Animal & Grassland Research and Innovation Programme

Teagasc

National Sheep Conference 2022

Tuesday | 25th January 2022
Thursday | 27th January 2022

Venue: Online

Teagasc
Agriculture and Food Development Authority

Teagasc National Virtual Sheep Conference 2022

Tuesday 25th January

&

Thursday 27th January

8pm

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Teagasc National Sheep Conference 2022
Virtual presentation

Conference Outline

Tuesday, 25th January 2022

Conference opening
Prof. Frank O'Mara, Director, Teagasc, Oakpark, Co. Carlow

Conference speakers

Fertiliser and Feed costs on sheep farms - Strategies for reducing input costs while maximising productivity
Michael Gottstein and Philip Creighton

Sheepmeat market overview and outlook for 2022
Seamus McMenamin

Thursday, 27th January 2022

Conference speakers

Opportunities to reduce lamb mortality– identifying risk factors and causes
Dwayne Shiels, Cathy M. Dwyer and Tim W. J. Keady

New Veterinary Medicine Regulations – Implications for sheep farmers
Caroline Garvan

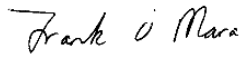
Foreword

The latest published sheep census statistics (Dec 2020) show that there were 35,592 flocks in Ireland, an increase of 2% from 2019. Sheep farming is a significant part of our agricultural industry with more than 1 in every 4 farms in Ireland involved in sheep production. The number of breeding ewes increased by 2.7% on 2019 figures to 2.64 million ewes. Sheep production is a significant contributor to the agricultural and national economy producing 52,360 tonnes of sheep meat, valued at €260 million was exported. Over the past decade we have witnessed greater market diversification, with over 40% of sheep meat shipments, by volume, destined for markets other than the traditional French and UK markets. Diversified, high value markets are becoming significant destinations for Irish sheep meat. In 2021, sheepmeat exports increased by 11% due to the increase in exports from Ireland to Asian, Japanese and middle eastern markets. The Teagasc 2020 National Farm Survey results show an average gross margin of €601/ha for lowland mid-season lambing flocks. This figure is estimated to have increased to an average of €748 for 2021 with forecasts for 2022 looking at a decline in gross margin of 15% based on the 2021 level, mainly due to increases in input costs, which would bring it back to somewhere around that achieved in 2020.

Technical performance in terms of ewe productivity, grassland management, stocking rate and flock health are all important drivers of profitability and must be the sustained focus of all sheep producers. This is the clear message from Teagasc to the Sheep Industry and is very much the focus of this conference. One of the key issues facing sheep farmers in 2022 is the increase in input costs, specifically concentrates and fertiliser. While fertiliser use on sheep farmers is modest overall, it plays a crucial role in grassland management and maintaining grass supply. Going forward it will be more important than ever for sheep farmers to use organic manures to best effect and to evaluate how much product they can afford to purchase and to plan where it should be used to give the best return on investment. Michael Gottstein will outline strategies to enable sheep farmers to reduce their reliance on purchased feed and fertiliser while also building resilience into their farming system in his paper for this conference. As mentioned above the economic performance of sheep farms has been quite positive in recent years with increases in family farm income observed mainly due to positive market performance. As a net exporter of sheepmeat, we must always be conscious of the global market and the impact it can have on the sale of our produce. This will be addressed in the paper by Bord Bia's, Seamus McMenamin, who will give an overview of market trends for the coming year. While ultimately this is outside farmers' control, being aware of market signals can help with planning and management decisions.

Reducing lamb mortality and thus increasing lamb output is consistently one of the primary drivers of profit on sheep farms. Dwayne Sheils will take us through his PhD findings which focus on risk factors associated with, and causes of lamb mortality and most importantly how these can be addressed and ultimately survival increased in a practical manner. As the mid-season lambing period is just around the corner, implementing even the simplest of practices, which Dwayne will outline, could increase both your flock productivity and profitability for the year ahead. This year we will see the introduction of new regulations by the Department of Agriculture, Food and the Marine governing veterinary medicines including antimicrobials and antiparasitics. Caroline Garvan will outline the new regulations and their direct implications for sheep farmers regarding prescribing and usage of products going forward.

I welcome the continued focus of this year's Teagasc Sheep Conference on Take Home Messages. It's only when knowledge is applied at farm level that you will see the benefits in terms of efficiency, productivity and ultimately profitability. Over the years a significant amount of new information is presented at the Teagasc National Sheep Conferences and this year is no different. Continuous generation of new information and reminding yourselves of best practices is critically important and the incorporation and application of this information into on-farm production systems must be the on-going aim of sheep farmers. There are a number of important take home messages from each of the papers. Farmers should focus on implementing a number of these technologies on their farms. This is now the 11th year of the Teagasc National Sheep Conferences and they play a very important role in technology transfer to the sheep industry. This booklet collates and summarises a significant body of knowledge on technical issues in sheep production and should prove an invaluable reference to sheep producers. I would like to thank all of the speakers, the Teagasc staff who assisted with the organisation of the National Sheep Conferences and especially the organising committee without whose efforts this would not have been broadcast.



Director, Teagasc.

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Organising Committee: Teagasc Sheep Programme Team

Fertiliser and Feed costs on sheep farms - Strategies for reducing input costs while maximising productivity

M Gottstein[1] and P. Creighton[2]

[1] *Head of Sheep KT Programme, Teagasc, Macroom, Co. Cork*

[2] *Sheep Enterprise Leader, Teagasc, Athenry, Co. Galway*

Take Home Messages

- Do a budget to see how much fertiliser can be purchased and identify where it should be spread to give the best response
- Spread lime on areas that are sub-optimal in pH to release nutrients locked in the soil
- Prioritise fertiliser application to ensure adequate winter fodder is grown for the coming winter
- Do not use concentrates to fill gaps in grass growth resulting from inadequate fertiliser applications. At current prices fertiliser is up to six times more cost effective than feeding concentrates at €380/tonne.

Introduction

Fertiliser prices have increased by 120% since 2020. Predicted natural gas price reductions are unlikely to result in significantly reduced fertiliser prices during the main growing season this year. In relation to concentrate feed prices, 2021 saw both an increase in the quantity of concentrate feed used on sheep farms (+ 21%) in addition to an increase in concentrate feed price of 16%. This resulted in concentrate feed input costs rising by 40% on Irish sheep farms in 2021 (Teagasc Outlook, 2022). This paper aims to highlight strategies that can help sheep farmers to reduce their reliance on purchased feed and fertiliser and also to build resilience into their sheep farming system.

Fertiliser

In general fertiliser usage on sheep farms is modest in comparison to other enterprises. That said a typical €8 - €10 spend per ewe on chemical fertiliser is predicted to cost €18- €22 in 2022. On Irish sheep farms low levels of profitability and relatively high levels of economic vulnerability (Teagasc National Farm Survey 2020) means that for most sheep farms spreading the same quantities of chemical fertiliser as in previous years is simply not an option. Recommended chemical nitrogen fertiliser application levels for lowland sheep systems are outlined in Table 1 and include an allowance of 4.5kg chemical nitrogen per ewe/ha for silage production.

Table 1. Recommended chemical nitrogen levels and timing of application for lowland sheep systems.

Suggested N rates (kg/ha) by stocking rate with approximate application dates[1]											
Ewes/ha	Kg/ha org N	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Total N rate Grazing (kg/ha)	Total N rate Incl. silage (kg/ha)
6	<80		13	13				13		39	66
8	99		23	19				18		60	96
10	118		25	20	15			21		81	126
11	129		25	20	15		10	20		90	140
12	138	25		23	15		16	23		102	156
14	158	33		25	20		20	26		123	186

[1] Adapted from the Teagasc Green Book, major and micro nutrient advice for productive agricultural crops, July 2020.

Financial costs of the recommended chemical nitrogen levels in Table 1 above are contained in Table 2 below. These figures clearly demonstrate that for most sheep farmers mitigation strategies are required to reduce the negative impact that increased fertilser prices will have on farm profit.

Table 2. Estimated cost of full chemical nitrogen allocations based on Table 1.

