



Better Returns Programme

Autumn 2015

Bulletin

THE NEWSLETTER OF THE BETTER RETURNS PROGRAMME

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Developing beef expertise

AHDB Beef & Lamb is working with the British Institute of Agricultural Consultants (BIAC) to deliver continuous professional development (CPD) to consultants and advisers who want to develop their beef expertise.

The aim is to ensure well-trained and experienced consultants and advisers continue to be available to beef producers. The hope is to extend the idea out to support more sheep consultants and advisers in 2016.



The beef programme began at the R&D workshop in September. The next meeting is at one of BRP's very successful 'Live to Dead' days in December, led by AHDB Beef & Lamb Selection Specialist Steve Powdrill.

Four more meetings are planned with the 16 consultants and advisers.



Stocktake 2015

By Chris Lloyd, AHDB R&D & KE Director for Livestock

Stocktake, the annual enterprise costings report compiled by AHDB Beef & Lamb, will be available from early November.

This reference document reviews the financial and physical performance of over 400 English beef and lamb enterprises from April 2014 to March 2015.

More than 15 different production systems are included in the analysis, including spring and autumn calving suckler herds, beef finishing systems and lowland and upland sheep flocks.

To be profitable, a business needs to be able to measure and critique its performance. Stocktake provides beef and sheep producers a useful benchmark against which they can compare their own output in the context of a wider group of farms, with the aim of identifying areas that may require closer scrutiny.

New for this year is a set of international comparisons, giving performance figures for the main production systems from England's closest competitors around the world.

Only online

The 2015 Stocktake report will only be available online this year. It can be found online at beefandlamb.ahdb.org.uk in the Better Returns section under Stocktake 2015. As well as the historical data there will be estimated up-to-date costings for this financial year.

Stocktake Lite

Also new for 2015 is Stocktake Lite, a tool to help producers collect their own records, which can then be compared with the full Stocktake data.

This is available via the AHDB Beef & Lamb website and allows producers to enter their own information. It generates a set of key performance indicators (KPIs) and compares their farm with the latest data available from the Stocktake service for a target enterprise.

In addition, a useful 'What If' function allows the user to assess the impact of management changes on enterprise performance and gross margin.

Updating college lecturers

The sixth college lecturers' day run by BRP will be held on 28 October at the Arden Hotel, Bickenhill, Solihull, West Midlands, B92 0EH.

This annual event is for people who teach students in colleges and universities across England about the beef and lamb industry.

The day includes an overview of both sectors and outlines the significant information resource BRP offers in many different formats – from printed manuals, to YouTube tutorials and email newsletters, such as Grazing Club and Feeding Club News.

College lecturers interested in attending can find out more by calling BRP on **024 7647 8834**.

'Iceberg' sheep diseases

AHDB Beef & Lamb has funded a pilot project across three counties in the north of England, to determine whether post mortems (PMs) can provide useful and timely animal health information for producers and their vets.

The Fallen Stock Project generated some excellent data on disease incidence and this was fed back to the farmers so they could prevent further illnesses and losses.

The results highlighted the impact of so-called 'iceberg diseases'. These conditions cause severe and identifiable symptoms in some animals – while others suffer in a chronic, unseen way. Although not noticeably ill, the disease will still adversely affect performance.

In adult ewes, Ovine Pulmonary Adenocarcinoma (OPA) and Johne's disease were the top two diseases diagnosed at PM. Both are difficult to diagnose in live animals and PMs are the best way to confirm they are responsible for such deaths.

On farm, producers monitoring body condition may spot Johne's disease and OPA before sheep die of them, as weight loss is a symptom of both conditions.

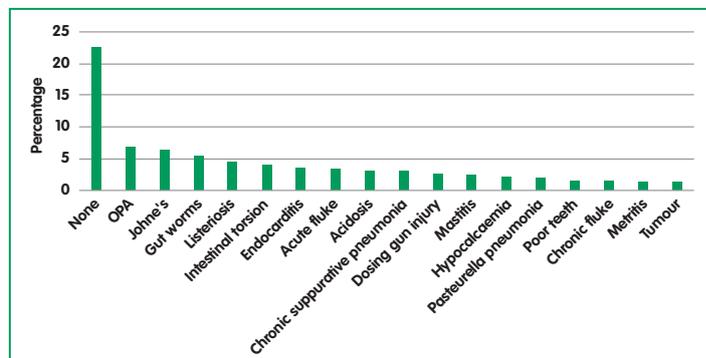
However, within the Fallen Stock Project, five older ewes were examined with very poor teeth, which had led to chronic wasting. It is important to distinguish this type of weight loss from that caused by chronic diseases.

Investigate thin ewes

It is definitely worth asking the vet to investigate any thin ewes, especially if they have been given an opportunity to gain weight and have not responded.

Blood tests are available for Maedi Visna, Johne's disease, Caseous lymphadenitis (CLA) and Border disease. There is also a faeces test available for Johne's.

Figure 1: The most frequent diagnoses made in adult sheep in the Fallen Stock Project



It can be difficult to interpret some of the results and decide on action, so work with the vet to draw up a long-term plan. If the tests prove negative, use biosecurity to ensure the flock stays free from these diseases.

New test

AHDB Beef & Lamb is working with Moredun, Biobest, the Animal and Plant Health Agency (APHA) and HCC (Meat Promotion Wales) to investigate whether a nasal swab test could be developed to identify OPA in live animals. Results will be available in 2016.

A summary of the results from the Fallen Stock Project are explained in the extra bulletin enclosed in this mailing and online at beefandlamb.ahdb.org.uk.



Key Performance Indicator (KPI) Project

The KPI Project, which aims to develop monitoring protocols for sheep production systems, is starting its fourth and final production year. The 2014/15 performance figures for the three farms taking part in the project are now being analysed.

This year the farmers were asked to gather even more data than before, so that the researchers can investigate critical aspects of performance in more detail.

