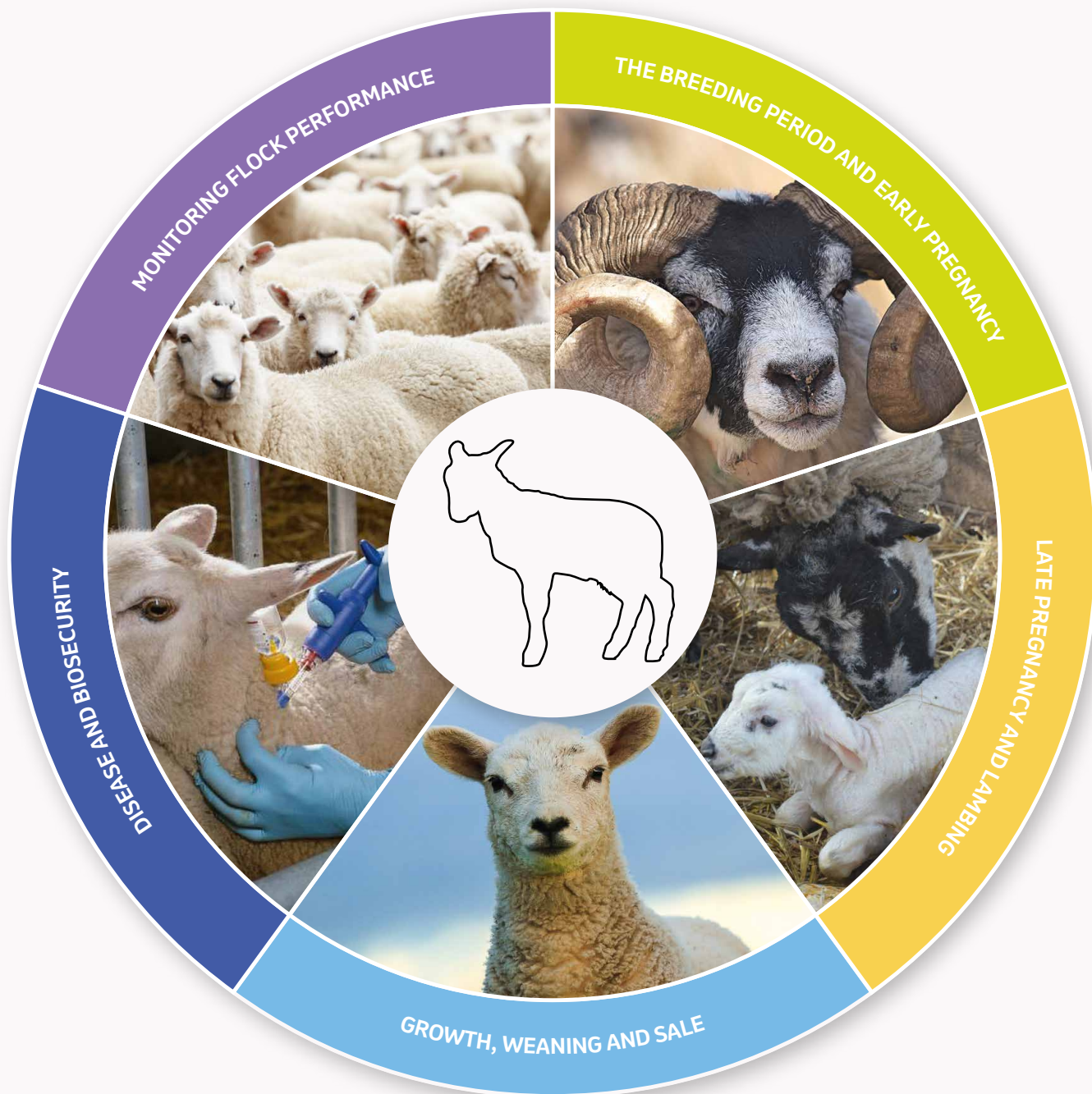


# FLOCK HEALTH CHECKLIST



Farmer objectives / concerns:

Farm:

Vet / Prescriber:

Date:

# USING THE CHECKLIST

*This checklist was developed by Jonathan Hobbs, Giselle Brown, Claire Jones, JP Crilly and John Hemingway in association with MSD Animal Health to help veterinary professionals and farmers work more closely to improve flock performance and health.*



## INTRODUCTION

This checklist is designed to be completed by the farmer working together with their flock health advisor. The checklist will focus on key processes and time periods, combined with the flock health advisors' expertise to create a practical action plan for improved flock health and productivity on farm.

