# **Calfmatters Survey – common health issues**

Boehringer Ingelheim Animal Health conducted its fourth Calfmatters Survey across Ireland and the UK in June 2020. While the survey examined common calf-health issues such as scour and pneumonia, the findings suggest that farmers are acutely aware of the positive benefits of good biosecurity and disease prevention in all aspects of calf management. Here, we present the findings of the survey in full

Boehringer Ingelheim Animal Health's Dr Ailsa Milnes, who coordinated the survey and analysed the results said: "When asked what may change on-farm post-Covid-19, the most common response was an increased awareness of biosecurity, with nearly a fifth reporting the need to invest in disease prevention. Perhaps the rapid spread of Covid-19 around the world demonstrated that preventative measures really are worth taking. Overall, 49% of respondents stated they will be making changes on the farm in the new post-Covid world.

#### LET THE SURVEY BEGIN

1. How many calves did you treat for pneumonia on your farm in the last year?

Comparing percentage of calves treated for pneumonia across the years suggests an encouraging trend of improvement; 67% of respondents stated that they had to treat <5% of their calves and this figure has increased year on year (see Figure 1). Those who reported treating over 25% of calves have always been in the minority and this has stayed fairly constant.



2018 2019 2020
Figure 1: Percentage treated for bovine respiratory disease.



Figure 2: The overall number of cases compared to normal.

Figure 3: Mortality due t pneumonia. Of the respondents, 54% were dairy farmers, 33% had beef suckler herds and 7% were categorised as having both, while farms with no adult cattle were categorised as calf rearers and accounted for 6%. Herd-size average was 195 cows for the dairy herds and 60 for the beef herd. These numbers are larger than the average UK dairy herd size of 148 and Irish dairy herd of 79.

# 2. Comparing respiratory disease cases to previous winters

The majority, 86% of farmers, said their respiratory disease was the same or better than previous years compared to 87% in 2019 and 77% in the 2018 survey.

#### 3. What do you think was the main reason for this?

In previous years, the most common answer had been that the winter was better or worse than usual and although this remained the most common response, there was a more even spread. In 2020, many saw no perceivable change, but where they did, the most common reasons were weather changes, changes to housing and changes made to colostrum management. The weather is the one thing that the farmer cannot control, but the other factors are manageable and influential. By controlling those factors, we can maximise the calves' resilience with the aim of reducing the impact regardless of whatever climatic factors they face.



Figure 4: The main reason for a change in BRD.

## 4. What are the biggest impacts of calf pneumonia on your farm business?

This question has been asked for all four years with fairly consistent responses. Every year the top three responses have been increased vet and medicine costs, loss of income from less productive calves and loss of income from dead/culled calves. It is encouraging to see the industry is becoming more aware of the indirect costs associated with BRD due to the sub-clinical impacts on productivity as well as the direct costs such as treatment costs. Increase in stress from BRD has also been shown to be a consistent finding with nearly 40% of farmers in 2020 indicating that this is an impact factor.





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References: 1. Philippe-Reversat et al. (2017) Acta Vet BRNO. 86: 325–332 2. Metcalfe et al. (2020) Vet Record Open 7: e000429 3. Ellis et al. (2018) Can Vet J. 59: 1311–1319 4. Metcalfe et al. (2019) Poster presented at EBC, Den Bosch, Sept 19

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Figure 5: The biggest impact of BRD to farms - by year.

# 5. Which of the following management methods do you currently implement against calf pneumonia?

The most common methods implemented against BRD in 2020 were ensuring colostrum intake, housing calves in similar age groups and providing optimal housing conditions. These responses are fairly consistent over the past four years. However, although colostrum was cited most frequently overall, it's interesting to note that the percentage has decreased from 87% in 2017 to 70% in 2020. Colostrum is the single most significant factor that a farm can influence to ensure that a calf has the optimum start.