Importance of ewe body condition

The main focus continues to be on ewe body condition, measured by Body Condition Score (BCS) and liveweight and the impact these have on lamb weight at eight weeks of age and weaning.

To maintain body condition and prevent ewes losing or gaining too much weight, a number of factors, such as grassland management, monitoring dry matter availability against requirements and ewe feeding in pregnancy, have all come under the spotlight.

The project is clearly highlighting that if body condition goes wrong at any point, it has long-term effects on ewe productivity. No one factor can be taken in isolation. For example, ewes that struggle to gain body condition after weaning, have a lower weight of lamb

reared at weaning the following season, whether or not they are in the correct condition by scanning or lambing.

Feeding in late pregnancy

A critical KPI for sheep producers at this time of year is to minimise the amount of body condition ewes lose in late pregnancy. To achieve this the diet must be properly balanced, while keeping costs under control by maximising the use of forage and adding the minimum amount of correct supplement.



Knowing the quality of the forage is essential to achieving this and with the current low financial returns, this will be particularly important this year.



Where and why lambs are lost

By Emily Gascoigne, Farm Vet at Synergy Farm Health, Dorset

Identifying stages of reduced efficiency and lost productivity should be the priority when reviewing flock health and performance.

At Synergy Farm Health, over the past 12 months, we have been focusing on lamb losses, identifying when they occur and the risk factors for individual flocks across our practice.

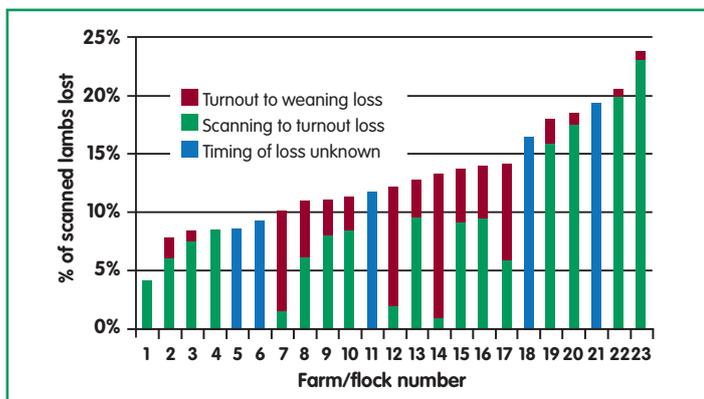
We were anxious to see how our performance compared to national estimates and targets. A survey was sent out after scanning in 2014 and collated after weaning in 2014. Thirty commercial flocks (23 scanned) replied to the survey ranging from smaller, pedigree indoor lambing businesses to large extensive systems, with a total of 18,570 commercial breeding ewes included. A small number of flocks not scanning were also invited to submit data.

Data was collected on scanning and barren results, scanning percentage, lambing percentage, weaning percentage and ewe loss percentage.

Lamb losses from scanning to weaning ranged from 3.4% up to 23.3%. By identifying a 'mid-point figure', ie a turnout percentage, which categorised losses before or after this point, we were then able to focus our discussions with the farmers.

Figure 2 shows the key loss phases for the 23 scanned flocks involved

Figure 2: Losses from scanned flocks in 2014



in the survey, with green bars representing loss from scanning to turnout, red from turnout to weaning and blue where the breakdown is not known.

As expected, most losses occurred between scanning and turnout. The cause was often attributed to common diseases such as watery mouth, difficult lambing, twin lamb disease, etc.

However, there were a few notable exceptions, with some of the flocks losing most lambs after turnout. Further investigation identified less than ideal clostridial vaccination protocols, high *Nematodirus battus* challenges and pneumonia, with some farmers struggling with *Haemonchus contortus* worms later in the season.

Ewe deaths

In addition, we were also able to identify flocks with high ewe mortality – up to 9%. This led to a revision of ewe culling criteria, feeding programmes and infectious disease investigations. Those with high ewe mortality are being encouraged to look for Maedi Visna, Johne's disease, Caseous Lymphadenitis (CLA) and Ovine Pulmonary Adenocarcinoma (OPA).

Performance analysis begins at this most basic level and can help establish periods of key risk for the flock, which allows targeting of investigations and resources.

For many of our flocks, their targets now include collecting more accurate data, which can form the basis of an ongoing dialogue. This will enable us to draw up real-time, proactive and preventative strategies to maximise ewe productivity and minimise lamb losses in future. We shall be repeating the survey again in 2015.

To request a free **Flock notebook** to help record not only lamb losses, but many other management tasks, email brp@ahdb.org.uk or call **024 7647 8834**.



Here is an example feed programme for twin-bearing ewes on one of the project farms:

- The ewes are put into weekly groups based on raddle colour, which makes feeding more efficient. The closer a group is to lambing, the higher quality feed they are offered
- Leaner twins are fed as triplets, which means they move up the diet stages a little quicker and are receiving 250g of soya by lambing
- All silage is from big bales – dry matter ranges from 40-50%
- A total mixed ration is fed *ad lib* at all times. Dry matter intakes peak at about 1.8kg/ewe/day and do not drop off significantly in the run up to lambing
- Silage of increasing quality is used. Differing protein levels dictate the need for additional supplements, such as the high non-protein nitrogen liquid in the second stage (Table 1)

There is more information on feeding in BRP Sheep Manual 12: **Improving ewe nutrition for Better Returns**, which can be downloaded from beefandlamb.ahdb.org.uk, or request a copy

by emailing brp@ahdb.org.uk or calling **024 7647 8834**.

There is also a list of companies offering forage testing services on the BRP website – use the search word 'Laboratories' to find it.

Table 1: Diets offered to twin-bearing ewes in the weeks pre-lambing on one of the project farms

Weeks pre-lambing	Silage quality	Additional protein	Vit & min supplements
Up to 4	10.6 ME	None	20g/head/day
4-2	11.6 ME	100ml 40% crude protein liquid (urea based)	20g/head/day
2 to lambing	11.7 ME	200g HiPro soya bean meal	20g/head/day

Minimising calving difficulties

The birth of a calf represents a significant investment in time, effort and money and is the only annual output of a beef cow. If the calf dies, the entire annual productivity of the mother is lost.