Improved flock health will lead to healthier ewes, rams and lambs and reduced losses which in turn can improve overall farm profitability, time management and job satisfaction.

## INSTRUCTIONS FOR COMPLETING THE FLOCK HEALTH CHECKLIST

- Complete all five sections of this checklist to identify strengths and weaknesses of flock management and lamb rearing processes. Use data from the most recent lambing period.
- For each question, choose the most appropriate statement for the situation on farm by circling the score adjacent to the answer chosen.
- Add up the scores in each section to give you a total section score out of 20.
- Once all the sections are completed, on the back page plot the total section scores on the graph and sum all the section scores to give your overall score out of 100.
- Farmer and flock health advisor can then discuss the results and create an action plan for improvement together.



**SCAN TO VIEW AND DOWNLOAD  
THE INFORMATION PACK**



# THE BREEDING PERIOD AND EARLY PREGNANCY

JONATHAN HOBBS

QUESTION	ANSWER	SCORE
<b>1</b> Do you assess your rams before breeding each year?	A. No	0
	B. External physical exam by farmer (teeth, toes, tone (BCS), testicles)	1
	C. Full physical exam by vet, including but not limited to teeth, toes, tone, testicles. Semen analysis performed at the vet's discretion	2
<b>2</b> How long do rams last on your farm?	A. <2 years	0
	B. 2-4 years	1
	C. >4 years	2
<b>3</b> Do you assess all ewes before breeding each year?	A. No	0
	B. Yes – a basic physical exam assessing body condition score (BCS), teeth, feet and udder is performed	1
	C. Yes – a basic physical exam assessing BCS, teeth, feet and udder. Culling decisions are based on this AND lambing records specific to that ewe. Veterinary advice is sought if a flock-wide problem is evident <sup>3</sup>	2
<b>4</b> Do you vaccinate ewes prior to tupping to reduce abortion (e.g. enzootic abortion, toxoplasmosis)?	A. No (open flock)	0
	B. No (closed flock for breeding ewes)	1
	C. Yes; OR No, but I run a closed female flock and we test and monitor for any infectious causes of abortion	2
<b>5</b> Do your ewes receive an anthelmintic (wormer) around tupping?	A. Yes – all of them every time, regardless of clinical signs	0
	B. Never or target-treat, based on BCS	1
	C. We target-treat individual ewes, depending on the result of faecal egg counts (FECs) and BCS	2
<b>6</b> Do your ewes, ewe lambs and rams receive any liver fluke treatment?	A. Yes – they always receive triclabendazole; AND/OR they routinely receive a combination fluke and worm product	0
	B. Yes – they always receive triclabendazole in early autumn and may receive a subsequent non-triclabendazole treatment over the winter / early spring; AND/OR combination fluke and worm products are occasionally used	1
	C. Yes – a detailed liver fluke treatment plan has been made with my flock health consultant and reviewed regularly; OR No – liver fluke is not a problem on my farm	2
<b>7</b> What is your ram:ewe ratio for natural / unsynchronised service?	A. <1:30	0
	B. 1:30 - 1:50	1
	C. >1:50	2
<b>8</b> Is the length of your lambing period desirable for your system and individual needs?	A. No, it lasts too long	0
	B. It could be improved as we know there are issues on our farm related to the length of the lambing period	1
	C. It is perfect for my situation	2
<b>9</b> What is your barren rate?	A. >5% or I don't know	0
	B. 2-5%	1
	C. 2% or less	2
<b>10</b> How long do you quarantine rams for after purchase?	A. <2 weeks or not at all	0
	B. 2-4 weeks	1
	C. >4 weeks	2
<b>TOTAL SCORE</b>		<b>/20</b>

Rams can pass a physical exam yet be subfertile or infertile, which can only be determined using semen analysis<sup>1</sup>.

The average breeding time a ram lasts on UK farms is 3.8 years<sup>2</sup>, however if your rams are fit, healthy and well cared for, they should last much longer.

