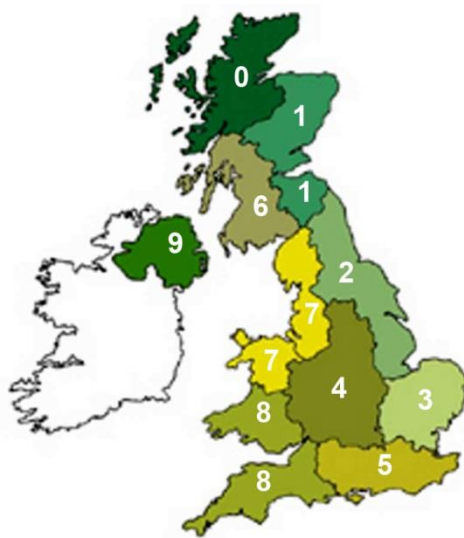


As part of AMTRA’s online CPD Programme for livestock RAMAs (SQPs), each month AMTRA will send you the Parasite Forecast which will highlight the parasitic challenge facing livestock in your area for that month. At the end of the Parasite Forecast you will find a series of multiple choice questions (quiz button) based on its contents. Answer the quiz online and you will be emailed a certificate with your score. This will form part of your RAMA (SQP) CPD requirement. The Parasite Forecast has been developed by NADIS (National Animal Disease Information Service) and is written by leading veterinary parasitologists and based on detailed data from the Met Office

NADIS Parasite Forecast – April 2020

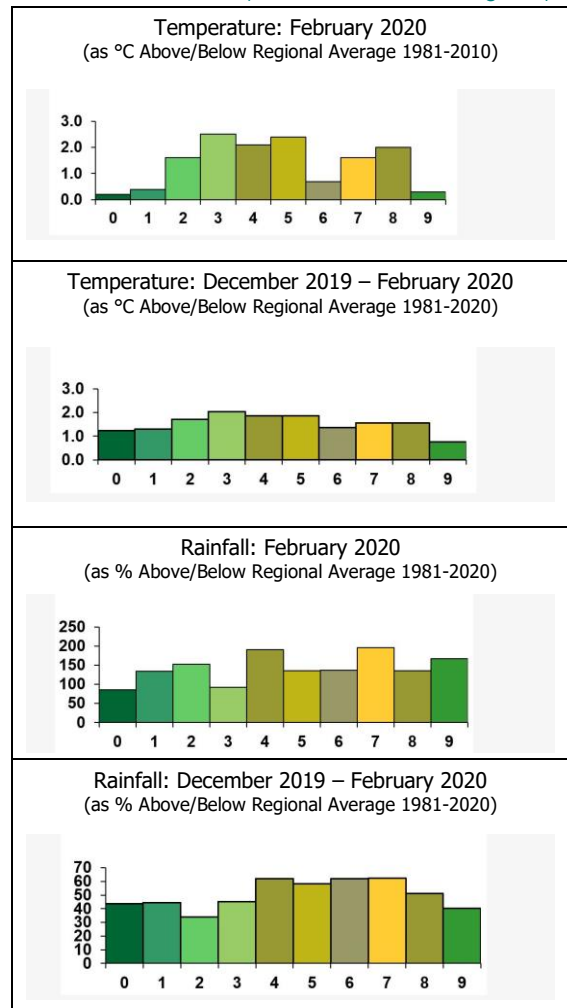
Use of meteorological data to predict the prevalence of parasitic diseases

Regional Weather (based on Met Office figures)



REGIONS

- | | |
|----------------|-------------------------|
| 0 N W Scotland | 6 S W Scotland |
| 1 E Scotland | 7 N W England & N Wales |
| 2 N E England | 8 S W England & S Wales |
| 3 E Anglia | 9 N Ireland |
| 4 The Midlands | |
| 5 S England | |



The most recent version of this monthly parasite forecast may be accessed at www.nadis.org.uk

Weather report

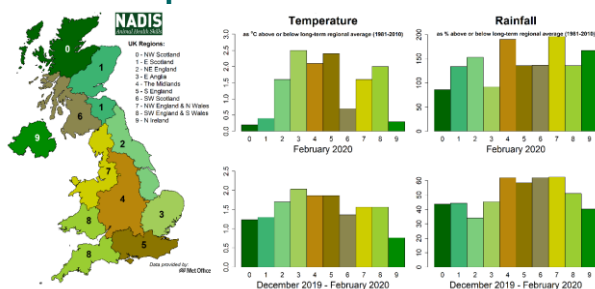


Figure 1: Temperature and rainfall by region for previous months.