Suckler cow owners should aim for a tight calving period, with as many cows and heifers as possible giving birth to healthy offspring, with little difficulty and no human interference.

The cows should also become pregnant again as early in the subsequent breeding season as possible. Planning for all possible outcomes, before the calving season starts, is the best way to prepare.

Heifers should be 65% of their mature weight at first service, to ensure they are well-grown at calving.

Calving can be regarded as being unsuccessful when:

- Cows die as a result of calving difficulties
- Calves are born dead
- Calves are injured during birth, or do not receive sufficient colostrum, which leaves them susceptible to infections resulting in poor performance or death
- Cows are barren
- Cows suffer health problems around

calving, which reduces their subsequent fertility

Dystocia is the technical term for difficult calving and can be caused by:

- Calf effects, eg high birthweight or deformity
- Cow effects, eg inappropriate body condition, age, pelvic size or shape, or disease contracted just before, during or after calving
- Foetal position at birth. About 5% of calves present in an abnormal position

In the recent Fallen Stock project, around 9% of the adult cows examined died due to infections caused by damage around

calving, with a further 5% of deaths being due to complications after caesareans.

These losses are significant, even before the cost of the lost or orphaned calf is taken into account. However, there are many actions farmers can take to minimise this type of loss.

Minimising calving difficulties is a new online BRP+ document, which covers pregnancy, calving and aftercare for both the cow and calf. It is available to view or download from the BRP section of

beefandlamb.ahdb.org.uk.



Replacement heifers for suckler herds

Most factors that affect suckler cow performance are influenced by their genes. So breeding, or buying in the right type of animal for the herd, is the first step towards achieving long-term profitability.

Heifer selection starts before the calf is born, as choosing the right parents is vital to ensure new females fit the production system and meet performance targets.

Once she has been born, the heifer should be managed in a way that optimises her fertility and productive life, while minimising any health issues. Breeding strategies such as crossbreeding can also help produce robust cows that will produce strong and healthy offspring.

Selecting a bull that will deliver good maternal traits such as milk and ease of calving, as well as carcase output, is increasingly important. Using tools such as Estimated Breeding Values (EBVs), takes some of the guesswork out of breeding decisions, helping deliver female replacements that will be fit for purpose for many years to come.

For more detailed information on managing replacement heifers, see BRP Beef Manual 11: **Managing replacement heifers for Better Returns** and the new online BRP+ publication **Breeding female replacements for the suckler herd**.

Both are available to view or download at beefandlamb.ahdb.org.uk, or email brp@ahdb.org.uk or call **024 7647 8834** to request a free copy of the manual.



Moving forward with breeding for feed efficiency

Since its national launch in January, this £1.75 million selective breeding project has made a good start at collecting data and setting up a network of commercial feed recording units.

The aim is to collect robust measurements of feed efficiency in beef cattle and incorporate these into future breeding programmes. It is being funded by the Department for Environment, Food and Rural Affairs (Defra) and AHDB.

Natalie Cormack has been appointed as the project delivery manager. With a genetics background, she has worked in the beef industry for much of her career. She will be sourcing cattle for the feed recording units and overseeing the collection of the data.

Progress update

Phase 1 is taking place at Scotland's Rural College (SRUC) at their beef cattle research facility near Edinburgh. The first batch of cattle is currently on-test with their liveweight recorded weekly and their feed intake recorded continuously. Subcutaneous fat depth will also be recorded at the start and end of the recording period. Each batch is on test for around four months, including a quarantine and acclimatisation period.



Phase 2 of the project is rolling out the collection of feed efficiency data onto a small network of commercial farms. This process is currently underway with a number of farmers having applied to be involved.

These will have been recruited by the end of 2015, with a view to installing the feed recording equipment during the early part of 2016, with recording starting later that year.

The project leaders have convened a Business Planning Group of relevant industry stakeholders, to develop a model for continuing the project after the funding period ends in 2019.

Limousin and Limousin Cross Store Cattle Wanted for Breeding for Feed Efficiency Project

- Steers born in March and April 2015
- By a registered (or previously registered) Limousin sire
- Groups of between 8 and 16 calves by the same sire
- From a TB-4 area
- For intake at the end of November 2015

Market price paid for selected cattle

To discuss, contact:

Alison Glasgow on **07885 255621** (alison@limousin.co.uk) or Natalie Cormack on **07866 934563** (natalie.cormack@ahdb.org.uk)

Beef from grass

AHDB Beef & Lamb is working with ADAS, Newcastle University and independent grassland specialist Charlie Morgan, to develop a network of farmers (mentors) who currently maximise the amount of beef produced from grass and forage. The team is also working with producers (improvers) who have identified that they want to produce more from grass and forage.

The eight farmers will be involved from autumn 2015 until the winter of 2017. Two grazing seasons and feeding periods will be followed on each farm to understand how

these farms perform and to identify any areas for improvement.

The project aims to:

- Reduce the days cattle are housed by 20%
- Increase stocking rate across the grazing platform by 20%
- Increase growth rates from grazing, forage crops and silage by 10%

The plan is to hold events on the farms throughout the project and updates from the farms will be included in the Grazing Club e-newsletter.

At the end of the project an updated blueprint for beef production from grass and forage will be produced, which will include a cost-benefit calculation for establishing rotational grazing systems.