Fluke treatment plan should consider:  
 ✓ recent weather conditions  
 ✓ liver fluke forecast  
 ✓ abattoir reports  
 ✓ farm knowledge  
 Combination anthelmintic products are rarely necessary and can lead to the development of resistance.

Minimum of 4 weeks quarantine is desirable to allow adaptation to diet, the new environment, parasite management and other diseases (e.g. CODD)<sup>4</sup>.

## References

- SVS Guidelines on the Examination of Rams for Breeding
- Phillips K, Stubbings L, Lewis C, Stocker P. Improving the Welfare and Longevity of Rams in Commercial Sheep Flocks. NSA Survey with Animal Welfare Foundation conducted 2016/17
- AHDB Better Returns Programme manual 11: Ewe Fertility for Better Returns
- Quarantine Treatments and Procedures, (2020). [ebook] SCOPS: <<https://www.scops.org.uk/workspace/pdfs/quarantineprocedures-and-treatments.pdf>>



# LATE PREGNANCY AND LAMBING

JOHN HEMINGWAY

QUESTION	ANSWER	SCORE
<b>1</b> Do you use scanning results to create management groups during pregnancy?	A. I don't scan my ewes	0
	B. I have scanning data but do not use it to split my flock	1
	C. Yes, I create management groups based on my scanning data	2
<b>2</b> Is your late-pregnancy ewe diet based on the results of a forage analysis?	A. I don't have a forage analysis carried out	0
	B. I have forage analysis data but do not use it to formulate a ration	1
	C. My feeding is adjusted yearly based on forage availability or the results of a forage analysis	2
<b>3</b> How do you assess your ewes' nutritional status in late pregnancy?	A. I don't carry out an assessment	0
	B. I body condition score my ewes in late pregnancy	1
	C. I body condition score all my ewes and blood-test a sample of ewes for energy and protein status 3 weeks before lambing	2
<b>4</b> Are late / full-term abortions investigated for infectious causes?	A. I don't investigate abortions	0
	B. I mark / record barren or aborted ewes and blood-test them after lambing has finished	1
	C. I consult with my vet if abortions occur, and have them investigated immediately	2
<b>5</b> Do you record ewes that have vaginal prolapses and cull these?	A. I don't record prolapses	0
	B. I record but I might not always cull them	1
	C. I mark / record prolapses and always cull the ewe	2
<b>6</b> What best describes how you record lamb losses on your farm?	A. I don't scan my ewes / I don't record my losses	0
	B. I record the losses of all lambs which were born alive	1
	C. I record lambs lost between scanning and being born alive, and also between being born alive and weaning	2
<b>7</b> What best describes your use of 'preventative' antibiotics in young lambs?	A. All lambs are given antibiotics at birth	0
	B. I give preventative antibiotics to some lambs at birth, if I consider them to be high-risk based on pre-agreed criteria	1
	C. I wouldn't use antibiotics in young lambs except in the case of a disease outbreak, and on the recommendation of my vet	2
<b>8</b> What best describes your colostrum management of new-born lambs?	A. I don't generally supplement lambs with colostrum	0
	B. Some lambs will receive supplementary colostrum if they don't suck or are deemed to be high-risk, however this may not be within 6 hours of birth	1
	C. If lambs aren't seen to suck, and/or deemed to be high-risk, they're always supplemented with 50 ml / kg of colostrum (ideally ewes' colostrum) within 6 hours of birth	2
<b>9</b> What best describes the management of feeding equipment (bottles, teats, stomach tubes) between use?	A. My equipment does not necessarily get washed in between different animals	0
	B. My equipment is rinsed or washed out between usages, but a sterilising solution is not used	1
	C. My equipment is washed and then disinfected using a sterilising solution, then left to dry before re-use	2
<b>10</b> What best describes your hygiene protocol when undertaking an assisted lambing?	A. I don't wear gloves	0
	B. I wear disposable, arm-length gloves to protect myself if the lambs are dead or rotten	1
	C. I always wear disposable arm-length gloves when assisting a lambing	2
<b>TOTAL SCORE</b>		<b>/20</b>

Management groups of pregnant ewes should be based on scanning data (litter size) and body condition scores. A forage analysis is essential in order to feed the different groups efficiently.

86% of all sheep abortions are caused by three common infectious organisms. Over 50% alone are caused by enzootic abortion (Chlamydia abortus)<sup>1</sup>.