It is reassuring to see that group antibiotic treatment for prevention is used by very few respondents and has decreased slightly. However, 7% (33) of our respondents indicated that they were using antibiotics for prevention. As perhaps expected, calf rearers were more likely to use preventative antibiotics, 22%, which was higher than dairy (6%) or beef farms (8%). This highlights that farms rearing calves, which are not home-bred and are acting as rearers only, are more likely to rely on antibiotics. There had been a year-on-year increase in farms using vaccination and, although the 2020 cohort indicate that this is an important method, this year the percentage was lower than 2019 results.



Figure 6: Methods used to reduce BRD by year.

6. If you give colostrum, do you routinely test its quality? Although colostrum protocols are in place on many farms, whether these result in adequate transfer of antibodies can depend on various factors including the quality of the colostrum. In 2020, we found that 38% of farms who feed colostrum will also check the quality of their colostrum. This has increased year on year but many farms do not. However, perhaps they are using other methods to monitor their protocols such as measurement of total proteins in their calves.





7. Regarding vaccination, indicate what you do? Farms were given four possibilities which allowed comparisons to be made with the previous surveys. It is very encouraging to see that 47% of farms said that they were vaccinating all or some of their calves, which is slightly higher than recent industry figures suggest.<sup>2</sup> There are a lot of farms not using vaccines and with Responsible Use of Medicines in Agricultural Alliance (RUMA) targeting vaccination use as a method of reducing disease and, therefore, antibiotic use, it can be expected that this figure will increase in future years.



Figure 8: Calf pneumonia vaccination policy.

8. If you have vaccinated calves in the past three years, please indicate whether you have observed differences, compared to unvaccinated calves (select all that apply):

There's been a big drive by RUMA during the past few years to encourage producers to vaccinate, to prevent disease and to reduce the use of antibiotics that are needed to treat sick animals. Producers are seeing the benefits of using vaccination and our survey shows that farmers are increasingly aware of their role in reducing disease, increasing animal health

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nimrod SELEKT is a registered Trade Mark of Nimrod Veterinary Products Ltd. Contact Whelehan Animal Health on telephone (01) 4688900 Call Colm Menton on 087 2545989 Send an email to ColmM@tpwhelehan.ie and welfare and in reducing antibiotic use. The results indicate that the use of vaccines is perceived to be related to a reduced need for veterinary intervention and antibiotic use. This all adds up, not just in terms of economic costs, but also in improved welfare for the calves and also the farm staff who look after them. Treating sick animals is not only time consuming and expensive but it is also stressful and demoralising.



Figure 9: Perceived benefits of vaccination 2017-2020.

# 9. If you do not vaccinate or have stopped vaccinating calves against calf pneumonia in the past three years, why?

As in previous years, the most common answer was that there was no incidence of calf pneumonia. However, BRD can be clinical and subclinical, with both having an impact on growth rates and production. It is interesting that relatively few farms monitor growth rates, which are reduced by BRD. It is very possible that on farms who apparently see 'no disease' that they are dismissing coughing calves as 'one of those things', when in fact they may be an indication of underlying group disease. Fewer respondents said they were unsure of the benefits of vaccination in 2020 compared with previous years. This is likely associated with both increased awareness due to industry messages and campaigns, and the fact that more farms are vaccinating and seeing the benefits firsthand.



**calf pneumonia in calves next winter?** Farmers were asked about what they had done this year, but also what measures they would take in the next winter to improve their calf-rearing system in terms of BRD. The top answer was to house calves in similar age groups, followed by monitoring colostrum intakes, and monitoring calf-housing conditions. There is awareness that mixing calves of various ages poses a risk and that may also be part of the reason why monitoring and improving calf housing were priorities. In addition, the proportion who intend to monitor has increased over the last few years, which may suggest that farms are looking at measuring changes and that benchmarking and data analysis is becoming more commonplace in calf rearing.



Figure 11: Measures to reduce BRD in future - by year.