Ewes /ha	Grazing kg kg N/ha	Silage kg kg N/ha	Total kg N/ha	€/ha	€/ ewe
6	39	27	66	132	21.92
8	60	36	96	191	23.91
10	81	45	126	251	25.11
11	90	50	140	279	25.36
12	102	54	156	311	25.91

Costs based on 2/3 protected urea use @€900/t & 1/3 protected urea use @€950/t

As a general rule each ewe and her lamb(s) will require approximately 850kg dry matter for one year (Earle et al, 2017). When planning the stocking rate potential of any grazing area using one ewe+lambs unit per tonne of dry matter grown gives a good guide as to what is practical. Work carried out by Teagasc at Moorepark, Johnstown Castle and Hillsborough (Forrestal et al, 2017) has shown that well managed mineral soil with the correct pH, P and K status can grow approximately 6.5 tonnes of dry matter per hectare at zero chemical nitrogen input. Consequently stocking rates higher than six ewes per hectare require additional nitrogen inputs either in the form of chemical nitrogen or nitrogen fixed by clover. Soils which are constrained by issues such as soil structure, soil type, poor sward structure, or incorrect pH, P and K status will obviously have much lower growth rates at zero chemical nitrogen inputs and consequently will have a lower carrying capacity.

There are a number of options for increasing grass growth on sheep farms;

- Soil test where recent results are not available.
- Correct soil pH to release N, P & K that has been locked in the soil.
- Do a fertiliser budget toidentify how much fertilser can be purchased.
- Consider taking a one year holiday from P & K and putting the money towards nitrogen fertiliser instead. Certain priority areas will need P & K applications (e.g. recent reseeds, very low index silage ground)
- Consider switching silage ground to more productive / high fertility areas of the farm to reduce the need for P & K.
- Prioritise low P and K index areas for applications of available slurry or FYM
- Once you know how much fertiliser you can purchase, identify when and where that fertiliser should be spread to give you the best response (Table 3)
    1. Silage ground.
    2. Recent reseeds.
    3. Swards with high ryegrass content.
- Reduce fertiliser application amount not the frequency.
- Focus on grazing management and infrastructure to maximise grass growth potential
    1. Reduce the number of grazing groups on the farm.
    2. Split grazing areas to deliver 3-5 day residency periods.
    3. Have at least five similar sized divisions per grazing group.

There are also a number of options to reduce demand for grass on sheep farms;

- Dispose of unproductive stock (Barren ewes, ewes that lose lambs, ewe lambs not mated etc.).
- Highly stocked farms (>10 ewes/ha) may need to look at additional strategies to reduce grass demand such as;
    - Selling single bearing ewes.
    - Early weaning and culling of ewes that are on their last production year.
    - Reducing other categories of stock on the farm
- Carry out a fodder budget in spring 2022 to identify how much winter fodder needs to be conserved. Only plan to grow the amount of fodder that you need.
- Don't sell surplus winter fodder – keep it for next winter.

Table 3. Recommended fertiliser applications and dates for reduced fertiliser rates.

Ewes/ha	Feb	Mar	Apr	May	June	Jul	Aug	Total N rate, grazing (kg/ha)
Fertilser rates at 80%/60%/40% of recommended rates, kg/ha								
6		12/10/8	10/6/0				9/7/8	31/23/16
8		16/14/12	16/10/0				16/12/12	48/36/24
10	20/16/12	15/12/10		12/9/0			18/12/10	65/49/32
Fertilser rates at 80% of recommended rates, kg/ha								
11	20		15	12		8	16	72
12	20		18	12		14	18	82
14	26		20	16		16	20	98

Adapted from Teagasc Green Book, major and micro nutrient advice for productive agricultural crops, July 2020.

Concentrate Feed

As mentioned in the introduction 2021 saw a big increase in the amount of concentrates fed to sheep and coupled with concentrate price increases, this resulted in an increase of 40% in concentrate expenditure. It is thought that strong lamb prices encouraged sheep farmers to feed lambs to increase growth rates and draft lambs earlier to capitalise on strong lamb prices. Figure 1. below tracks the Irish lamb price for the last 10 years. Typically March lambing flocks will be drafting lambs from July through to November with the majority of the lambs being drafted in the August to October period. The figure below clearly shows that Irish lamb prices are remarkably consistent from the end of July through to November when they traditionally start to rise again. Consequently using high levels of concentrates to push lamb performance and speed up drafting does not result in a higher lamb price but actually reduces profitability due to the cost of concentrate supplementation.

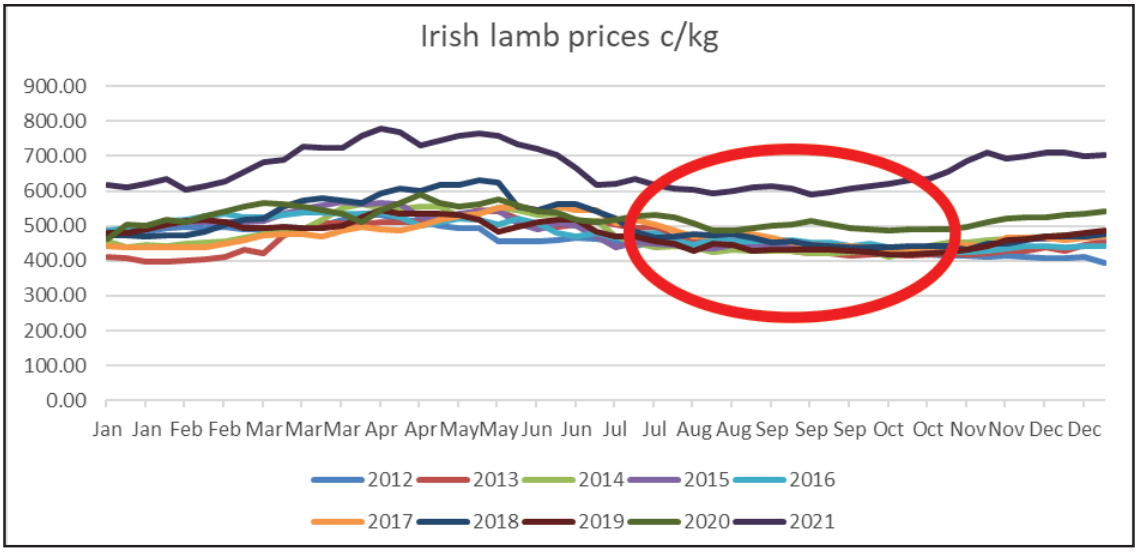

Figure 1. Irish Lamb Prices 2012 – 2021 (Source Bord Bia)Feedback from industry suggests that high fertiliser prices may prevent farmers from purchasing fertiliser and instead use concentrates to fill gaps in feed production. Despite the extraordinary increase in fertiliser prices, grass grown and utilised with high cost fertiliser (€2/kgN) is up to six times cheaper than feeding concentrates at €380/tonne. Figure 2. below shows the expected response rate to chemical nitrogen applied at different levels across three sites.

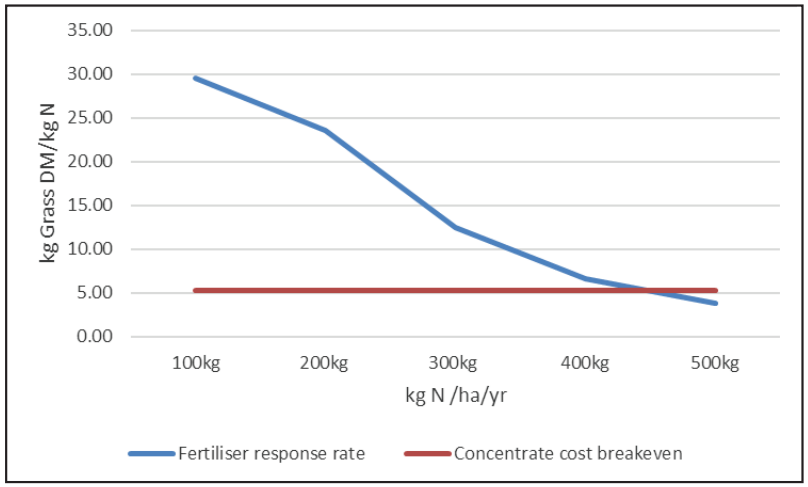

Figure 2. Average response rate per 100kg incremental increase in chemical N application per ha/yr Generated from (Forrestal et al, 2017).

Finance

In 2022 feed and fertiliser prices will reach levels never encountered before. In addition, some suppliers are insisting on payment in advance of delivery for 2022 fertiliser. This will require planning with regard to existing levels of merchant credit and cash flow. Sheep farmers should discuss these issues with merchants in advance and where necessary apply to lending institutions (banks, credit union etc.) for stocking loans to cover feed and fertiliser purchases.