Over 50% of E. coli samples cultured from neonatal lambs are resistant to spectinomycin antibiotic.<sup>2,3</sup>

Colostrum harvested from own ewes is best as opposed to cow colostrum, powdered colostrum or colostrum from other farms.

## References

1. AHDB Beef & Lamb (2015): Reducing Lamb Losses for Better Returns. [Online] available at <https://ahdb.org.uk/knowledge-library> (accessed 13/11/2020)
2. Veterinary Medicines Directorate (2015). UK Veterinary Antibiotic Resistance and Sales Surveillance Report. [Online] available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/582341/1051728-v53-UK-VARSS\\_2015.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/582341/1051728-v53-UK-VARSS_2015.pdf) (accessed 13/11/2020)
3. <https://www.ruma.org.uk/targets-task-force-2021-2024/>



# GROWTH, WEANING AND SALE

CLAIRE JONES

QUESTION	ANSWER	SCORE
1 Do you vaccinate your lambs against clostridial diseases and <i>Pasteurella pneumoniae</i> ?	A. I don't vaccinate my lambs against either clostridial diseases or <i>Pasteurella pneumoniae</i>	0
	B. I only vaccinate my lambs against clostridial diseases	1
	C. I vaccinate my lambs against clostridial diseases and <i>Pasteurella pneumoniae</i> OR I only vaccinate for clostridial disease as my losses due to <i>Pasteurella</i> are negligible / none	2
2 Do you regularly obtain faecal egg counts (FECs) and / or weigh your lambs throughout the grazing season to monitor signs of a worm burden?	A. I don't carry out any regular monitoring (weighing or FEC) of my lambs through the grazing season	0
	B. I get a sample of faeces analysed for FEC or weigh the lambs if they're looking poor or starting to scour	1
	C. I regularly FEC and / or weigh my lambs throughout the grazing season and use this information to determine the need to treat	2
3 Do you rotate anthelmintic classes used on your flock according to advice from your flock health consultant based on a FEC result?	A. I tend to use the drench I have to hand at the time, or which is cheapest to buy, and use this for the whole season	0
	B. I try to use at least two different classes of drench through the grazing season	1
	C. I follow a strict drenching protocol according to my veterinary prescriber's advice and the results of FEC	2
4 Have you ever performed drench resistance testing of your flock?	A. I've never performed any testing of drenches on my land and do not know my drench resistance status	0
	B. I performed some drench resistance testing, but it was more than 2 years ago	1
	C. I perform drench resistance testing every year	2
5 Have you performed testing on your ewes and lambs to ascertain the need for trace element (TE) supplementation?	A. I've not done any testing and do not supplement TE	0
	B. I've not done any testing but supplement if the lambs look like they're lacking in something	1
	C. I perform TE testing yearly and supplement if a deficiency is found	2
6 Do you regularly weigh your lambs throughout the fattening period and are you able to calculate daily live weight gain (DLWG)?	A. I don't weigh my lambs at all	0
	B. I weigh some of the lambs when they're in for other routine procedures such as marking or shearing	1
	C. I weigh all the lambs regularly throughout the grazing season and track their DLWG	2
7 Do you deploy rotational grazing or other grassland management strategies to improve the efficiency with which your flock is grazed?	A. I don't deploy any grazing management strategies	0
	B. I try to move the stock around regularly in order to prevent over-grazing	1
	C. I rotational-graze my stock in order to maximise pasture performance and efficiency according to pasture availability and grass growth	2
8 What factors influence the decision of when to wean the lambs on the farm each year?	A. The lambs are weaned on a specific date rather than at a specific weight	0
	B. I wean the lambs in batches according to when they've reached a target weight for my flock	1
	C. I regularly weigh the lambs and body-condition-score (BCS) the mothers, then wean according to when the lambs are target weight, or if the mothers are starting to lose condition	2
9 Do you consider the risks and treat all relevant stock for ectoparasites on-farm where appropriate?	A. I apply some treatments when the stock are gathered for other routine procedures	0
	B. I'm aware of the changing risks each year, but unless losses are incurred this doesn't always influence my treatment decisions	1
	C. I consider the risks of all ectoparasites on farm, treat if / when appropriate, and keep up to date with the changing risks each year, using veterinary advice and parasite forecasts	2
10 Are you able to retain ewes based on their ability to rear their lamb(s) and use this information to select replacement stock from the ewes with better genetics? <sup>3</sup>	A. No links are recorded between the ewes and their lambs' performance	0
	B. Any ewes rearing poor-quality lambs are marked at weaning and might be culled from the flock	1
	C. All lambs are weighed, and their performance linked to their mother's tag number so that an informed decision can be made on whether the ewe should be retained and / or whether their lambs are to be kept as replacement stock	2
<b>TOTAL SCORE</b>		<b>/20</b>