# 11. During the past three years, has the amount of antibiotics used to treat calves changed?

The proportions have stayed relatively similar, but there is an interesting trend indicating that farms are seeing a decrease in the amount of antibiotic used. Caution should be taken in interpretation, but this would be in line with what is being seen within the industry and suggests that the calf health antibiotic hot spot is being addressed by farmers. Again, we are aware that our survey represents a small subset of farms and that our findings may not reflect all farms, especially if our study population is more proactive and concerned about calf health.



Figure 12: Amount of antibiotics used to treat BRD.

# 12. What proportion of your calves have shown evidence of calf scour in the past year?

The majority of farms, 87%, reported that less than 10% of their

calves showed evidence of scour, which is similar to previous years. The percentage with over 25% of their calves affected was 5%, which equates to the finding from 2019 and lower than the 9% reported in 2018.



Below 5% #5-10% #10-25% #Over 25%

Figure 13: Proportion of calves showing evidence of calf scour 13. Which of the following doindheusestoreerat cases of scour

#### on your farm?

Scour is one of the most common disease syndromes in calves, with a variety of causes. The most common causes are unlikely to be bacterial and this reflects treatment, which regardless of cause involves keeping the calf hydrated. Effective oral rehydration therapy (ORT) aims at correcting dehydration and electrolyte loss in order to support the calf while its immune system deals with the cause. Nearly all, 99%, of farmers included oral rehydration in their protocols, with a mix between those who would restrict milk and those who continue to feed milk. A review of the previous survey findings shows that the balance is swaying in favour of continued milk feeding and nearly two thirds follow this protocol compared with just over half in 2018. Historically, it was common to restrict milk to scouring calves, but now it is standard recommendation to continue to feed milk or milk replacer along with oral rehydration fluids. ORF was originally developed for human medicine and is credited as one of the most important advancements of the 20th century. There are various products on the market therefore this is an area where a review of both your chosen ORF and your treatment protocols with your vet would be worth considering. Common causes of scour are cryptosporidium and rotavirus, one is a parasite and the other a virus, which do not respond to antibiotic therapy. There are other causes where antibiotics are indicated, but often they are not required in the treatment of scour. The proportion of farms using oral or injectable antibiotics has stayed relatively constant, but there does seem to be a hint from the results that antibiotic use is following a downward trend.

Interestingly, NSAID use in scouring calves seems to be declining with 43% of farms stating that they use them in some or every case, compared to 50% in 2018. Metacam® is an example of an non-steroidal anti-inflammatory drug (NSAID), which is licensed for use in scouring calves and studies have shown that inclusion has a beneficial effect with treated calves having a faster and more pronounced recovery.<sup>3</sup> NSAIDs should be used along with rehydration therapy.

### The Benefits of Injectable **Trace Mineral Supplementation** Pre-calving:

The trace mineral levels in cattle are not static; they change throughout the production cycle depending on the demands on the bovine. There is a natural decline in the trace mineral status of cows in the last trimester of pregnancy as there is an increasing demand for trace minerals for foetal development.

During late pregnancy and continuing in early lactation, energy and trace mineral requirements that are needed for foetal growth and milk synthesis increase dramatically, exceeding that which the cow can obtain from dietary sources.

In their first lactation heifers are recovering from their first calving, commencing lactation, trying to conceive once again and all this while they are still growing. There is also a significant decrease in the key antioxidant enzyme superoxide dismutase during the period of 14 days following parturition. This group is at an increased risk of subclinical mineral deficiency due to high production demand and often benefits the most from supplementation.

Maternal copper and selenium deficiency has been linked to increased mortality and morbidity in new-born calves. During the final weeks of pregnancy, the foetus will increase in weight by 75% and 50% in length. Furthermore, during this period the bulk of the trace mineral transfer to the calf will occur. Transfer is across the cotyledon/caruncle complex of the placenta and the first organ reached via the umbilical vein is the liver.

