

# Focus on lameness

## How to reduce lameness in sheep

Lameness presents a serious cost to the sheep industry. The estimated losses from footrot alone equate to about £10 a year for every ewe in Great Britain.

It may not be possible to eradicate lameness entirely, but producers who understand the condition and its many and varied causes can reduce the physical and financial impacts of having lame animals on the farm.

There is no one 'magic' bullet to cure lameness. Farmers need to devise a strategy to suit their situation and employ a variety of management tools to reduce its effect on their flocks.

### Avoid routine foot trimming

In 2013, more than 1,300 English farmers answered questions about foot trimming.

- 50% reported routinely trimming sheep feet one or more times in 2013
- 50% of farmers did not practice routine foot trimming
- Making feet bleed at routine foot trimming almost doubled lameness in flocks, compared with not routinely foot trimming
- There was no difference in lameness on farms where feet did not bleed at routine foot trimming, compared with flocks where routine foot trimming was not carried out

### Why do bleeding feet lead to high levels of lameness?

Over-trimming feet leads to toe granulomas (Figure 1). Toe granulomas are excess growths of fleshy tissue that form when the living tissue is damaged. They are:

- Very difficult to treat
- Very painful
- Lead to long-lasting lameness. Affected sheep are often culled

Figure 1: Toe granulomas

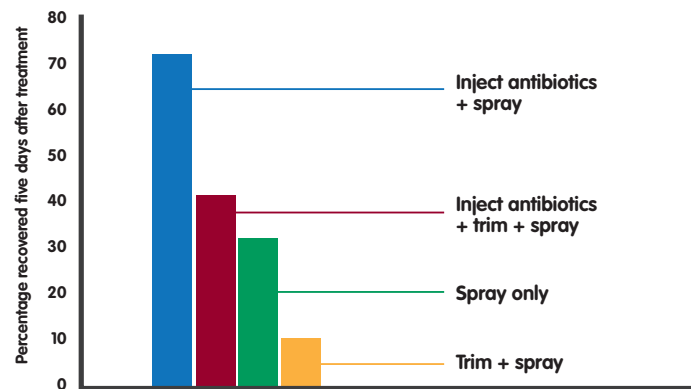


### Avoid foot trimming sheep with footrot as this delays recovery

The best treatment for footrot is an antibiotic injection that lasts for two days and an antibiotic foot spray (Figure 2).

When feet with footrot are trimmed as well as injected and sprayed, half as many sheep recover within five days as those that were injected and sprayed only.

Figure 2: Percentage of sheep recovered from lameness and lesions five days after treatment



A foot with footrot that has been trimmed. Hoof horn has been removed and the sensitive tissue exposed. Fleshy overgrowth of tissue is visible. The foot will take several months to regrow the trimmed horn and will probably be deformed.



## A study to develop a lameness control plan for sheep flocks

By Jessica Gaudy and Professor Laura Green, University of Warwick, Coventry

Various plans have been developed to try and control lameness. While many have been successful, some are quite rigid with very strict requirements that farmers find difficult to achieve. With this in mind, researchers at the University of Warwick set out to test whether a more flexible plan, tailored to suit an individual farm, could also be successful.

The plan was built from a core of 37 recommendations that were presented to the farmer and discussed, to determine which were most likely to be achievable and beneficial within their flock.

In August 2014, 46 farmers were recruited to test this plan and were evenly divided into 23 treatment farms and 23 control farms. All farms were visited approximately every three months by researchers to assess lameness levels in the flock and to address any questions or issues raised by the farmer.

Treatment farms received their plans from visit one, while control groups received no advice until after visit three. Interviews with individual farmers were conducted every six months. An annual report was created and delivered during visit five to highlight how the farm was doing and to direct discussions on where improvements could still be made.

Data collection was completed at the end of April 2016. Feedback from participants has been very positive. Many feel confident that they have reduced their levels of lameness and that their ewes are healthier.

Data from these farms should give insight on the effectiveness of the individual recommendations, as well as how they work together as a coordinated plan.

### Case Report – Farm One

Farm Location: Lincolnshire

Time on plan: 18 months

Starting lameness level in September 2014: 7%

Final lameness level in March 2016: 3.2%

#### Farm background

A mixed farm with a commercial flock of 200 ewes, arable and forage crop land. The farmer also does some work as a contract harvester from July to October.

At the start of the study, the farmer reported an average of seven ewes lame per 100 ewes (7%).