Over 25% of early-life lamb losses are due to these diseases<sup>1</sup>.

Overuse of the same class of anthelmintic over a sustained period is one of the main ways that resistance can build up on-farm<sup>2</sup>.

Drench resistance is identified when >5% of the treated population of worms survive<sup>2</sup>.

TE testing can be performed on bloods. Liver biopsies can be used to determine Copper levels.

DLWG is calculated by subtracting the birthweight from the current weight, then dividing this by days of age.

Ectoparasite discussion should include ticks (tick-borne diseases), flies, lice and mites (particularly scab mites) where appropriate.

## References

1. Fallen Stock Project 2014-15 - Ben Strugnell, Fallen Stock Collection Centre, County Durham
2. www.scops.org.uk 'What is anthelmintic resistance?'
3. O'Brien AC, McHugh N, Wall E, Pabiou T. Genetic parameters for lameness, mastitis and dagginess in a multi-breed sheep population. Published online by Cambridge University Press: 24 November 2016



# DISEASE AND BIOSECURITY

GISELLE BROWN

QUESTION	ANSWER	SCORE
<b>1</b> Are replacements (including rams) purchased or homebred?	A. Replacements are purchased from multiple sources and not quarantined	0
	B. Replacements are purchased from multiple sources and are quarantined for at least 4 weeks	1
	C. Replacements are all homebred OR all replacements are bought from a small number of known sources and quarantined on arrival for at least 4 weeks	2
<b>2</b> What treatments do newly purchased / returning animals (including rams) routinely receive upon arrival on the farm?	A. No treatments are given	0
	B. New arrivals are dosed for worm and fluke (if appropriate) but consideration is not given to the drugs used, nor their spectrum / efficacy	1
	C. The animals are quarantined for a minimum of 4 weeks. They receive a scab treatment (or an ELISA blood test 2 weeks after arrival), foot bathing, appropriate vaccinations and worm and liver fluke treatment(s) as required <sup>2</sup>	2
<b>3</b> Are post-mortem examinations of ewes and lambs performed where the cause of death is unknown?	A. Post-mortem examinations are never performed	0
	B. Post-mortem examinations are sometimes performed but only once several deaths have occurred	1
	C. Post-mortem examinations are always performed if the cause of death is unclear	2
<b>4</b> Is ewe body condition scoring performed routinely throughout the year?	A. Body condition scoring is not routinely performed	0
	B. Ewe condition is assessed pre-lambing but not routinely at any other time of year	1
	C. Yes, body condition scoring is performed multiple times per year when the sheep are being handled	2
<b>5</b> What is your current replacement rate?	A. >30%	0
	B. 20-30% or expanding flock	1
	C. 15-20%	2
<b>6</b> What is the current prevalence of lameness within your flock?	A. >5%	0
	B. 2-5%	1
	C. <2%	2
<b>7</b> Which answer best represents your current lameness control policy?	A. The farm does not have a lameness control policy in place - affected sheep will be treated whenever the group is next handled	0
	B. At least three aspects of the Five Point Plan are adhered to	1
	C. Lameness control is achieved through following the Five Point Plan after diagnosis is confirmed by your vet	2
<b>8</b> Is vaccination used, where appropriate, to control production-limiting diseases which may be present or have been previously diagnosed on your farm?	A. No routine vaccinations are used on this farm	0
	B. Vaccination against some disease(s) is carried out, however there would likely be a benefit to vaccinating against other conditions	1
	C. Yes, vaccination is carried out against all relevant diseases on this farm	2
<b>9</b> Do you investigate thin ewes before culling?	A. No, never	0
	B. Occasionally, only if a problem is perceived	1
	C. Always, unless there is an obvious reason e.g. broken mouth, lameness etc	2
<b>10</b> Do you record ewes with health issues (i.e. vaginal prolapses, mastitis) and remove them from your flock post-weaning?	A. I don't record any data from the ewes from the previous grazing season	0
	B. Ewes that have issues will be marked at the time and a decision is made on whether the ewe is culled at weaning based on her condition	1
	C. I record all specific problems with ewes along with the ewes' tag numbers, and the majority of these ewes are culled after weaning	2
<b>TOTAL SCORE</b>		<b>/20</b>