Cow's milk has been shown to be a very poor source of trace minerals, hence this pre-birth loading of the liver'. Supplementing the dam in the pre- calving period is of exceptional significance as there is the "2 for 1" effect by supplementing the calf in utero leading to improved neonate mortality2.

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#### References

- Suttle N. P. 2010 Mineral Nutrition of Livestock, 4th Edition.
- Machado, V.S., et al. Effect of an injectable trace mineral supplement containing selenium, copper, zinc , and manganese on the health and production of lactating Holstein cows. The Veterinary Journal (2013)

Multimin solution for Injection for Cattle contains 2n (60mg/m) Manganese (10mg/ m) Copper (15mg/m) Selenium (5mg/m) POM. For the Supply of trace minerals to correct concurrent clinical or subclinical deficiencies of selenium, copper manganese and zinc: which can arise during critical phases of the production or breeding life cycle. Further information available from: Wrbac Ltd, Unit 16 Woolpit Business Park, Windmill Avenue, Woolpit, Bury St. Edmunds, Suffolk IP30 9UP Tet: +44 (0) 1359 243243. Further information available from the product SPC at e. U

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Figure 14: Scour treatment options - by year.





## Figure 15: Painful procedures where NSAID analgesia provided – by year.

#### 15. What is your BVD control policy?

It is interesting to note that most farms (58%) indicate that they are actively identifying and removing persistent infections (PIs) or are part of BVD Free and monitoring, but this has decreased from the previous two years when a similar question was asked. In fact, the percentage who state they are doing nothing has increased to 15% and the percentage vaccinating has decreased from 58% in 2018 to 43% in 2020. The figures are consistent with national figures<sup>3</sup> and from Boehringer's BVD National Survey 2020 –  $45\%^{10}$  BVD is a difficult disease to eradicate and complacency may result in failure to eradicate or increase the tail of the eradication schemes.



Figure 16: BVD control policy – by year.

#### 16. What is your main source of information on calf health?

The clear winner as an information provider was our respondents' vet, which is similar to the findings in previous years and indicates that the vet is a trusted adviser for most farms. Most proactive practices are working with their farms to prevent disease and the James Herriot days of primarily 'fire brigade' emergency work, is not typical anymore. In recent years, calf health has taken a more prominent role with many vets involved in routine youngstock work, especially on dairy farms. Calf health is now stepping out of the of the shadows of the adult herd, becoming a more dominant interest, rather than playing second fiddle to the adult herd. Calves on many farms are the future of the herd and getting them off to a flying start is incredibly important, not only for their individual welfare, but also for the sustainability of the herd. The vet can have an excellent overview and insight to the issues and concerns of their clients' herds and is ideally positioned to provide the information and care needed.



Figure 17: Main source of farmer information - 2020.

#### 17. How have you been affected by Covid-19?

The survey was undertaken in June 2020 and, at this time, only 2% reported that a member of their family or farm team had had Covid-19. As time progresses, we could expect this figure to rise. Despite Covid infection for farms being apparently low, it has taken its toll, which is probably similar to other demographics. Approximately two thirds of farmers, who responded, indicated that they had been impacted by Covid-19. Nearly half, 49%, reported a negative financial impact and 25% indicated that the pandemic has had a negative impact on their mental health.



#### Figure 18: The impact of Covid-19 on farms.

#### 18. Will you make any changes to farm policy post-Covid-19?

Just over half of respondents stated that nothing would change following Covid-19, which means that nearly half, 49%, will make changes. The most common response was an increased awareness of biosecurity with nearly a fifth reporting the need to invest in prevention. Although farms noted a financial impact, only 6% suggested that they would be forced to make cutbacks in calf-rearing costs. Overall, this suggests that farms are acutely aware of the positive benefits of disease prevention and that investing in prevention is likely to be more cost-effective.



Figure 19: Will you make any changes to farm policy post Covid-19?

References available on request.

