and geographical distribution.

## Rumen fluke eggs

### 2013 Faecal examination

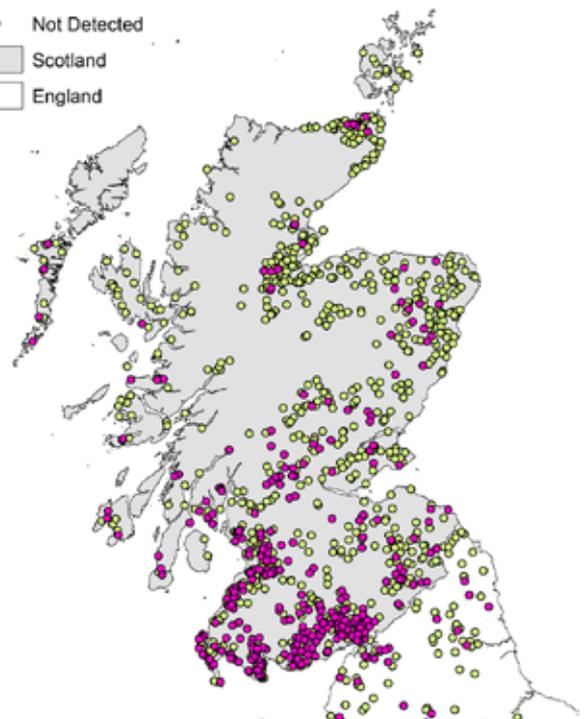
- Detected
- Not Detected
- Scotland
- England



## Rumen fluke eggs

### 2018 Faecal examination

- Detected
- Not Detected
- Scotland
- England



Should we be concerned? We often find large numbers of adult rumen flukes during postmortem examination of animals in good body condition. In addition outbreaks of fatal scour due to infection with immature rumen fluke remain very rare with only three recorded in Scotland since 2011. A Scottish study of 339 slaughter cattle failed to show reduced growth rates in rumen fluke infected cattle (Sargison *et al*, 2016). Nonetheless infection with large numbers of rumen fluke have the potential to cause high losses in both sheep and cattle. More research is ongoing into the potential economic significance of this parasite and other aspects of the disease at the Agri-Food and Bioscience Institute in Northern Ireland. The priority for most farms remains the control of liver fluke infection.

*Sargison N, Francis E, Davison C, Bronsvoort BM, Handel I, Mazeri S (2016). Observations on the biology, epidemiology and economic relevance of rumen flukes (Paramphistomidae) in cattle kept in a temperate environment. Vet Parasitol.; 219:7-16.*

## Bluetongue Update

Over the past few years bluetongue virus has been circulating in mainland Europe. Many countries in Europe have restriction zones in place due to infection. The UK has been officially free from infection since 2012 but the risk of infection remains from importation of infected animals and infected midges being blown across the English Channel.

Bluetongue is a disease affecting ruminants and it is spread by midges. It can cause a variety of clinical signs in affected animals from no sign of disease to swelling and ulcers in the mouth, nasal discharge, red skin and eyes, swollen teats and tiredness in cattle. In sheep the signs are ulcers in the mouth, drooling from mouth and nose, swelling of the mouth, head and neck, fever and lameness.

France and Belgium have reported changes to the way the disease is seen in their herds. Often the disease is passing through without any sign of illness but the virus is able to pass through the placenta to the developing calf. Affected calves have been born small, weak and in some cases blind. It has been estimated that between 2-15% of calves in infected herds are born this way. These affected calves have tested positive for bluetongue virus and could lead to the spread of infection if pregnant cows are moved during pregnancy.

There are movement restrictions in place to prevent movement of animals from infected areas. Animals can be moved if they have been vaccinated at least 60 days before movement and tested free from the virus. It is essential that if you are considering importing animals that you work with your vet and livestock dealers to make sure animals are correctly vaccinated and protected before travel.