Appropriate vaccinations help protect your flock from incoming disease, but will also help protect bought-in sheep from diseases which could be endemic in your own flock<sup>1</sup>.

Monitoring of ewe BCS is vital throughout the year to detect disease and ensure nutrition is appropriate.

Lameness is a welfare concern and leads to significant production losses such as reduced body condition score, reduced fertility and poorer mothering/rearing ability in ewes.

The FAI 5 Point Plan has been shown to reduce lameness to under 1%<sup>3</sup> - see separate info sheet.

Reviewing reasons for culling will help to identify disease and create a prevention plan.

If a ewe has had a vaginal prolapse at lambing time, there's an increased risk for her to prolapse again<sup>4</sup>.

## References

1. AHDB Better Returns Sheep Diseases Directory. [ebook] AHDB, p.34. Available at: <<https://projectblue.blob.core.windows.net/media/Default/Imported%20Publication%20Docs/Sheep-disease-directory.pdf>>
2. Quarantine Treatments and Procedures, Avoiding the Introduction of Resistant Worms, Liver Fluke and Sheep Scab (2020). [ebook] SCOPS: <<https://www.scops.org.uk/workspace/pdfs/quarantine-procedures-and-treatments.pdf>>
3. FAI Trial 2009-2012. <https://www.fairfarms.com/lameness5pointplan/>
4. Jackson R, Nilson RPN, Roe AR, Perkins N, Heuer C, West DM (2014). Epidemiology of vaginal prolapse in mixed-age ewes in New Zealand. *New Zealand Veterinary Journal*, Nov; 62(6): 328-37



# MONITORING FLOCK PERFORMANCE

JP CRILLY

QUESTION	ANSWER	SCORE
<b>1</b> Do you have a recent flock health plan that you put together with your flock health advisor?	A. No	0
	B. Yes, but it's several years old now	1
	C. Yes, and it's reviewed at least annually	2
<b>2</b> Do you know your cost of production?	A. No	0
	B. No, but I know the variable costs of my sheep enterprise	1
	C. Yes	2
<b>3</b> Do you know the kg lamb sold per kg ewe put to the tup?	A. No	0
	B. No, but I know number of lambs sold / retained per ewe put to the tup	1
	C. Yes	2
<b>4</b> Do you know the mg/kg PCU annual antibiotic usage of the flock?	A. No, OR one of the following occurs on farm: routine use of injectable or oral antibiotics in all lambs born; use of injectable oxytetracycline to routinely control abortion; relying solely on antibiotic administration for lameness control	0
	B. Yes, but it's >20 mg/kg PCU	1
	C. Yes, it's less than 20 mg/kg PCU and none of the inappropriate uses identified by SVS, SHAWG and RUMA occurs	2
<b>5</b> What is your approach to mutilations in your sheep (castration and tail-docking)?	A. I routinely tail dock and/or castrate all my lambs and have not considered if I can reduce these interventions	0
	B. I've considered reducing mutilations but haven't tried yet	1
	C. I do no mutilations, mitigate them where possible, or have made a serious effort to reduce them where they can't be avoided	2
<b>6</b> What is your lamb loss rate (scan-sale / retention or lambing-sale / retention if not scanning)?	A. I don't know	0
	B. >15%	1
	C. <15%	2
<b>7</b> What is your ewe mortality rate (excluding culling)?	A. I don't know	0
	B. >3%	1
	C. <3%	2
<b>8</b> Do you review your medicines records and lambing records to identify major causes of dystocia, illness, death and culling in your flock?	A. No	0
	B. Yes, if there seems to have been a particularly large number of sick sheep or deaths recently	1
	C. Yes, at least annually, and I discuss the results with my flock health consultant	2
<b>9</b> Do you use abattoir feedback or market returns to identify problems within the flock and to target what you produce to your customers' needs?	A. No, I've never requested or looked at these	0
	B. I receive these, but I don't look at them systematically as a decision-making tool	1
	C. Yes	2
<b>10</b> Do you have a clear plan for what you wish your sheep enterprise to achieve in the future and have you discussed these plans with relevant advisors	A. No, I've never really thought about it	0
	B. I have some ideas, but have never sat down and 'put pen to paper' or discussed it formally	1
	C. Yes, I have a formal plan for what I wish to achieve which was produced after discussion with my relevant advisors	2
<b>TOTAL SCORE</b>		<b>/20</b>