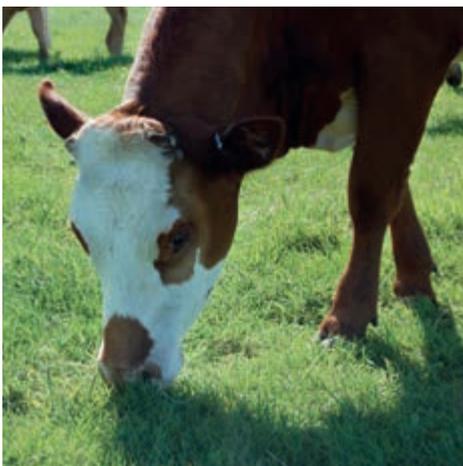


Table 2: The network of beef farmers taking part in the Beef from Grass project

Name	Location	System
Graham Parks	Cheshire	Finishing 400 dairy x cattle
Andrew Crow	Shropshire	150 suckler cows, plus finishers
Matt Pilkington	Warwickshire	Grass-based dairy system
Tim Phillips	Northamptonshire	Suckler cows, sells as stores
Jeremy Iles	Gloucestershire	Suckler cows
Matthew House	Somerset	80 suckler cows, plus finishers
Ed Green	Somerset	Finishing 400 beef x cattle
Lloyd Mortimer	Devon	Upland suckler cows, plus finishers

Bold text = mentors

Focus on feeding



Mycotoxin risk

By Sarah Pick, Beef Specialist, AHDB Beef & Lamb

Mycotoxins are chemicals produced by moulds that can adversely affect cattle and sheep if eaten. They are found in ruminant feeds including grain, straw and conserved forages.

There are as many as 400 types, but the following are regarded as the most significant for farmers to be aware of:

- Aflatoxins
- Ochratoxin A
- T-2/HT-2
- Fumonisin
- Deoxynivalenol (DON)
- Zearalenone

Mycotoxins routinely occur in feed, but usually at concentrations that do not impact on animal health and performance.

They can reduce farm profits through reduced crop yields, rejection of feed, reduction in animal productivity and potential health issues.

Feeds can become contaminated before harvest and during storage. Mycotoxin production is influenced by temperature, carbon dioxide and moisture levels, but they are generally more of a problem in warm, wet conditions.

Symptoms

Cattle and sheep are protected from some mycotoxins by rumen bacteria, which can break them down. However, some mycotoxins including the fumonisins, aflatoxins and ochratoxin A can resist this and prolonged exposure can impair the normal function of the bacteria.

Symptoms of mycotoxin contamination in livestock include reduced feed intake and nutrient absorption, impaired metabolism and changes to hormone secretion (Figure: 3).

Due to the varied and complex nature of animal feeds, it is common to find several mycotoxins in one batch of feed. This can lead to a combination of symptoms, despite individual toxins being within acceptable guideline limits.

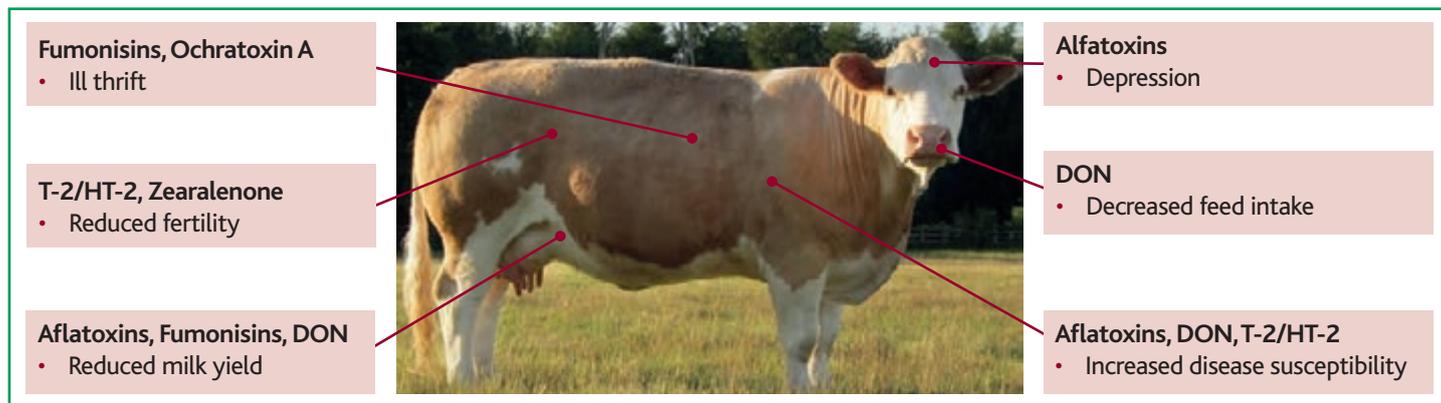
Reducing the risk

Producers who feed home-grown grain and conserved forage are at increased risk of introducing mycotoxins to their animals. This risk can be reduced by drying grain at harvest to 15% moisture content or less, storing straw under cover and employing good silage making and storing techniques. Be aware that bedding straw can also be a source of mycotoxins.

Table 3. Best practice to avoid contamination of feedstuffs

Crop Production	Crop Storage
Avoid growing cereals after maize	Ensure grain is dried to correct moisture content (<15%)
Avoid min-till between successive cereal crops and particularly after maize	Make sure silage is adequately compacted and covered to exclude oxygen
Select fusarium-resistant crop varieties	Ensure correct moisture content at time of ensiling
Optimise crop growing conditions to minimise plant stress	Ensure big bale silage is adequately wrapped and handled with care to prevent damage to the wrap
Avoid lodging of crops	Keep straw dry and out of the rain
Optimise combine settings to remove light, shrivelled grains	Avoid inclusion of mouldy feedstuffs in rations
Avoid harvest delays of both grain and straw	Clean crop storage area thoroughly between batches

Figure 3: The potential effects on cattle of eating mycotoxin-contaminated feed



Top tips

- Beware of damp conditions during crop harvest and storage, as this will increase the risk of mycotoxins
- Avoid feed, forage or bedding with any visual moulds or spoilage
- Consult a vet if cattle show signs of ill health or poor performance. Note whether this can be linked to a dietary or management change
- Adding a mycotoxin binder to the ration can help, but monitor the impact on stock performance to assess cost effectiveness. Withdraw the binder if there is no response

Assessing the impact of change

AHDB Beef & Lamb has worked with the AHDB Market Intelligence team to develop a concept called Target Enterprises (TE). These virtual enterprises are flocks or herds that are achieving the highest possible performance targets, based on research and best practice guidelines. Based on actual farm data, the TEs are included as a benchmark within the Stocktake Lite programme.