Storms Ciara on the 9th February and Dennis on the 15th February helped make February 2020 exceptionally wet at 237% of the long-term national average (1981-2010) and the wettest February on record since 1862. Regionally, rainfall was well above average across all regions in February and for the previous 3 months (December 2019 – February 2020). Brighter spells were experienced between periods of rainfall, with a provisional UK mean temperature for February of 5.1°C, 1.4°C above the long-term national average. Regionally, temperature varied

between 1.5 – 2°C above average in England and Wales, whilst those in Scotland and Northern Ireland were more similar to the long-term national average. For the preceding 3 months, mean regional temperatures were at least 0.5°C above their long-term regional averages.

Liver Fluke

It is important to consider chronic fluke infections at this time. Animals harbouring such infections may not show any outward signs of disease but can have profoundly impacted welfare and productivity. The mild and wet winter experienced this year may have allowed development later into the year and aided subsequent on-pasture survival (Figure 2).



Figure 2: Development of Liver Fluke and its snail intermediate host (*Galba truncatula*) slows considerably over winter, but the warmer and wetter weather this season may have allowed a longer development period than usual. Active mud snails, found in Ceredigion, Wales in February highlight this point. [photo credit: Chelsea Davies, University of Aberystwyth]

Advised actions include:

- Monitor for signs of chronic disease:
 - Weight-loss, anaemia and fluid accumulation (e.g. bottlejaw).
- Diagnostic testing can be useful in identifying infection in animals displaying no obvious signs of disease:
 - Fluke egg counts can be used to identify chronic infections in groups of animals through composite sample analysis.
 - Post-mortems and abattoir feedback can provide valuable information

- Where chronic infection is identified consider treating with a flukicide other than triclabendazole to preserve its effectiveness for when it most needed.
- For more information and advice please speak to your vet or SQP and see the COWS and SCOPS group websites.

SHEEP

Parasitic gastroenteritis (PGE)

Parasitic gastroenteritis in lambs is a major concern at this time of year. This can be caused by a number of roundworms. Having disease prevention and control strategies in place will help to reduce risk of disease and subsequent losses. Such strategies include pasture management, anthelmintic treatments and diagnostic monitoring. Specific risks and their control strategies include:

1. Nematodirois

Unlike other gut nematodes, *Nematodirus* infection passes directly from one season's lamb crop to the next. Pastures may become highly infective in a short space of time due to favourable conditions leading to mass hatching and emergence of infective stage larvae. If this mass emergence or "peak hatch" occurs at a time when lambs are starting to graze extensively, typically around 6-12 weeks of age, this can lead to widespread and severe disease characterised by sudden onset diarrhoea, dehydration and death. The relatively mild, warm start to the year means development of *Nematodirus* eggs is likely to be well underway, particularly in the southeast of England. Please be on the lookout for signs of disease, and consult the [SCOPS nematodirus forecast](#) for up-to-date risk in your area.

Advised actions include:

- Identify high risk pastures, namely those grazed by the previous season's lambs, and avoid grazing these during peak risk periods.
- Be alert for signs of disease. Affected animals normally present with heavily soiled back ends, lack of appetite and a profound thirst (Figure 3).
- Consult the [SCOPS Nematodirus forecast](#) for up-to-date risk in your area.

- Where disease occurs treatment with group 1-BZ is usually effective. **However**, reports of treatment failures have been reported in the UK.
 - It is therefore essential to ensure correct dosing by weight and administration using correctly calibrated drenching equipment.
 - Consider egg counts 7-10 days post-treatment to confirm efficacy (Figure 4).
- Where treatment failure is suspected, please seek veterinary advice.