Knowing number of lambs sold / ewe put to the ram is a crucial starting point in calculating lamb-derived income.

The industry target is a reduction of total antibiotic usage in the UK flock by 10% each year<sup>1</sup>.

Tail-docking and castration are classed as mutilations, and they should be avoided where possible<sup>2,3</sup>.

Abattoir feedback can be very useful; flagging up problems such as liver fluke or pneumonia.

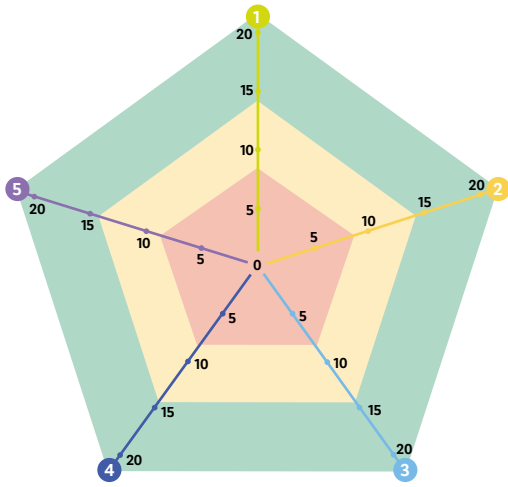
## References

1. RUMA targets task force <https://www.ruma.org.uk/targets-task-force-2021-2024/targets-2017-2020/>
2. Code of Recommendations for the Welfare of Livestock: Sheep ([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69365/pb5162-sheep-041028.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69365/pb5162-sheep-041028.pdf))
3. 2007 Mutilations (Permitted Procedures) Act: <https://www.legislation.gov.uk/ukdsi/2007/9780110757797>

FLOCK SIZE:

FLOCK DISEASE STATUS IN THE LAST 12 MONTHS

ABORTION PREVALENCE .....  
 LAMENESS PREVALENCE .....  
 NEONATAL LAMB LOSSES .....

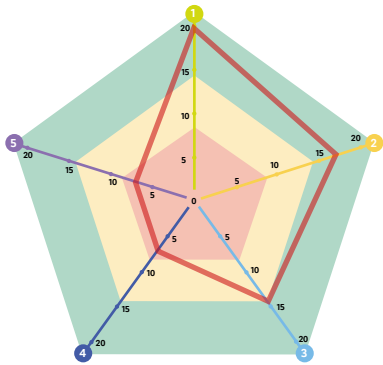


## OVERALL SCORE

Mark on the graph the score for each section. Join the points on each axis together to make a pentagon as shown in the below example.

The overall size of the pentagon highlights the overall score and the shape indicates where further attention to flock health would be most useful – the higher the score for each section the better.

You can benchmark different farms by assessing overall score and then the scores for the five sections. This can be really useful to share insights between different farms for optimal flock health management.



## OVERALL CHECKLIST SCORE

/100

In the example (left) the outcome of the graph highlights that the farmer is doing well with **the breeding period and early pregnancy** management, **late pregnancy and lambing** and **growing lamb** management, and should now focus on **disease and biosecurity** and **monitoring flock performance** to improve performance on their farm.

## ACTION PLAN

Work with the farmer to come up with the action plan focusing on five key areas which have been highlighted by this checklist. This action plan should focus on what is to be achieved by whom and on what timescale.

ACTION PLAN	BY WHOM	BY WHEN
1. .....		
2. .....		
3. .....		
4. .....		
5. .....		

Review actions which arise from this checklist at least every 6 months to keep on track and check progress. Repeating the checklist every 12 months will help to track progress and benchmark performance from one year to another.

Review date:        /        /