Building Resilience

Use this year to build resilience into your flock and farming systems. Key areas to address are;

- Soil fertility – correct pH to release nutrients locked in the soil and maximise response of fertiliser/ manures applied.
- Incorporate and manage clover to fix nitrogen and deliver "free" fertiliser.
- Infrastructure – invest in fencing, water troughs etc. to facilitate five divisions per grazing group. This will maximise grass growth and grass utilisation.
- Invest in high index genetics to increase litter size, reduce mortality, and achieve faster lamb growth rates.
- Review lambing date going forward – ensure there is adequate grass to feed ewes and lambs in early lactation.

Summary

Fertiliser prices have increased dramatically and all farmers need to identify ways to "grow more with less". Doing a budget and discussing financing / merchant credit issues are important this year. Spreading lime where needed is the single most cost effective way to grow more grass. The sooner this is done the quicker the lime will start working. Chemical fertiliser purchased must be applied where the best response will be achieved (e.g. reseeds, silage ground and areas with high levels of PRG). One of the priorities has to be to harvest enough winter forage for the coming winter. Do not substitute concentrate feed for grass as this is a false economy. Heavily stocked farms will not be able to make big savings on fertiliser use in the absence of addressing stocking rate.

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Sheepmeat market overview and outlook for 2022

Seamus McMenamin, *Sector Manager for Sheepmeat and Livestock, Bord Bia*

Take Home Messages

- 2021 has been an exceptional year for Irish sheepmeat with prices hitting record levels
- Tighter global supplies of sheepmeat have been a key driver behind stronger deadweight prices
- The redirection of sheepmeat away from the EU market to alternative markets has increased demand for Irish sheepmeat
- Positive outlook for the Irish sheepmeat sector in 2022 despite some recovery in sheepmeat availability on key EU markets

A review of 2021

Tighter global supplies of sheepmeat combined with steady demand resulted in an extremely positive market for Irish sheepmeat during 2021. The value of Irish sheepmeat exports has increased strongly for the second consecutive year, increasing by 15 per cent to total €420m. This continued improvement in the value of Irish sheepmeat exports has been driven by a significant strengthening in the deadweight trade. Meanwhile a reduction in Irish sheepmeat production during 2021, primarily in the first half of the year, has resulted in a nine per cent decline in sheepmeat exports in terms of volume.

The impacts of Covid-19 restrictions continue to have a bearing on the market outlets for Irish sheepmeat with the industry adjusting to the new balance in demand for product from retail and foodservice customers. The European Union (EU) however remains the priority market for Irish sheepmeat exports. The reduced availability of sheepmeat globally due to production declines in key lamb producing regions such as Australia and New Zealand and the redirection of product away from the EU market during 2021 has created a firm demand for Irish lamb. Irish exporters have also been able to capitalise on reduced sheepmeat production in the EU (-1.5 per cent in 2021) and the continued decline in the volume of sheepmeat exports from the United Kingdom. The latest available data from HMRC (Her Majesty's Revenue and Customs) has indicated a 22 per cent decline in the volume of UK sheepmeat exports to the EU.

Irish sheepmeat exports to the EU have increased by 30 per cent in value terms during 2021 with strong growth in the value of exports to France, Germany, Belgium and Sweden. The value of exports to Denmark, the Netherlands and Romania have also continued to grow, albeit from a smaller base. Exports to the EU accounted for 74 per cent of Irish sheepmeat exports in value terms during 2021 compared to 71 per cent in 2020. The UK accounted for a further 16 per cent of Irish sheepmeat exports in value terms during 2021, back marginally from 18 per cent in 2020.

A firm deadweight trade, good production conditions and some concerns around the impact of Brexit on trade encouraged many producers to finish 2020 born lambs earlier which resulted in a notable decline in the number of lambs being carried into 2021 to be processed as hoggets. This resulted in tight supplies for slaughter on the domestic market combined with firm demand for sheepmeat from the processors early in 2021 which pushed deadweight price to record levels.

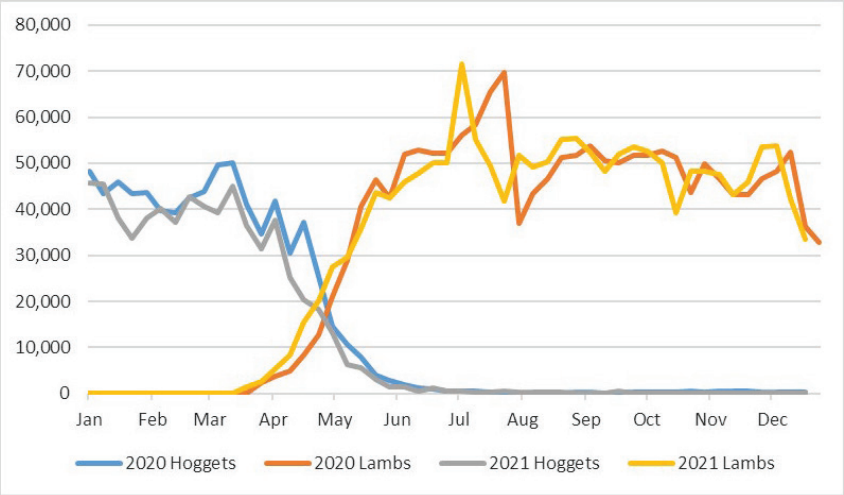

Figure 1. Weekly Irish Lamb/Hogget throughput 2020 and 2021 (Source: DAFM)

The average deadweight price during the first four months of 2021 was 680c/kg with the highest weekly sheep price of 779c/kg recorded in late April. In the corresponding period in 2020 the average deadweight price was 535c/kg. Total sheep throughput in Irish processing plants between January and April 2021 was operating eight per cent lower than the corresponding four month period in 2020. While the deadweight trade came under some downward pressure as we moved into the summer months the prices paid to producers remained notably higher than previous years and quickly recovered as the year progressed.

The average deadweight lamb price for 2021 was 667c/kg comparted to 524c/kg for 2020. This increase of 143c/kg represents a 27 per cent increase in the lamb price year on year. Prices during 2021 operated well above the five year average price of 493c/kg as indicated in Figure 2 below. Tighter supplies for slaughter and stable demand for sheepmeat, combined with the reduced availability of imported sheepmeat from Oceania in key export markets, have contributed to the record deadweight prices recorded in Ireland throughout 2021. However this strengthening in producer prices was not confined to just Ireland with average prices increasing in all key lamb producing regions across the globe.

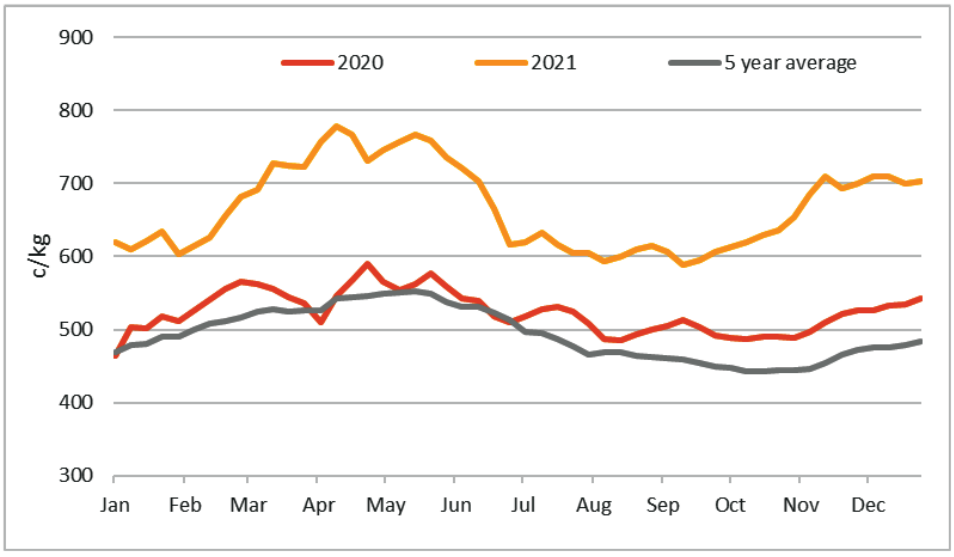

Figure 2. Weekly Irish Lamb/Hogget prices 2020 and 2021 vs. the five year average (c/kg) (Source: DAFM)

Sheepmeat throughput in the first half of 2021 was impacted by the reduced carryover of hoggets for slaughter and the impact of a late spring on grass growth slowing down spring lamb production. However the strong deadweight trade, firm demand from processors and an improvement in lamb supplies as we moved into the summer months encouraged producers to present lambs for slaughter as they became fit. Lamb throughput between June and December 2021 has totalled 1.6 million head, very similar to the same period in 2020. A firm store lamb trade and high cereal prices have resulted in some producers opting to push out finishing dates with an additional 50-60,000 lambs expected to be carried into 2022 when compared to last year. With lambs tending to be killed as they become fit the proportion of heavier lambs in the slaughter mix has remained low with an average lamb carcase weight between June and December 2021 of 20.8kg. This was similar to year earlier levels. Total sheep throughput in Irish plants for 2021 was 2.7 million head, back six per cent or 164,000 head from 2020 levels.