- For more information, please speak to your vet or SQP and see the ["SCOPS" group guidelines](#).



Figure 3: *Nematodirus battus* infection can cause sudden onset, severe diarrhoea in first season lambs often with characteristic soiling around the back end.

2. Other gut roundworms

[Recent work](#) conducted by SCOPS has shown blanket treatment of ewes with anthelmintics around lambing time has very little effect on subsequent roundworm infections and PGE in lambs. Consequently, to reduce selection for anthelmintic resistance it is now advised to restrict treatment in ewes to those in poor body condition, immature shearlings and ewe lambs only.

In spring-born lambs, disease caused by these roundworms generally becomes more of a problem later into the grazing season compared with nematodiosis. Nonetheless, it is important stay alert and plan accordingly.

Advised actions include:

- Monitor for signs of disease in your lambs as the season progresses, particularly anorexia, diarrhoea, dehydration, weight loss and death.
- Faecal egg counts are useful in identifying infectious burdens and distinguishing the different causes of PGE (Figure 4).

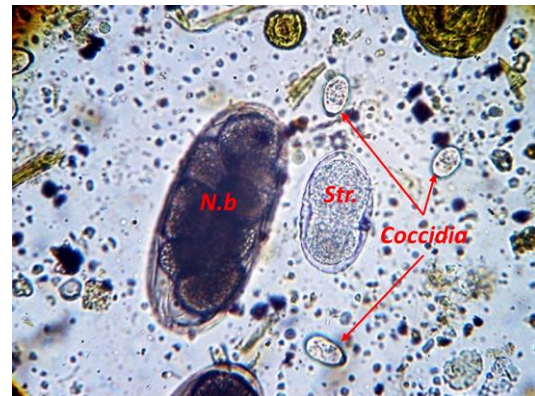


Figure 4: Faecal egg counts are a useful way of evaluating various parasitic infections. This method can be used to identify *Nematodirus* eggs (*N.b*) and those of other PGE-causing roundworms (*Str.*) as well as coccidial oocysts (arrows).

3. Coccidiosis

Another parasitic disease of importance in growing lambs is coccidiosis. Signs of disease typically occur around 4-8 weeks of age and are characterised by anorexia, weight loss, diarrhoea (with or without blood) and death in severe cases. Coccidiosis results from a rapid accumulation of infective “oocysts” in the environment, which can occur both indoors and at pasture (Figure 5). This is commonly associated with high intensity husbandry systems and stress factors such as poor colostrum supply, high stocking densities, adverse weather conditions at wet muddy paddocks previously grazed by sheep and/or extended housing periods.

Due to the similar presenting signs and age ranges of affected animals, in grazing lambs it is important to determine whether *Eimeria* or *Nematodirus* infection is present and causing disease. Concurrent infection with both parasites is not uncommon, potentially leading to greater disease severity.



Figure 5: Unlike PGE, coccidiosis can affect housed animals as well as those at pasture.

Advised actions include:

- Monitoring for signs of disease
- Routine worm egg counts can also detect oocysts (Figure 4).
 - When considering treatment, further testing to determine whether oocysts present are from a pathogenic *Eimeria* spp. is also advised.
- Reduction of stocking densities, batch rearing of lambs by age and avoidance of heavily contaminated pastures/premises can reduce risk of disease outbreaks.
- A number of anticoccidial products including feed medication are available for both prevention and treatment of coccidiosis. For more information on these, please speak to your vet or SQP.

CATTLE

New COWS group guidelines released

The working group for Control of Worms Sustainably in cattle (“COWS”) have recently [updated their guidelines](#) on control of roundworms, lungworms, liver and rumen fluke and ectoparasites. Please visit the [COWS group website](#) to see these new updated guidelines in full.