The TEs have been modelled in Farmax, a software program that was developed in New Zealand to model pasture-based systems. It allows for different scenarios to explore how changing one or several parameters can impact on an enterprise.

Example Scenarios

An April/May outdoor lambing flock is run on a grass-based system, scanning at 170%, with most lambs finished by December.

Farmax can investigate the impact of different decisions on the availability of pasture for this type of system.

Figure 4 shows the pasture cover (in kg DM per ha) for the baseline April/May Lambing TE. The green line is the forecasted pasture cover measurement over the year – at its lowest in February at 1,350kg DM per ha and highest in July at 2,100kg DM per ha.

The shaded green line is the target cover for this enterprise. The grey line is minimum cover. As these two lines do not meet, Farmax predicts that this is a feasible approach.

Scenario 1

Table 4 shows the impact on the sales pattern of slower lamb growth rates to weaning, meaning the lambs average 29kg at 90 days rather than 31kg (Scenario 1). Liveweight gain is 200g per day after weaning, the same as the baseline flock.

This altered sales pattern changes pasture availability (Figure 5). Having 150 lambs still on the farm from September, has a major impact on pasture availability for the rest of the season. The system is no longer feasible, with not enough pasture to feed all the animals.

This is a relatively simple issue of matching supply and demand. Feed supply can be increased by buying creep feed, or demand can be reduced by selling stores or sending ewes away on keep. This allows pasture availability to recover so there is no long-term impact on ewe weight or performance, which is critical for maximising physical and financial returns.

Table 4: Impact of poorer growth rates to weaning on sales (Scenario 1) and impact of poorer growth rates from weaning on sales (Scenario 2)

Month	Baseline		Scenario 1		Scenario 2	
	No.	Av. weight	No.	Av. weight	No.	Av. weight
Jul	100	19.6	41	19.4	73	19.6
Aug	375	19.4	285	19.4	106	19.1
Sept	375	19.6	379	19.6	145	19.4
Oct	305	19.6	411	19.6	225	19.3
Nov	30	19.5	69	19.4	275	19.3
Dec	–	–	0	0	361	19.1

Figure 4: Pasture cover (kg DM per ha) for baseline April/May Lambing Target Enterprise, Sept 2015 - Aug 2016

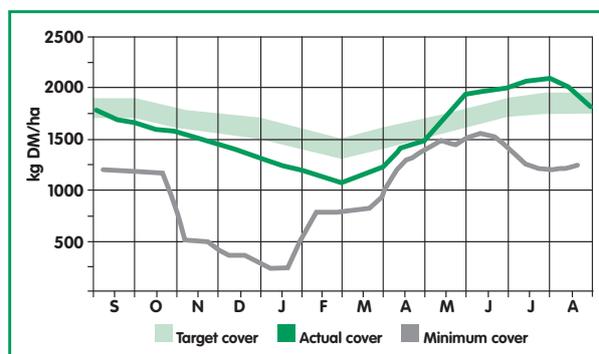
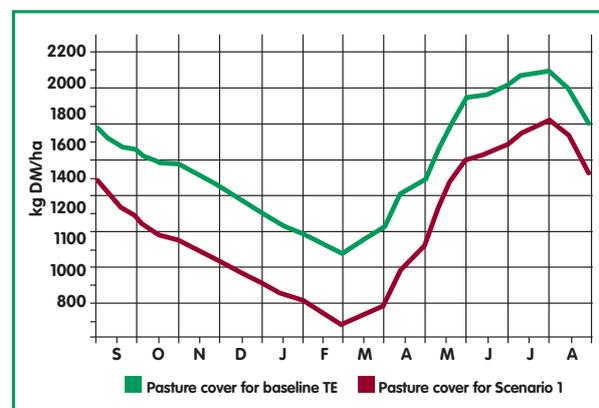


Figure 5: Comparison of pasture cover between the baseline TE and Scenario 1.

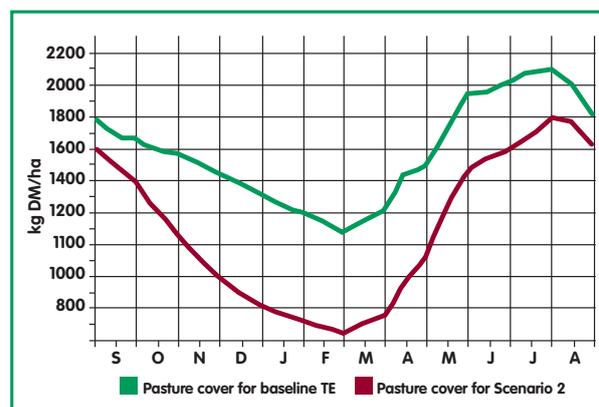


Scenario 2

In this investigation, the weaning weights are the same as the baseline TE, but post-weaning liveweight gains are reduced from 200g/day to 100g/day. Table 4 shows the impact on the sales pattern.

Figure 6 shows the comparison between the TE baseline performance (green line) and Scenario 2 (red line). The effect of this is more extreme, as there are an extra 300 lambs to feed from September onwards. An extra 36 tonnes of concentrates would be needed across the season to balance supply and demand.

Figure 6: The comparison of pasture cover between the Baseline TE and Scenario 2.



More information on Target Enterprises is available on the Stocktake Lite website at stocktake.ahdb.org.uk.

Tackling liver fluke on beef finishing units

Liver fluke is responsible for the rejection of 20-25% of cattle livers in England, depending on the season. It also reduces growth rates and represents a significant handicap to efficient beef production.