Exports

The reduced availability of imported sheepmeat to the EU market has had a positive impact on the demand and opportunities for Irish sheepmeat. Lower export capacity in New Zealand due to reduced production levels and a redirection of available product away from the EU into Asian markets and the US has resulted in less New Zealand origin lamb available in our key export markets. In Australia there has been some recovery in sheepmeat production during 2021 and an associated increase in export volumes however the volumes destined for the EU market remains quite small and similarly to New Zealand there has been growth in the level of exports to alternative markets. Longer term forecasts for Australia have indicated further growth in sheepmeat production in 2022 however no increase is expected in New Zealand sheepmeat production above 2021 levels.

The UK is Ireland's biggest competitor on the EU market for sheepmeat however the volumes being traded have continued to decline. Reduced production in the UK and an increased focus on the domestic market during 2021 has reduced the availability of sheepmeat for export with the latest available figures showing a 22 per cent decline in the volume of sheepmeat exported to the EU in the first ten months of 2021. The primary markets for UK lamb are France, Germany and Belgium and the reduced level of export has created further opportunities for Irish exporters to displace product on these markets.

During 2021 international markets accounted for just 10% of Irish sheepmeat exports in value terms however access to third country markets such as Hong Kong provide an important carcase balancing function for the Irish sheepmeat sector. Exports to Singapore have continued to grow strongly from a small base while Switzerland has been the stand out international market for Irish sheepmeat in 2021 with exports continuing to grow strongly in terms of both value and volume.

Prospects for 2022

2021 has been another exceptional year for Irish sheepmeat exports in value terms with growth driven by higher deadweight lamb prices and a reduction in the global availability of sheepmeat. Prices continue to be very strong in the early weeks of 2022 with a fairly positive short term outlook. There is potential for average deadweight prices to come under some downward pressure in 2022 with forecasts indicating a slight increase in sheepmeat availability on the EU market however prices are expected to remain firm in comparison to historical levels. The increase in lamb availability will be a result of a slight increase in domestic production combined with a recovery in the levels of sheepmeat imports.

Growing demand for sheepmeat in China has continued, albeit at a slower rate than we have seen in previous years and it continues to be a key driver in the global sheepmeat trade. The US is another key driver in the global sheepmeat trade where growing consumer demand has seen sheepmeat imports from both New Zealand and Australia grow strongly. The strength of import demand in these two markets in particular has been a key factor in the lower availability of imported product on the EU market. There is

however potential for some recovery in the volume of sheepmeat being imported by the EU from New Zealand in 2022 in response to the exceptionally strong prices available which will increase competition for Irish product in our most important market.

Direct access to China and the US remains the focus of the Irish sheepmeat sector with some positive progress made in advancing access during 2021. In September this year Ireland and China signed and exchanged formal protocols that will allow the export of lamb from Ireland to China which is the first step towards getting direct access for Irish sheepmeat. The Chinese market is primarily a food service opportunity and given the demand in the region for products not fully valued on the domestic or EU markets it offers a huge opportunity to enhance carcase balance. There has also been some progress on access for Irish sheepmeat to the US with US authorities lifting a ban on EU sheepmeat in early December 2021, an important step forward in the process of achieving market access for Irish sheepmeat exports to the US market. While lamb is a very niche product in the US the growth in demand in terms of both value and volume for imported sheepmeat from New Zealand and Australia is very encouraging for when we gain direct access to the market.

Tighter global supplies of sheepmeat and the redistribution of global supplies have helped drive higher export values for Irish exporters however one potential negative impact is the risk of declining visibility on the supermarket shelves in major lamb consuming countries within the EU due to supply issues. This has the potential to negatively impact overall consumption of lamb in the EU which may be difficult to regain when supplies of sheepmeat improve. The latest forecasts from the EU indicated a 1.5 per cent increase in EU sheepmeat production in 2022.

Sheepmeat continues to have a strong association with Muslim and Christian festivals with demand for sheepmeat increasing in the weeks prior to key celebrations. In 2022 Ramadan falls on the 02 April, a week earlier than last year, while Easter Sunday falls later on 17 April. Another key Muslim festival to consider is Eid al-Adha which is also earlier this year on 09 July.

Continuing friction between the UK and the EU with regards to their trading arrangement has the potential to give Irish sheepmeat exporters further opportunities to grow market share in key EU markets. The UK sheep census recorded a 1.7 per cent increase in the UK sheep flock to 15.6 million head which could increase production as we move into 2022 however it is difficult to gauge how this will impact the availability of sheepmeat for export in the UK given the declining level of exports in recent years. Irish sheepmeat can match the UK in terms of product quality and given the similar production systems Irish exporters are best placed to capitalise on any current and future displacement in the market. The one limiting factor is the seasonality of lamb production in Ireland and the availability of product to match increases in demand across the year.

Opportunities to reduce lamb mortality– identifying risk factors and causes

Dwayne Shiels[1,2], Cathy M. Dwyer[2] and Tim W. J. Keady[1]

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Take Home Messages

- The first three days of life are critical to lamb survival: 43, 58 and 74% of lamb mortality occurs at birth, by 24 and 72 hours after birth, respectively
- Infection and dystocia, both potentially preventable, are the 2 main causes of lamb mortality accounting for 52% mortality.
- Causes of mortality need to be identified to facilitate the implementation of the correct management practices
- Knowing expected litter size and lambing date, and implementing an appropriate late pregnancy nutrition plan will reduce the incidence of dystocia
- Developing a pregnancy nutrition plan involves knowing the feed value of the forage being offered and supplementing with concentrate at feed levels to match litter size and expected lambing date
- Good hygiene practices at and around lambing will reduce the incidence of infections in lambs. Clean and disinfect lambing area and individual lambing pens after each ewe vacates. Apply iodine correctly to lambs navels.
- Ensure lambs receive adequate quantities of quality colostrum

Introduction

The number of lambs reared per ewe joined is a key determinant of productivity and profitability in sheep systems. In Ireland, the average ewe productivity on grass-based lowland and hill systems of sheep production is 1.33, and 0.91 lambs reared per ewe joined (Dillion, et al., 2016), respectively, and has been similar since the 1960s. Previous studies at the Teagasc Research Centre at Athenry have shown that it is possible to consistently rear 1.9 lambs per ewe joined (Hanrahan 2010; Keady and Hanrahan 2018 and 2021; Keady et al 2009 and 2018). Lamb mortality is a key factor influencing ewe productivity. Data for a 12-year period from a flock at Athenry which had a mean litter size of 1.98 show that lamb mortality (i.e. lambs born dead, including abortion, and live born lambs which die prior to weaning) was 10.6% (Keady et al., 2018).

A reduction of 3 percentage points in lamb mortality would be worth approximately €10 million to the lowland sheep sector in Ireland and is the equivalent to 100,000 more lambs surviving each year. Whilst

prime-lamb production in Ireland is primarily from grass-based systems, a large proportion of ewes are housed during late pregnancy. A significant reduction in lamb mortality can only be achieved through identifying the underlying causes and targeting them specifically.

The aim of the current paper is to report two recent studies which were undertaken at the Teagasc Sheep Research Centre, Athenry. The two studies were:

1) Post-mortem study: evaluated the timing of, and causes of mortality of all dead lambs at Athenry during 2 consecutive years (Shiels et al. 2022b).
2) Risk assessment survey: evaluated farmers' perceptions of the risk factors associated with lamb mortality on their farms, identified management practices implemented on farms to reduce lamb mortality, and evaluated relationships between on-farm practices, gross margins, and the risk factors associated with lamb mortality. The survey was completed as part of the National Farm Survey (NFS) which is representative of all Irish sheep farmers (Shiels et al. 2022a).

When does most mortality occur?

The time of death for lambs from birth to weaning is presented in Figure 1. The neonatal period (first 3 days after birth) accounts for 74% of lamb mortality. Eighty percent of lamb mortality occurred in the first 7 days after birth. The highest proportion of mortality occurred prior to, or at birth (43%), from birth to 24 hours (15%), and from 24 to 72 hours (16%).