Parasitic Gastroenteritis (PGE)

If previously untreated, young stock that have been housed over winter following their first or second grazing season may still be at risk from type-2 ostertagiosis. This condition results from the emergence of large numbers of encysted larvae from the stomach wall *en masse* ahead of turn-out the following spring. This disease presents as intermittent diarrhoea, loss of appetite and rapid loss of body weight (Figure 6). Whilst numbers of animals affected is usually low, mortality in affected animals can be high without prompt treatment with either a group 3-ML or some group 1-BZ products. For more information, please speak to your vet or SQP and see the [COWS group guidelines](#).



Figure 6: Young stock not dosed at housing may be at risk from type-2 ostertagiosis towards the end of the housing period.

Calves and youngstock entering their first or second grazing season are at greatest risk of PGE (Figure 7). It is therefore important to plan around these animals when devising an effective, sustainable parasite control plan for your farm. The [COWS group](#) currently recommend one of two options. Choice of strategy is largely dependent upon individual farm objectives and the feasibility of their implementation:

- Strategic anthelmintic treatments. This option requires the use of anthelmintic treatments early in the grazing season, typically within 3 weeks of turnout, to reduce further pasture contamination with subsequent follow up treatments depending upon the type of treatment used up to mid-July by which time the over-wintered larval populations should have declined to insignificant levels. This control strategy assumes treated cattle will initially be set-stocked, but may be moved to safe pastures (e.g. hay or silage aftermaths) later in the grazing season as these become available. Strategic treatments include administration of a bolus wormer at turnout or repeated administration of shorter duration group 3-ML products at a 6-8 week intervals. This approach will lead to on-farm selection pressure for anthelmintic resistance. Efficacy should therefore be monitored by diagnostic testing and performance indicators such as weigh-gain, and practices reviewed if found to be sub-optimal.

- Therapeutic treatments. This option aims to avoid use of anthelmintics unless needed. This is achieved through close monitoring of animals for egg counts and performance indicators for early signs of infection and ill-thrift and treating before clinical disease occurs, or is believed to be an imminent risk. Whilst reducing selection pressure for anthelmintic resistance, this approach increases the risk of sub-clinical infection and production losses and will not prevent build-up of pasture larval burdens throughout the grazing season. Where available, this approach can make use of pasture rotation to prevent animals being exposed to a significant build-up of infective larvae later in the grazing season, although this needs to be planned well in advance to ensure safe grazing options are available when needed.

Irrespective of which approach is taken, over the course of the grazing season regular performance testing through weight gain, diagnostics (e.g. worm egg counts) and post-treatment efficacy testing are hugely valuable and important tools for checking whether your chosen control plan is working- Incorrectly controlled PGE can severely impair performance and productivity in both calves and adult cattle. For more information, please speak to your vet or SQP and see the COWS website (www.cattleparasites.org.uk).



Figure 7: PGE in cattle causes diarrhoea and up to a 30% reduction in the growth rates of youngstock. Commonly affected animals include growing dairy heifers in their first grazing season (left) and weaned autumn-born suckler calves in their second grazing season (right)

Lungworm

On farms with a history of lungworm infection, vaccination offers a valuable tool for protection against disease in calves (Figure 8). Since the lungworm vaccine is live, it must be purchased fresh ahead of each grazing season. Planning and ordering the number of doses required for your farm well in advance is therefore advisable.

All calves over 8 weeks old entering their first grazing season should be given two doses of lungworm vaccine four weeks apart, with the second dose being given at least two weeks before turnout.

In some instances, such as where anthelmintic regimes may have prevented full immunity being acquired over the previous grazing season, a further one-off vaccination may be recommended.

For more information, please speak to your vet or SQP and see [“COWS” group guidelines](#).



Figure 8: Lungworm infection can be a very serious problem for youngstock. On farms with a history of disease vaccination can be hugely valuable in reducing disease incidence and severity, but must be ordered and planned well in advance.

[Don't forget to try the interactive quiz](#)

Local farm conditions may vary so consult your veterinary surgeon. Parasite control should be part of your veterinary health plan.

*To watch a webinar (video) based on this article and take an electronic quiz worth 3 CPD points, click **WEBINAR***

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