Despite liver fluke being most commonly associated with wetter regions, feedback to producers from abattoirs across England, has identified liver fluke as a problem on many farms, even in the drier east.

A Farm Innovation Project, funded by AHDB Beef & Lamb and undertaken by Dawn Meats, aimed to evaluate the effectiveness of liver fluke monitoring and treatment plans on three beef finishing units in the South East.

This study was undertaken in cattle grazing during 2014 and then slaughtered over the winter 2014/15. Various data sources suggest that 2014 was a relatively lower risk year for liver fluke than previous wetter years.

All three farms had a past history of liver fluke infection in cattle. Testing was undertaken to establish if liver fluke were likely to be present (Table 5).



Liver fluke

Action plan

- Reduce dependence on chemical treatments by adopting management control options
- Avoid grazing high-risk areas
- Assess risk every year, use monitoring tools and abattoir feedback
- Choose the right treatment. Triclabendazole should be used when immature fluke are likely to be present (ie in the autumn). Consider alternatives at other times, or when resistance is a known issue
- Dose correctly to the weight of animal and use the correct technique
- Check for resistance – take faecal samples as directed by a vet
- Quarantine and treat if required
- Discuss control strategy with a vet or farm adviser

Further advice can be found at www.scops.org.uk for sheep and at www.cattleparasites.org.uk for cattle.

The faecal tests were carried out for cattle at grass and the blood testing for cattle at housing time. None of the tests in the live animals provided an absolute indication of liver fluke infection.

This project clearly demonstrated the value of testing cattle for the presence of liver fluke. However it is important to understand that the tests only provide a guide and need to be interpreted along with other information such as cattle performance.

Table 5: Different types of tests available for liver fluke in cattle

Test type	Details
Faecal samples	Detection of fluke eggs in dung. Can only detect adult parasites and does not give reliable information on numbers of parasites within an animal
Blood samples	Antibody detection (ELISA). Blood or milk samples can be sent for analysis. Can detect early infection, but antibodies persist for a short while after treatment, so does not prove infection is actually present, just that the cow has been infected recently
Abattoir feedback	Producers should always request abattoir feedback. Liver fluke can be detected in the liver, often referred to as 'active' infection. Liver fluke infection causes damage to the liver, which can be detected even if no liver fluke are present, for example if animals have been treated. This is often recorded as 'historic' infection

Results

Farm 1

Despite evidence of historical liver fluke infection in cull cows in previous years, testing cows grazing high-risk water meadows and second grazing season finishing steers, suggested the risk of infection was low.

As a result the steers were not treated for liver fluke at housing and achieved excellent growth rates of 1.63kg/day to slaughter and carcase weights of around 400kg ten weeks after housing. No evidence of liver fluke infection was found at the abattoir.

Farm 2

This farm was buying in store cattle from Wales and the Welsh borders. Despite the herd screen for liver fluke eggs in faeces returning negative results, blood tests revealed a positive result for liver fluke antibodies.

Recent post mortem results had also shown active liver fluke infection, so cattle were treated with a triclabendazole-based product two weeks after housing. The cattle were housed later than normal that year, which meant they were slaughtered two to four months after housing.

At post mortem, historical and active liver fluke infection was found in 68% of the cattle. Despite this, the growth rate of the cattle was good, averaging around 1.8kg/day during the housed period. No effect of liver fluke infection on liveweight gain was recorded compared to a group that had not been treated.

The reason for active liver fluke being present at slaughter despite treatment may have been due to resistance to triclabendazole, which has been demonstrated in liver fluke populations infecting sheep in Wales. Or possibly, if fluke that were less than two weeks old were present at the time of treatment, they may not have been killed. This will need further investigation.

Farm 3

Faecal and blood sampling suggested that treatment for liver fluke was not required at housing. So the cattle were not treated at that time and when slaughtered, none of their livers showed any signs of infection.

Investing in future researchers

AHDB Beef & Lamb is currently funding 16 PhD studentships and nine of them started in October (Table 6). In most years, three studentships are offered, but due to funding being available from a range of sources, more have been approved this year.

Studentships are very important as they provide training to the next generation of academic and industry specialists. Around half of the previous PhD students stay in academia, while nearly 20% work in the beef and sheep industry and a quarter in wider agriculture.

The results of their work are communicated out via bulletins and briefings, as well as presentations at events and conferences.

The studentships that are part-funded by the Collaborative Awards in Science and Engineering (CASE) programme, via the research councils and Knowledge Transfer Network (KTN), include a three-month placement with AHDB Beef & Lamb. For example, the three PhD students looking at lameness at the University of Warwick will be on the AHDB Beef & Lamb stand at the Sheep Event in July 2016, providing a good opportunity for them to discuss their work with producers.

The livestock divisions of AHDB have an annual studentship seminar in December where all PhD students present their findings. This is a good opportunity to gain experience of presenting and builds their awareness of what other projects AHDB is funding.

R&D review

At any one time, AHDB Beef & Lamb funds around 40 research projects and up to 16 PhD students, at more than 20 different institutes and organisations. The current activity covers basic to applied research for beef and sheep production, plus work on grass and forages.

The research team at AHDB Beef & Lamb has generated an R&D review that summarises all the research currently being funded.

This can be read on the beefandlamb.ahdb.org.uk website under corporate publications.