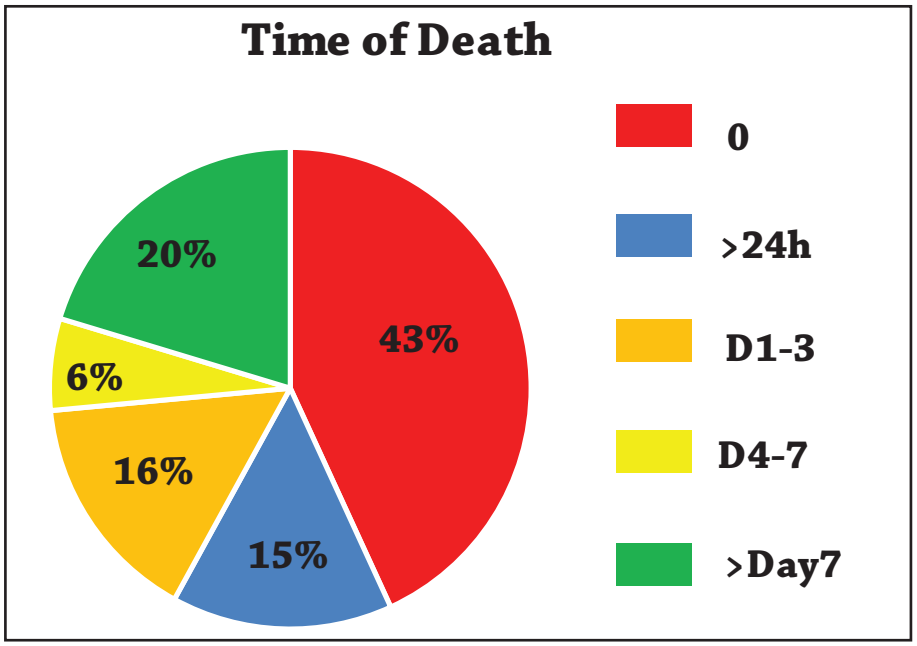

Figure 1. Time of death across two years for 3 mid-season lowland flocks (Shiels et. al, 2022b)

What are the main causes of lamb mortality?

The main causes of lamb mortality are presented in Figure 2. Infection was the main cause of death, accounting for 32% of all lamb mortality. Dystocia (20%) was the second main cause of death, and when combined with infection accounted for a total of 52% of overall lamb mortality. Dystocia and infection are potentially preventable with good management practices, thus lamb mortality can be reduced. Cause of death was not identified by post-mortem for 19% of lamb deaths. Other causes, which include hypothermia and starvation accounted for 14% of mortality. Accidents accounted for 5% of mortality. The causes of lamb mortality changes with age. The prevalence of mortality attributed to each cause is presented in Table 1.

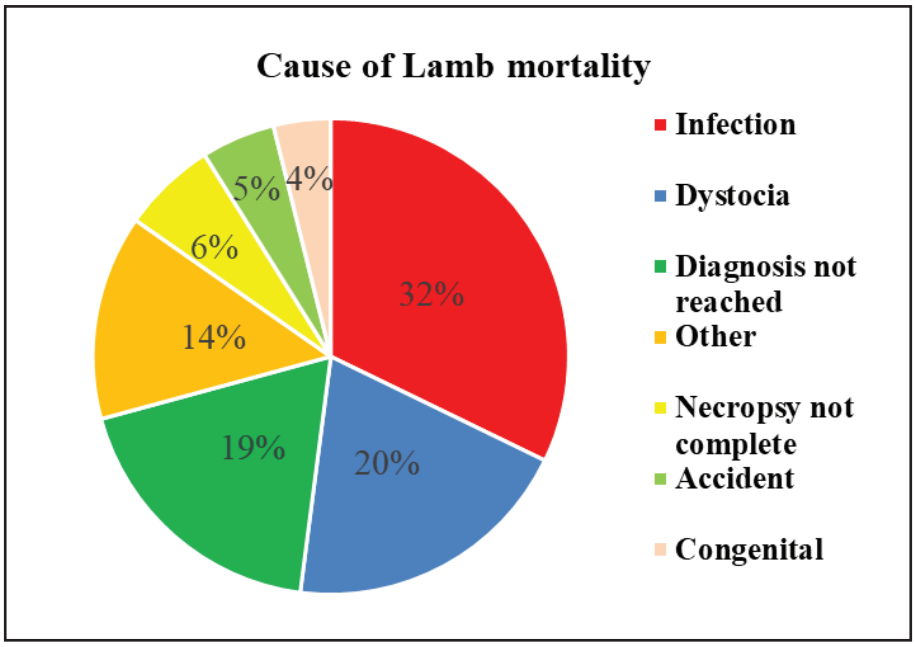

Figure 2. The causes of lamb mortality across 3 mid-season lambing flocks (Shiels et. al, 2022 b)

Table 1. Cause of lamb mortality (%) and how it changes with time (Shiels et. al, 2022 b)

	Time of death[1]					
	0	**<24h**	**Day 1-3**	**Day 4-7**	**>Day7**	**Total%**
Accident	18	45	27	5	5	5
Congenital	35	24	35	0	6	4
Dystocia	80	14	5	1	0	20
Infection	23	11	18	10	38	32
DNR	66	10	12	6	6	19
Other	25	20	16	7	33	14
NNC	29	14	21	7	29	6
Total	**43**	**15**	**16**	**6**	**20**	**100**

[1]0 = born dead; <24h = died between birth and 24h; Day 1-3 = died between 1 and 3 days of age; Day 4-7 = died between 4 and 7 days; >Day7 = lambs that died between day 7 and weaning
DNR= Diagnosis not reached
NNC= No necropsy complete
Congenital = Congenital defects

Infection

Infection was the most prevalent cause of lamb mortality. Enteritis (i.e. scour), naval/joint ill and *Chlamydophila abortus* (EAE) accounted for 33, 31 and 23% of mortality attributed to infection. Infection as a major cause of lamb mortality is not evenly spread across all time points (Table 1). Thirty nine percent of mortality due to infection occurred from 24 hours to 7 days of age, and most were attributed to various infections e.g. *E-coli* infections. The remaining 38% of deaths due to infection occurred from 7 days of age to weaning (at ~100 days) and these were mainly associated with enteritis and pneumonia.

Dystocia

Dystocia was the second main cause of lamb mortality. Dystocia is defined as a difficult birth due to a long, unassisted parturition or prolonged delivery requiring assistance. Dystocia can be more specifically associated with maternal and fetal dystocia (fetopelvic disproportion, i.e. the lamb is too large for the ewe's pelvis), maternal dystocia (failure of the cervix to fully dilate causing anoxia, i.e. loss of oxygen to the brain/body), and fetal dystocia (malpresentation of the lamb, i.e. head turned back, lamb been born backways etc.). Fetal dystocia (malpresentation) of lambs accounted for 53% of all dystocia cases.

Farmer perceptions of causes of lamb mortality

The risk assessment survey concluded that farmers perceived predators (i.e. fox, mink, dog etc.) to be the main cause of lamb mortality on their farm. As the majority of the farmers in the study lambed indoors, and the ewes and their lambs were not put to pasture until a few days postpartum, it is unlikely that predators are the main cause of lamb mortality. Farmers may choose issues/factors that they have no control over (e.g., predators, weather) rather than factors that they can control (e.g., birth weight, infection, dystocia). A recent study from Australia concluded that farmers overestimated predation to be three times more likely to be the primary cause of mortality than the published data indicates. Farmers in the Irish risk assessment survey perceived lamb birth weight and diseases/infection to be the second and third main causes of lamb mortality, similar to the two main causes identified in the post-mortem study.

How to reduce lamb mortality?

Each lambing season can bring different/new challenges. Preparation is the key to ensuring a reduction in lamb mortality. Having the essential equipment required and being competent using this equipment will reduce the incidence of lamb mortality. An example of a good lambing inventory, compiled by Dr Alan Bohan as part of the SheepNet project, is available on YouTube (https://www.youtube.com/watch?v=lfv6YFAbCmQ). Lamb mortality is lower on farms that used stomach tubes, a heat box, iodine, hospital pens, and individual pens compared with farms that did not implement all those practices.