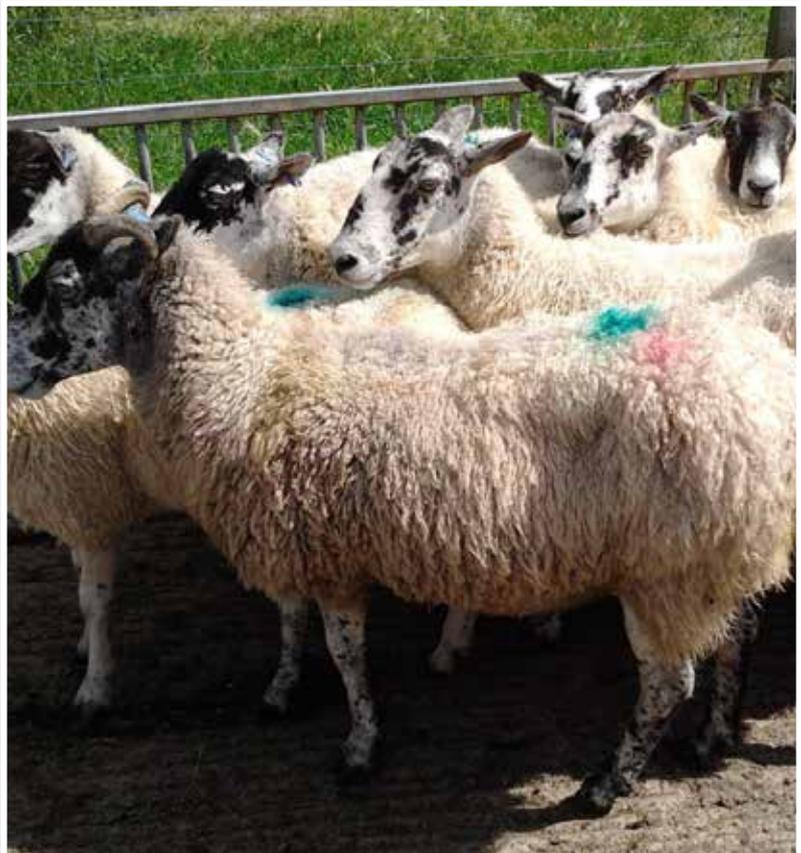
**Bluetongue is a notifiable disease so if you suspect a case you must inform APHA immediately.**

## Maedi Visna Costs!

Recently there has been an increase in the number of commercial sheep flocks in Scotland that have been found to be heavily infected with maedi visna. SRUC Veterinary Services and SAC Consulting with assistance from private veterinary surgeons set out to investigate the true cost of maedi visna (MV) in a commercial flock. In the study flock, the disease was diagnosed initially in ewes submitted for post mortem examination for investigation of poor condition, increased cases of chronic mastitis and high barren rates at scanning.

Maedi visna is a chronic viral disease in sheep that cannot be treated and there is no vaccine available. It is spread through colostrum or nose to nose contact. A long incubation period means that it can often affect a large proportion of the flock before clinical signs are noticed. Devastating effects on ewe milk production and lamb growth can result in addition to ewes being more likely to become affected by other diseases. Once a flock becomes infected with MV, control and eradication are difficult and the true cost of this disease has so far been unknown.

After MV is diagnosed in a flock, further testing should be done to establish how widespread the infection is within the flock; this is the prevalence. This can be done by testing every animal over 12 months or a selection from each age group over this threshold. In the study flock of 800 ewes 58% were estimated to be infected.



The initial cost of MV in the flock was calculated over lambing 2017, these costs are all in addition to costs in a normal year:

- 10 tonnes of ewe rolls = **£2100**
- 45 bags of lamb milk replacer = **£2205**
- 43 tonnes creep feed = **£8933**
- Veterinary medicine costs = **£3575**
- Additional milk machine and creep feeders = **£3150**

**Total additional cost = £19963**

There are two main ways in which an outbreak can be controlled. If the flock number of infected sheep is low, regular testing can be carried out and positive animals can either be culled or separated into a second 'dirty' flock. Very strict biosecurity is required to ensure disease stays out of the clean flock. The second method of eradication is to cull the flock and repopulate with MV accredited free stock. This was the method chosen in this case. The costs were calculated from this outbreak for the year of depopulation and four years thereafter. Repopulation was funded by the cull value of the current flock therefore the new flock was established at 50% stock numbers. This is to be rebuilt over four years by retaining replacements. The total accumulated costs incurred to this farm over four years from depopulation to rebuilding stock numbers was estimated to be in excess of £130,000.



Poor lamb growth is often the first sign of MV, early screening and control plans are important to minimise the costs associated with this disease.

Bluetongue is a notifiable disease so if you suspect a case you must inform APHA immediately.

## Swine Dysentery- the Key Facts

**Swine dysentery is a serious bacterial infection of pigs that causes diarrhoea, deaths, reduced growth rates and poor productivity. It has made an unwelcome return to Scotland and has been diagnosed on several units during spring 2019.**

The disease is caused by a bacterial organism called *Brachyspira hyodysenteriae*. Infection can be introduced to units by a number of sources including:

- carrier pigs
- bringing infected material onto farms accidentally, e.g. via dirty lorries, boots, equipment etc.
- Vermin and birds can also carry infected material from farm to farm.

Pigs become infected through oral intake of infection, with the bacteria colonising the large intestine and multiplying to result in heavy infection of the colon. Infected pigs show diarrhoea that is grey/brown in colour initially, with a runny or watery consistency. As the infection progresses, mucus and sometimes fresh-looking blood can be seen in the faeces. Infected pigs will look unwell, have a reduced appetite and severely affected pigs die.



As the infection progresses, mucus and sometimes fresh-looking blood can be seen in the faeces. Infected pigs will look unwell, have a reduced appetite and severely affected pigs die.

Outbreaks of diarrhoea need to be investigated to diagnose the cause and get the correct treatment and control measures put in place.