Table 6: Current AHDB Beef & Lamb PhD studentships (in end date order)

Who	What	Where	Additional Funding
Hazel Wilkie	Identifying and exploiting the molecular basis of resistance to gastrointestinal parasites	Roslin	BBSRC, CASE, SIG
Rachel Clifton	Role of <i>Fusobacterium necrophorum</i> in sheep and the environment in the severity and persistence of footrot	Warwick	NERC, CASE
Stefano Guido	Development of diagnostics for the detection of <i>Neospora caninum</i> infected carrier cattle	Moredun	QMS
Fredericka Mitchell	Rapid pen-side detection of salmonella from calves with scour	Kingston	
Tessa Walsh	Development of a pen-side diagnostic test for fluke infection in sheep and cattle	Liverpool	
Lynsey Melville	Development of molecular tools for the rapid assessment of benzimidazole resistance in <i>Nematodirus</i>	Moredun	
Hannah Shaw	Control of cryptosporidiosis in calves	Moredun	AHDB Dairy
Grace Cuthill	Diagnosis of fluke infective stages in the environment	Moredun	
Hanne Nijs	Developing an efficient, validated, sustainable on-farm syndromic surveillance system	Warwick	Warwick
Graham McAuliffe	Life cycle analysis of pasture-based beef production systems	Bristol	Bristol, QMS
Sarah Hughes	Validating key performance indicators for beef production	Nottingham	Nottingham
Jennifer McIntyre	Markers of anthelmintic resistance in gastro-intestinal parasites	Glasgow	KTN, CASE
Louise Whatford	Best practice to minimise mastitis in sheep	Warwick	
Naomi Prosser	What really causes footrot in sheep?	Warwick	BBSRC, CASE
Zoe Willis	<i>Dichelobacter nodosus</i> metapopulations and epidemiology of footrot in endemically infected flocks	Warwick	KTN, CASE
Nerys Wright	Strategic use of body condition scoring to improve performance in commercial sheep flocks (part-time)	Nottingham	

Sheep
 Beef
 Beef and sheep

AHDB Beef & Lamb News

Promoting lamb and beef

A £1 million TV and online advertising campaign is being launched this autumn to promote Quality Standard Mark (QSM) and Red Tractor beef and lamb to consumers.



AHDB Beef & Lamb's 'Jetpack Journey Home' advertisement, which was first aired last year, returns to the screen to air nationally in November. It will promote lamb and beef mini-roasts as a quick, easy and versatile midweek meal. It is being supported by extensive digital and press advertising, together with PR activity, as part of a wider £1.6 million consumer marketing campaign to encourage red meat consumption.

The five-week campaign – featuring ten-second and 30-second versions of the advertisements – is scheduled to run from week commencing 2 November on ITV, Channel 4, Channel 5 and Sky. It will again feature the '#miniroast. Why wait til Sunday?' message, underlining that consumers can enjoy lamb and beef roasts as a quick, simple and nutritious midweek meal.

Targeting students

Other activity undertaken by AHDB Beef & Lamb, as part of its wider consumer marketing programme, includes the student society-style 'LambSoc' social media campaign. This aims to raise the profile of lamb as an exciting meal option and promote the benefits of cooking with it. Aimed at 18 to 25-year-olds, LambSoc has attracted more than 19,000 people on Facebook, along with further followers on Twitter and YouTube.

Addressing consumption decline

The organisation has also recently launched the €7.7 million consumer lamb campaign, 'Lamb. Tasty Easy Fun' – a co-funded campaign with the European Union, Interbev in France and

Bord Bia in Ireland – to promote lamb over the next three years and address declining consumption.

In addition, to support Red Tractor week in September, AHDB Beef & Lamb worked in partnership with Red Tractor Assurance to produce a digital marketing campaign to support quality lamb.



The 'Max and Maggie' campaign ran across a number of websites targeted at mums aged 25-45 and across social media. The adverts featured Max and his sheep dog Maggie campaigning for mums to cook family meals with easy-cook lamb cuts like mince, dice and steaks, to help keep his dream of being a sheep farmer alive.

Jane Ritchie-Smith, AHDB Beef & Lamb head of consumer marketing, said: "The issue of the lamb price, in particular, is well documented and we have been working extremely hard to promote home-grown product.

"The national TV advertising has always been part of our cohesive consumer marketing work to stimulate demand for Red Tractor and Quality Standard lamb and beef. This will dovetail with the peak supply of domestic lamb in the autumn.

"Our approach is part of a strategic promotional campaign aimed at stimulating demand, but also illustrates how AHDB Beef & Lamb is supporting the supply chain.

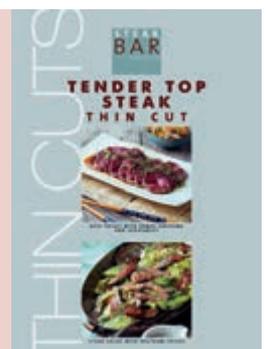
"By developing new cuts we are adding value to the carcase, while encouraging consumers to cook with products they may otherwise not have considered, to help address the issue of falling consumption."

New steak revolution

A new guide to help chefs and foodservice operators maximise their profits from a range of steak cuts and provide menu inspiration, has been developed by AHDB Beef & Lamb.

To help them pick the right steaks for the right meal occasion, 'The Steak Revolution' guide contains 25 inserts, focusing on cuts that fall into one of four categories – 'Premium', 'Occasion', 'Everyday' and 'Thin Cuts for Convenience'.

As flavour and tenderness are key factors influencing purchases in restaurants, each steak has also been graded on a five-star rating scale to assess these qualities.



International spotlight for QSM beef and lamb

Quality Standard Mark (QSM) beef and lamb took centre stage in front of a global audience at the foremost food industry event of 2015.

AHDB Beef & Lamb showcased home-produced meat products to visitors at Anuga – the world's leading food fair for the retail and foodservice market, in Cologne, Germany, in October.

During the event, AHDB Beef & Lamb experts provided delegates with a raft of information on QSM beef and lamb, including production systems and how best to cook with specific cuts.

New cuts development work was also highlighted, using innovative butchery techniques. Visitors were also given the opportunity to sample some of the cuts.



TV film on Halal sheep meat production

Key information about British sheep meat production for the Halal market hit the small screen earlier this year.

AHDB Beef & Lamb's 15-minute infomercial, 'Farm to Fork', ran for eight weeks on the Islam Channel, highlighting the quality and traceability of product destined for the Halal market. The film was



broadcast in 136 countries via the channel.