Reductions in lamb mortality are difficult until the major causes are identified. Post-mortem is the best method to capture information relating to factors associated with lamb mortality. Seventy percent of Irish farmers do not record lamb mortality, thus may not be aware of an issue. The use of a simple lamb mortality chart in the lambing shed, to record mortality, and the perceived cause, can quickly identify causes attributing to large numbers of lamb deaths and allow implementation of appropriate management practices to reduce these risks.

Infection and dystocia are the two main causes of lamb mortality on Irish sheep farms and are potentially preventable. The following focuses on opportunities to reduce lamb mortality.

Infection

Having a 'closed flock' (breeding own flock replacements) is a good biosecurity policy in preventing bringing disease onto your farm. A large proportion of lamb mortality attributed to infection occurs before birth (still born) and many may be due to abortions as a result of *Chlamydophila abortus* (*Enzootic abortion*) or toxoplasmosis. A post mortem of aborted lambs (and placenta if available) is the best method of identifying the causing agent and if a vaccination programme should be implemented. Vaccines should be administrated following manufacturers recommendations.

A high proportion of farmers (75%) lamb indoors and most (89%) use straw bedding. Lambing indoors can increase the risk of infection due to poor hygiene. Thirty nine percent of the mortality due to infection occurs between 24 hours and 7 days of age and these deaths can be reduced by the increased use of common hygiene procedures before, during and after lambing and good colostrum management. Both the navel and the mouth provide avenues for infection into the new born lamb. Exposure of the lamb's navel on wet and/or soiled bedding at birth increases the risk of infection entering the lamb. Application of iodine to the lamb's navel is common practice on 79% of farms. When applying iodine the navel needs

to be fully covered in a 10% iodine solution. As the mouth is the other main entry point for infection in new born lambs, ewes teats and/or wool which are wet and/or soiled with faeces increases the risk of lambs ingesting *E.coli* while attempting to suckle for the first time.

Ewes and their lambs are usually placed in individual lambing pens post-partum. Whilst 88% of farmers used individual lambing pens, only 41% cleaned and disinfected them after each ewe and her lambs vacated. Evidence shows that farms that used individual lambing pens reared more lambs/ewe joined (1.39 lambs/ewe) and had a higher gross margin (GM)(€89/ewe) than farms that did not use them (1.26 lambs/ewe and a GM of €71/ewe).

New-born lambs are hypogammaglobulinemic, i.e. born with no antibodies, and need to consume adequate quantities of colostrum as a source of antibody immunoglobulin-G (IgG) soon after birth, and for the first few days of the neonatal period to ensure passive immunity and ultimately protection against infection. Intake of adequate quantities of colostrum through sucking the dam, or manually administered soon after birth, and good hygiene are two management practices which significantly increase lamb survival and reduce the risk of disease from infections. Many neonatal diseases are associated with inadequate serum IgG absorption. Previous studies reported that 22% of ewes do not have adequate quality colostrum, i.e. low IgG levels (Dwyer et al., 2016). Offering ewes a good plane of nutrition during late pregnancy should ensure new born lambs are of optimum birth weight, are vigorous and able to stand and suck, while ensuring that the ewe has adequate quantities of quality colostrum. The pregnancy nutrition plan should revolve around knowing the feed value of the forage (silage, hay) being offered and supplementing with concentrate at feed levels to match litter size (from ultra sound scanning) and expected lambing date (known from raddling rams) requirements. The concentrate offered during late pregnancy should be formulated using good quality ingredients, e.g. barley, maize, sugar beet pulp, soyahulls, soybean meal, rapeseed and contain 18-19% of protein (predominantly from soybean meal).

New born lambs require 50ml of colostrum per 1kg of body weight, for 4 feeds in the first 24 hours. For example, a 5kg lamb requires 1 litre colostrum (4 [feeds] x 250ml colostrum/feed) in the first 24 hours. Lambs which are unsuccessful at getting to the udder in the first hours post-partum should receive colostrum via a stomach tube. Ewe colostrum should be used if available. The majority of farmers (87%) have stomach tube equipment available on farm and most have used it in the previous lambing season. Farms that used stomach tubes to administer colostrum had a higher gross margin (€81/ewe) than those that did not use stomach tubes (€56/ewe). When used correctly and good hygiene practices implemented, the risk to neonatal lamb mortality due to infection is reduced. Stomach tubes need to be disinfected between each lamb to reduce the spread of infection.

An alternative source of colostrum should be available for lambs whose dams do not have sufficient quantities of colostrum. Farmers who used frozen stored colostrum had lower lamb mortality than those who did not use stored colostrum. Ewe colostrum from another ewe is the best alternative. Three-quarters of farmers ensured lambs received their dams colostrum. While artificial colostrum is a useful aid in providing energy to lambs, new born lambs require immunoglobulins to have passive immunity against infection which is best obtained from natural colostrum. Sixty four percent of farmers used artificial colostrum on some lambs. Artificial colostrum was the sole source of supplementary colostrum on 10% of farms.

Infection accounted for 60% of the deaths from one week of age to weaning. Many of these deaths can be attributed to a reduced level of passive immunity to disease. A recent study in the UK reported that lambs which received artificial colostrum as a substitute for ewes' colostrum had increased diagnosis of scours between weeks 2 and 5, and required more antibiotic treatments than lambs that received colostrum from its dam (Belanche et al., 2019). Lamb mortality due to infection between days 7 to 100 was mainly associated with enteritis (infection in the intestines causing scouring) and pneumonia. Vaccinating against infections (e.g pneumonia) will reduce lamb mortality, but the management around vaccinating is important in the efficacy of the practice.

Dystocia

Birth weight is a key factor influencing lamb performance. Previous studies at Athenry (Keady and Hanrahan 2009, 2018, 2021) have shown that that each 1 kg increase in lamb birth weight increases lamb weight at weaning by 3.3 kg. Birth weight is also a key factor influencing lamb mortality. The optimum birth weight is dependent on litter size. A previous study at Athenry (Hanrahan and Keady 2013) concluded that the optimum birth weight of lambs born as singles, twins and triplets 6, 5.6 and 4.7kgs, respectively.

Sires can influence dystocia. Ram breeds that have easy lambing traits should be selected for ewes lambing for the first time or those of light mature live weight. Ewe breed had an impact on the prevalence of dystocia. The higher incidence of dystocia in lambs born from pure bred Texel sires and dams may be associated with muscling characteristics which correlates with lambing difficulty. Selecting replacements from maternal breeds and using rams to suit the system type should reduce dystocia and increase flock productivity.

Nutritional management of ewes during late pregnancy should be based on expected lambing date and litter size. The use of raddle on rams at joining, and regularly changing the colour during the joining period facilitates an accurate estimation of expected lambing date. Ultrasonic pregnancy scanning facilitates determining expected litter size. Knowing expected lambing date and litter size facilitates grouping ewes in late pregnancy for concentrate feeding.

If ewes are offered excessive energy intakes above requirement for an extended period during mid and late pregnancy the body weight of lambs at birth will be increased. Likewise, if ewes are offered a restricted plane of nutrition during late pregnancy lamb birthweight will be reduced. If birth weight falls below the optimum, an increase in lamb mortality, regardless of litter size is observed, primarily due to hypothermia or exposure.

Conclusion

Lamb mortality is a key factor affecting ewe productivity. Forty three percent of lamb mortality occurs prior to or at birth. To implement an effective management plan to reduce mortality the causes have to be identified. Infection and dystocia are the two main caused of lamb mortality on Irish farms and are potentially preventable.

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New Veterinary Medicine Regulations – Implications for sheep farmers

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Take Home Messages

- New Veterinary Medicines Regulation EU (2019/6) will apply from January 28th 2022.
- A prescription for antimicrobials (which includes antibiotics, antiprotozoals and antifungals) is valid for 5 days from date of issue and must be filled within this timeframe. You can treat the animals for as long as is specified by the vet on the prescription.
- Only a small quantity of antimicrobials can be kept on your farm, to cover a specified risk of infection, this quantity will be determined by your vet.
- Restrictions will apply in relation to the use of antimicrobials to prevent disease in healthy animals (prophylaxis). These restrictions will limit the use of antimicrobials to prevent disease to only in exceptional circumstances.
- Certain antimicrobials should not be used as first line treatment in sheep as they are medicines of last resort in human health.
- All antiparasitics (which includes wormers, flukicides and pour-ons) will require a prescription from 1st June 2022. They will continue to be supplied from the same outlets, even after a prescription is required in June 2022.
- The prescription for antiparasitics (anthelmintics/drenches/pour-ons) will be valid for maximum of 12 months.
- Targeted Advisory Service on Animal Health available for sheep farmers from April 2022 to support better parasite control,and better productivity.