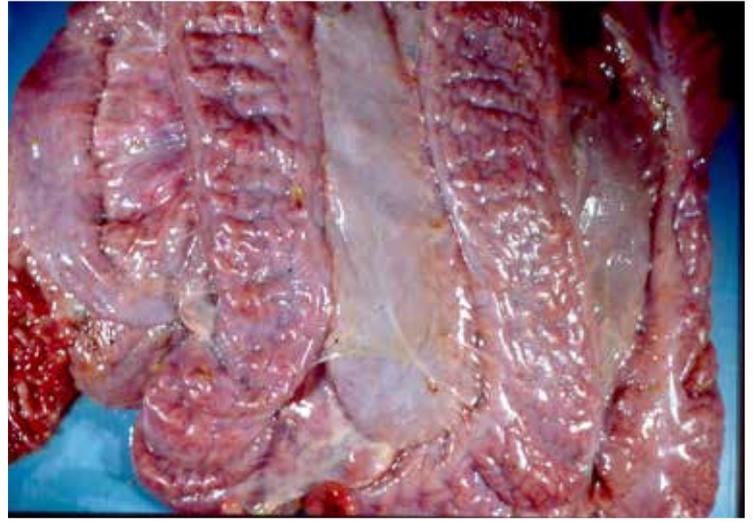
It is important to contact your vet at the early stage of outbreaks. As there is no vaccine available for swine dysentery, antibiotic treatment and the correct management procedures are needed to contain the infection and minimise the impact of the disease.

The disease can be eradicated from sites by total depopulation, cleaning and disinfection or partial depopulation, cleaning, disinfection, robust management and biosecurity planning under veterinary direction. Sheds and equipment must be allowed to dry thoroughly.



### The importance of good biosecurity cannot be understated:

- Bought-in pigs should come from a swine dysentery-free source. Purchasers can ask for completion of the QMS Health Declaration form by suppliers to confirm the health status of the supply herd. Incoming pigs should be isolated for 4 weeks before introduction into the main herd. Use separate boots, clothing and equipment for pigs in isolation and either separate staff or careful hygiene measures in keeping with good quarantine principles. Should diarrhoea occur in pigs in quarantine, your vet should be notified and samples taken for testing.
- Lorries coming to the unit are a significant risk, especially if part-loaded. Having a loading bay well away from the unit, and good loading bay management are essential. Supply clean boots for the driver, and clean/disinfect the loading bay after use.
- Supply boots and coveralls for visitors along with standard biosecurity recommendations.
- After discussion with your vet, suspicion of swine dysentery should be reported to the Scottish Pig Disease Control Centre (SPDCC), in accordance with the QMS Pig Health Charter. This allows the SPDCC to assist with transport and other arrangements to minimise the risk of disease spread as far as possible. Once test results are received, the report should be updated to either positive or negative, as advised by your vet.



Taking action to diagnose and control swine dysentery as quickly as possible will help to minimise the impact on your pigs and prevent accidental spread of infection to other herds. Ensuring all staff and visitors observe biosecurity and remain vigilant are also key to ensuring that Scotland once again is free from this disease.



## **Mycoplasma in Poultry**

*Mycoplasma* are a very common cause of disease in poultry producing mainly respiratory symptoms but can also result in lameness and significant production loss. It has a liking for cooler temperatures and is spread easily from bird to bird in close proximity meaning poultry housed in the winter months are at higher risk.

### **Transmission**

- The disease is very contagious and spread in oral discharges i.e. sneezing and coughing
- If protected in these oral droplets it can survive for several days outside the bird
- Can be carried on equipment, feeders and workers



**RISK**

### Risk factors

Birds that are stressed or already suffering from other infections are most susceptible to mycoplasma. Mixing of birds from different sources and ages is of particular high risk and should be avoided. Dirty overcrowded conditions with poor ventilation will increase the risk and spread of disease. Excess environmental ammonia damages normal defence mechanisms in the birds meaning mycoplasma can take hold more easily.

### Individual Symptoms

- Nasal/eye discharges
- Facial swelling
- Sneezing
- Swollen joints/lameness

### Impact on production

- Reduced egg production
- Reduced growth
- Deformed eggs

### Treatment

It is important to establish an accurate diagnosis in order to address mycoplasma as treatment can be difficult and often it is not possible to completely cure with antibiotics.

Repeat offenders should be culled.

### Prevention

- Purchase birds from reputable sources and avoid markets/auctions
- Establish a quarantine system for new purchases
- Adopt an all in all out policy
- Ensure feeding and environment is optimum for age and bird numbers
- Use a suitable disinfectant and establish good on farm biosecurity to prevent bringing on the disease or spreading between groups.



## SRUC Disease Surveillance Centres

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Dumfries	01387 267260
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Inverness	01463 243030
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We are pleased to have comments from readers on the usefulness of this publication and if you have topics you would like to see covered in future issues.

[www.sruc.ac.uk](http://www.sruc.ac.uk)

Reports are published monthly in the Veterinary Record highlighting the disease surveillance findings in Scotland. These are available at [http://www.sruc.ac.uk/downloads/120613/monthly\\_reports](http://www.sruc.ac.uk/downloads/120613/monthly_reports)



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