It takes viewers from sheep meat production on farm, through to the slaughter process and butchery of specific cuts for Muslim consumers. The film included input from farmers, processors, butchers, auctioneers and Halal consumers, and used cuts of lamb developed by AHDB Beef & Lamb.

The UK's Muslim population represents around 4.8 per cent of the total population and is expected to reach 8.2 per cent by 2030. Muslims consume approximately 20 per cent of all the sheep meat sold in England, with consumption peaking around the Eid and Ramadan festivals.

Around 35 per cent of the UK's sheep meat production is also exported, with the vast majority going to Europe. Europe's Muslim population is also expected to grow from six per cent in 2010 to eight per cent in 2030, illustrating the size of the potential market.

'Farm to Fork' can be viewed on our YouTube channel, Beef and Lamb TV.

Exporting sheep meat to non-traditional EU markets

Non-traditional EU markets have been pinpointed as crucial to developing UK sheep meat exports.

Volume shipments to Poland, Norway, Austria, Denmark and Sweden have more than doubled since 2010. While these markets still only represent three per cent of UK exports to member states, AHDB Beef & Lamb has identified them as important for future growth.

Last year, volumes to these destinations increased by 10 per cent on the year to 3,200 tonnes, including a five-fold increase in volumes to Poland. The UK holds nearly 20 per cent of the Polish market and is the second largest supplier.

To help capitalise on the trend, AHDB Beef & Lamb recently organised a reception in Warsaw, attended by the Polish media and importers, to help put Quality Standard Mark lamb in the spotlight.

Jean-Pierre Garnier, AHDB Beef & Lamb export manager, said: "Our traditional European export markets for sheep meat – France, Germany, Ireland, Belgium, the Netherlands, Italy, Spain and Portugal – still account for 97 per cent of our exports to member states.

"However, with these markets not showing growth in recent years, it is imperative for us to look for opportunities in new markets. Our plans are to increase these to 10 per cent of total exports of lamb."



Lower cattle supplies ahead while lamb numbers will be higher

By Debbie Butcher, Senior Market Analyst – Beef and Sheep



There have been some significant challenges for cattle and sheep producers this year. Unfortunately, prospects for change in the near future appear limited.

Cattle

Latest AHDB Beef & Lamb forecasts for beef and veal supplies suggest there will be fewer cattle around on both sides of the Irish Sea in the near term, which could offer some support to the market.

The effects of reduced calf registrations in late 2012 and 2013 will be felt, with a clear implication for production. However, it may be that the challenges in the dairy sector could increase the number of cows coming forward for sale.

For the year as a whole, prime cattle numbers are forecast to be back to around 1.9 million head and production back two per cent at 860,000 tonnes. With improved productivity in 2014 and the early part of this year, the number of younger cattle on the ground is up, so these numbers are expected to rise in 2016 and 2017.

Imports and exports

So far this year, beef and veal imports have been ahead of 2014 levels, with shipments from Ireland up. Import volumes for the year as a whole are still forecast to be below the raised levels of 2014. However, given the Sterling/Euro relationship so far and what this means for the competitiveness of Irish beef on the UK market, this may not be by as much as was previously thought.

Into 2016, with Irish production slightly higher, imports are forecast to edge back up again. Imports from outside the EU are not likely to increase to any significant degree this year or next.

The export trade is being significantly influenced by the strength of Sterling against the Euro, which is making it harder for exports to compete on the continent. As a result, UK beef and veal exports in the first half of 2015 are back on the year earlier. Unless the pound weakens, this looks likely to be the situation for the rest of the year.

Despite the difficulties, the focus on exporting cuts will continue, as will making full use of the carcass. Exports in 2016 are forecast to increase in line with production, to account for around 16 per cent of total beef and veal production.

With the tight supply outlook in the run into Christmas and the possibility that the recent growth in disposable income could lead to increased consumer confidence and spending, there may be better prospects for beef sales in the rest of this year and next.

Sheep

Prices have been significantly lower than last year. With no real seasonal peak this spring, the annual price gap was substantial. Factors such as the weak skin market, imports from New Zealand and the Sterling/Euro exchange rate have contributed. However, domestic demand – and particularly supply, have also played a part.

The carryover from last year's bumper lamb crop was the main reason that slaughterings were up six per cent in the first half of the year.

Bumper lamb crop

With seasonal conditions this year not very different from those in the previous 12 months, the lambing rate is thought to have been close to last year's level. With a significant rise in the breeding flock recorded in the December survey, this is likely to have resulted in another large lamb crop, possibly more than ten per cent up on the low point of five years ago.



It is also likely that fewer ewe lambs will be retained than last year, given the very low level of ewe slaughterings over the past year and that low prices may limit any future breeding flock expansion.

There could be significantly more lambs slaughtered during the 2015/16 season.

This year, the pattern of marketing may be close to the normal seasonal pattern. However, reports of a strong store lamb trade may encourage some producers to sell lambs as stores rather than finishing them, while low prices may mean others add extra weight to lambs before marketing. Both could delay their appearance at slaughter, meaning the strongest growth may be seen in the final quarter of this year.

Imports and exports

So far this year, imports have been mixed, with increased shipments in the first quarter offset by lower volumes in the second. This reflects developments in New Zealand, where drought led to higher production early in the year but tighter supplies since then.

Overall, imports were slightly down on the same period last year, a trend that is expected to continue for most of the rest of 2015.

Exports are somewhat harder to predict, especially as there are concerns about the accuracy of recent official figures. These show a sharp reduction in shipments during the first six months of the year. While some of this is due to known problems affecting trade with Hong Kong, the figures also show a big fall in exports to other EU member states. However, reports elsewhere suggest that volumes traded to the EU have held up well. So the true fall in shipments is likely to be smaller than the official data suggest.

With both imports and exports forecast to be lower, the plentiful domestic supply will be the main influence on overall availability. Therefore, with the other factors influencing prices not expected to change markedly, prices are likely to remain under pressure for the rest of this season.

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