Introduction

New Regulations on veterinary medicines (Regulation 2019/6) and medicated feed (Regulation 2019/4) will apply from January 28th, 2022 and will have a marked influence on antimicrobial prescribing and usage throughout Europe into the future. The new veterinary medicines regulation will increase the availability of veterinary medicines, while prioritising the protection of human health and addressing the challenge of antimicrobial resistance (AMR). An antimicrobial is used to treat or prevent disease caused by bacteria, viruses, fungi and protozoals. So all of the following are antimicrobials – antibiotics, antifungals, and antiprotozoals such as treatments for coccidiosis and cryptosporosis. However, in general when we talk about AMR, we are referring to bacterial resistance to antibiotics, or antibiotic resistance. Antimicrobials have saved millions of lives since they were first discovered in the 1940s, but their overuse and misuse in both humans and animals means that they can no longer be relied upon to treat certain diseases, as effectively as they did in the past. It is widely accepted that reducing the overall quantity of antibiotics used in human healthcare, and in animal and plant health is a key step in mitigating the risk of AMR development and spread.

The use of antibiotics in the farming sector is coming under increasing scrutiny in light of the very real public health threat of AMR, and consumers are taking much more interest in how their food is produced. The ongoing focus on sustainable food production, underlines the responsibility of food producers to optimise animal health, and disease prevention has never been more important, from an animal health, but also a human health perspective.

Just as bacteria have evolved to avoid being killed by antimicrobials, parasites such as gastrointestinal nematodes, or gut worms, can also develop resistance to drugs designed to control them. The emergence and spread of antiparasitic resistance (APR) is a major threat to animal health, welfare, productivity and the sustainability of the cattle and sheep farming sectors worldwide. In 2019, the Health Product Regulatory Authority's (HPRA) Advisory Committee for Veterinary Medicines (ACVM) established a Task Force to review the method of supply of antiparasitic veterinary medicinal products that are intended for food-producing animals. This Report states that there was significant evidence of antiparasitic resistance in Irish sheep and cattle in Ireland. As a direct result of the findings of this report, all antiparasitics for food producing animals will become prescription only medicines from the 1st June 2022. Therefore, from June 1st, 2022 all sheep farmers will require a prescription in order to purchase wormers, flukicides and pour-ons.

Better management of sheep and flock health reduces the need for antimicrobials, anthelmintics and flukicides, while also reducing the risk of development of drug resistant strains of bacteria and parasites in sheep flocks. Greater attention to grazing practices, husbandry practices and nutrition to help reduce the need for anthelmintics, as well as a targeted, evidence-based and selective approach to the use of anthelmintics, similar to that required for antimicrobials, is warranted to ensure that the efficacy of current products is maintained and prolonged. Veterinary medicine usage, in particular the use of antimicrobials and antiparasitics, needs to be part of an overall farm sheep health plan, focussed on the prevention of disease in the first place through good husbandry and management practices. When using antimicrobials or antiparasitics, it is important to use as little as possible but as much as necessary

EU Regulation on Veterinary Medicinal Products (EU 2019/6)

This Regulation sets out rules for the manufacture, import, export, sale, supply, distribution, advertisement, and use of veterinary medicinal products (VMPs) in all animal species. This new Regulation replaces the old Directive which is in effect since 2001. A lot of change has happened in the veterinary medicines landscape across the EU, and this new Regulation seeks to address the changes in the animal health sector.

The new Regulation applies across the EU from January 28th, 2022. It aims to increase availability of veterinary medicines in each Member State, and also strengthen EU action to fight AMR through specific measures to ensure prudent and responsible use of antimicrobials in animals. As well as measures to ensure responsible use of antimicrobials, this new legislation will reserve certain antimicrobials for the treatment of infections in humans only. This effective ban in the use of certain antimicrobials in animal health is to protect human health and is in line with a 'One Health' approach.

In Ireland another change from 28th January is that prescriptions for antimicrobials can only be valid for 5 days. This means that farmers have a maximum of 5 days to get the prescription dispensed, but it does not mean that treatment of animals can only be for 5 days. The treatment period will be determined by your vet and specified on the prescription.

The prescription requirement for antiparasitics has been deferred, and will not apply until the 1st of June 2022. Therefore, a prescription will not be required in order to purchase wormers and flukicides until that date. The time limit on a valid prescription for antiparasitic products will be a maximum of 12 months. Antiparasitic medicines can then be purchased by farmers from their preferred supplier at any stage within the validity period of the prescription.

The new Regulation aims to reduce antimicrobial usage (AMU) in food animals, and includes a reinforced ban on the use of antibiotics as growth promoters as well as the following provisions under Article 105/107 of Regulation EU 2019/6 which legislates that antimicrobials must **not** be:

- used **routinely**,
- used to **compensate** for poor hygiene, inadequate animal husbandry, or poor farm management,
- used to prevent disease occurring in healthy animals, except in exceptional circumstances
- used to treat disease in a group of animals where one or two are already sick, except when the risk of spread of an infection or of an infectious disease amongst them is high, and no other appropriate alternatives are available.
- Restrictions will be in place regarding the use of certain types of antimicrobials, such as the highest priority critically important antibiotics (**HP-CIAs**) because of their importance in human health.
- **Veterinary Practitioners can only prescribe antimicrobials** on the basis of a clinical examination or other proper assessment as outlined in their Professional Code of Conduct.
- **Quantity of medicine prescribed shall be** limited to the amount required for treatment.
- **Veterinary prescriptions** for antimicrobials are only valid for 5 days
- **Veterinary prescriptions** for antimicrobial medicinal products for group treatment of in contacts shall only be issued after a **diagnosis of the infectious disease*** by a veterinarian;
- The veterinarian shall be able to **provide justification** for a veterinary prescription of antimicrobial medicinal products, in particular when antimicrobial is being either to prevent disease or where there is treatment of a group of animals where one or more is already sick.

**DAFM has consulted the Veterinary Council to consider definition of the terms "proper assessment" "clinical examination" and "diagnosed disease" in the context of the new regulations.*

The legislation places considerable responsibility and constraints on veterinary practitioners in terms of how they can prescribe antimicrobials. These constraints will impact on sheep farmers, and their approach to disease control. What this legislation is promoting is disease prevention by requiring a more restrictive use of antimicrobials. The drive to reduce antimicrobials use is to protect human health first and foremost, but this legislation does not seek to compromise sheep and welfare in any form. This legislation is promoting discussion between vets, sheep farmers, Teagasc advisors and other agricultural advisors in relation to development of flock health plans, with an emphasis on increasing vaccination and other approaches to optimise animal health and productivity in a more sustainable way.

Ireland's Response to AMU and AMR

As mentioned earlier when we refer to AMR we are in most cases referring to antibiotic resistance. Ireland has adopted a One Health approach in combatting AMR because it is seen as a global public health challenge., which can effectively be addressed through a cross sectoral collaboration. Together with the Department of Health, we jointly established the National Interdepartmental AMR Consultative Committee in 2015 which brought together key industry stakeholders from the human health, animal health and environmental sectors. This committee then oversaw the development of Ireland's first National Action Plan on AMR (iNAP1) launched in 2017 followed by Ireland's Second One Health National Action Plan on AMR 2021-2025 (iNAP2) launched in 2021. iNAP recognises the urgent and growing problem of antimicrobial resistance for human health worldwide. It aims to implement policies and actions to prevent, monitor and combat AMR across the health, agricultural and environmental sectors. This plan

recognises that no one sector can successfully address AMR alone. Many of the animal health actions under iNAP2 relate to improving animal health, and preventing disease, recognising that these are key steps to reduce the use of antimicrobials, and effectively tackle AMR.

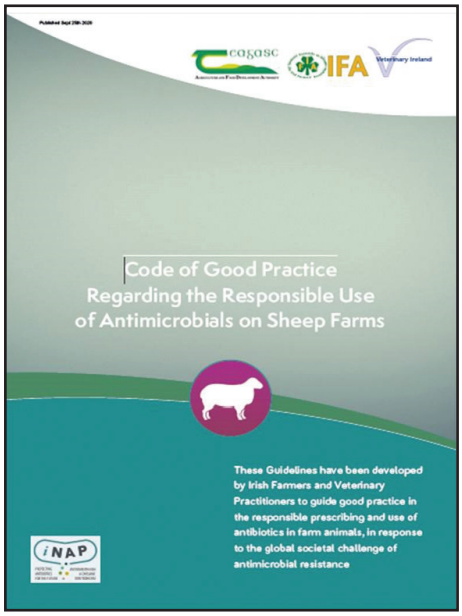
Highest Priority Critically Important Antimicrobials (HP-CIAs)

Highest Priority Critically Important Antimicrobials, (HP-CIAs), are antimicrobials which are critically important for human health. These HP-CIAs are being used as last line therapies for treatment of critically ill patients in our hospitals when the first line antibiotics have failed to work. Given the importance of HP-CIAs in human health, strict controls will be applied to their use in veterinary medicine. DAFM in consultation with stakeholders including the farming sector has developed a policy document in relation to HP-CIAs for use in animals. This policy document reflects the recommendations of the World Health Organisation and the European Medicines Agency. There are four types of antibiotics which your vet should not be prescribing for first line treatment. Therefore, antimicrobials you may have had easy access to in the past will no longer be readily prescribed. Your veterinary practitioner should only prescribe these antimicrobials when no other treatment will work, and on the basis of test results of culture and susceptibility testing of samples taken from sick sheep.

Practical Strategies for Reducing Antibiotic Usage on Sheep Farms

A useful information document was developed in 2021 by Teagasc, the Irish Farmers Association, and Veterinary Ireland . This "Code of Good Practice Regarding the Responsible Use of Antimicrobials on Sheep Farms" is available for download at www.agricultufre.gov.ie/amr . The practical strategies outlined in this document highlight some of the important actions that sheep farmers can take to reduce their overall use of antibiotics and to improve their flock health.

This Code outlines strategies to prevent diseases such as joint ill, enhancing flock biosecurity to manage lameness, and the use of vaccination to control abortion in ewes. Nutrition, biocontainment and the importance of air quality and ventilation, as well as targeted and correct use of disinfectants is also discussed.



Data Collection on Antimicrobial Usage

Under the new Regulation, Ireland will be required to collect and report data on antimicrobial usage to the EU. Regulation (EU) 2019/6 specifies a stepwise approach to the reporting of the usage data, beginning with data from cattle, pigs and poultry by 30th September 2024. By 30th June 2027, Ireland will be reporting usage data from all food-producing animal species including horses. DAFM is developing a secure National Veterinary Prescription System (NVPS) to allow for the digital generation of a prescription. This electronic prescribing system will collect veterinary prescription data electronically. The NVPS will be available for voluntary use by veterinary practitioners from the end of January onwards to ensure prescribers and dispensers are familiar with the system. This system becomes compulsory on 1st June 2022. Veterinary practitioners can continue to issue paper-based prescriptions in the current format until then.

Antiparasitics – Prescription Only Medicines

From the 1st June, at the same time as the NVPS being mandatory, all wormers , flukicides, pour-ons, and other antiparastics for use in sheep will require a prescription. This means that you will need a prescription from your vet in order to purchase antiparastics after the 1st June 2022. This prescription will be issued to

sheep farmers electronically via a text message or email. You will receive a code for your prescription, and you can then present this code to whom ever you wish to purchase the products from. The prescription will be valid for a maximum of 12 months so you can get whatever amount you need dispensed from whoever you wish over the 12 months. In 2022 sheep farmers can avail of a Targeted Advisory Service on Animal Health (TASAH) which is specifically focused on developing a parasite control plan on sheep farms to ensure that wormers etc are used appropriately and when necessary. This TASAH includes a veterinary visit after which each farmer will be given three recommendations regarding parasite control on their farm. There will also be two faecal egg counts carried out to determine the level of parasites on the farm, or the efficacy of the wormers used. This is a free service for sheep farmers, and DAFM would encourage as many sheep farmers as possible to avail of this opportunity.

Conclusions

The new veterinary medicine Regulation provides an opportunity to work together to protect human health, animal health and welfare and our shared environment in relation to the challenge of AMR. Compliance with the new Regulation will require a behavioural and mindset change as to how veterinary medicines can be used into the future.

Optimising animal health will be a crucial element in this dynamic with knock on benefits in terms of protecting the environmental, economic and social sustainability of our agrifood sector. Ambitious targets outlined in the Farm to Fork Strategy as part of the European Green Deal seek a 50% reduction in the overall quantities of antimicrobials sold across the EU by 2030. The achievement of this goal will be supported by the implementation of the new Regulation (EU) 2019/6 on Veterinary Medicinal Products and (EU) 2019/4 on Medicated Feed from January 2022.

The new Regulations will require us to change the way we use antimicrobials and antiparasitics,with practices such as the routine blanket use of antiparasitics or antimicrobials no longer being an accepted 'norm'. A change in usage practices will also have a positive impact on animal health and food security as it will ensure that both antimicrobials and in particular antiparasitics remain effective disease treatment options into the future.

It is clear that veterinary practitioners, as the prescribers and indeed gatekeepers of veterinary medicines, have a key role to play to promote the responsible use of antibiotics and antiparasitics in the animal health sector. However sheep farmers, and all stakeholders in the industry also have an important role to play.

Irish Farming is going through an era of significant change, but with change comes opportunities, and the challenge is to see and use these opportunities to enhance the sustainability of the agri-food sector. Further information is available at https://www.gov.ie/en/publication/f7968-veterinary-medicines-and-medicated-feed/

National Virtual Sheep Conference 2022

Tuesday 25th January 2022, 8pm

Chairperson: Dr. Fiona McGovern

Conference Opening: Prof. Frank O'Mara

Speakers:

Michael Gottstein, Head of Sheep Knowledge Transfer, Teagasc

Michael Gottstein works as the Head of Sheep Knowledge Transfer Department for Teagasc, The Irish Agriculture and Food Development Authority. Michael, whose family originate from Germany is a native German speaker and undertook his B. Agr. Sc. (ACP) in University College Dublin, graduating in 1995. In 1997, Michael completed his Master's Degree (animal nutrition) by research and after a few years in private practice he joined Teagasc as a dairy adviser in late 2000. Michael was appointed as a drystock specialist in 2003 during which time he completed a Graduate Diploma in Farm Financial Management. He was appointed as a sheep specialist in 2007 and was appointed as the Head of Sheep Knowledge Transfer Programme in 2012. In his spare time, Michael breeds pedigree sheep and cattle on his farm in west Cork.

Seamus McMenamin, Sector Manager, Bord Bia

Seamus has worked in various roles in the red meat industry since graduating from Queens's University Belfast in 2009. He is from a farming background and has always had a keen interest in working in the agriculture industry. He joined Bord Bia in late 2020 as a Sector Manager with responsibilities for Sheep Meat and Livestock having previously worked for the Livestock and Meat Commission in Northern Ireland in various capacities over the last ten years.

National Virtual Sheep Conference 2022

Thursday 27th January 2022, 8pm

Chairperson: Dr. Philip Creighton

Speakers:

Dwayne Sheils, Walsh Scholar, Teagasc

Currently Dwayne is an educational officer with Teagasc, based in Donegal, while also in the final stage of his PhD under the supervision of Dr. Tim Keady and Dr. John Mee, Teagasc and Professor Cathy Dwyer, University of Edinburgh and SRUC.

Dwayne's PhD studies focused on:

- Effects of maternal and neonate behaviours at and around parturition, on lamb survival and subsequent performance.
- Risk factors associated with, and causes of, lamb mortality from late pregnancy to weaning.

During his studies, Dwayne had close links with the Teagasc National Farm Survey and the Regional Veterinary Laboratories.

Dwayne has alot of practical sheep farming experience having won the Irish Young Shepard competition on two consecutive occasions. Dwayne has also experienced sheep production in New Zealand and Australia having collaborated on research experiments in both countries as part of the Teagasc Walsh Fellowship overseas scholarship. In his down time Dwayne specialises in breeding several breeds of pedigree sheep for both lowland and hill producers.

Dwayne will present the findings from his studies on opportunities to reduce lamb mortality and thus increase flock productivity and profitability.

Caroline Garvan, Dept. of Agriculture

Caroline Garvan qualified as a veterinary practitioner in 1993 from UCD, and spent 12 years in veterinary practice in both the UK and Ireland, working in all aspects of veterinary medicine. She Joined the Department of Agriculture, Food and Marine in 2007 and has worked in the medicines area as a veterinary inspector and superintending veterinary inspector. She is now a superintending veterinary inspector in the Antimicrobial Resistance section where she is programme manager for the delivery of the second National Action Plan to address AMR, (iNAP 2) , as well as delivery of the National Antiparasitic Resistance Action Plan.

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