There is no history of contagious ovine digital dermatitis (CODD). During lambing, ewes are only housed at night and for 48 hours after birth.

## Original lameness management practices

1. No routine foot trimming
2. Variable time to treatment from three days to two weeks from when a sheep was first seen lame, based on available time
3. Inconsistent antibiotic treatment of footrot and scald in ewes and lambs
4. Some diseased feet trimmed, depending on severity
5. Delayed treatment of lame ewes from three to four weeks before lambing
6. Footbathing flock only when in for treatment or during outbreaks of scald
7. Culling based on multiple coloured spray marks, but no limit on number of treatments allowed before selection
8. Replacements sourced from a single, known private source
9. New purchases kept separate for three weeks
10. All boundaries and most paddocks have stock-proof fencing, but none are double-fenced
11. Fields are rested for at least two weeks between grazing groups

## Changes

1. Treat ALL cases of footrot with a long-acting antibiotic injection and topical antibiotic spray
2. Treat ALL cases of scald in ewes with a long-acting antibiotic injection and topical antibiotic spray
3. Treat ALL cases of scald in lambs with topical antibiotic spray, or with an appropriate footbath during outbreaks
4. NO trimming of diseased feet
5. Continue to treat ALL lame ewes through pregnancy
6. Separate lame animals when possible, including from post-weaning to tupping and post-tupping to pre-lambing
7. Identify and cull those ewes with more than two treatments in a year from treatment records, as well as those with conditions unlikely to respond to treatment, eg toe granulomas

## Outcome

This farmer delayed making changes until the start of 2015, but once he did, he made swift progress.

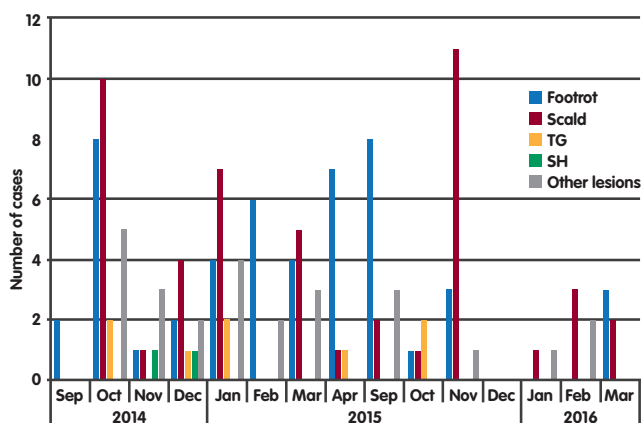
Several of his original practices were maintained, including only footbathing the flock when in for treatment, no routine foot trimming of the flock and purchasing replacements from a single known private source.

Other practices were modified to provide a more consistent approach to treatment and prevention of lameness, such as continuing to treat lame ewes through pregnancy, no trimming of diseased feet and treating all cases of footrot and scald in ewes with injectable long-acting antibiotics and topical antibiotic spray.

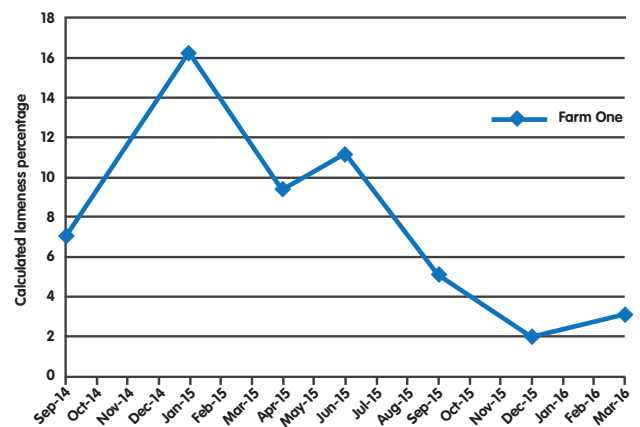
Completely new practices included separating lame animals during certain times of year and using accurate treatment records to identify repeat offenders. As a result of these changes, there were a reduced number of treatments over time, as well as a reduction in the number of footrot cases and toe granulomas (Figure 3).

At the end of the study, the farm had reduced lameness percentage by over half to 3.2% and had a lowest level of 2% at visit six (Figure 4). On completion, the farmer was pleased with the outcome and was keen to continue making progress.

**Figure 3: Count of treatments per month on Farm One (TG=Toe granuloma, SH=Shelly hoof)**



**Figure 4: Lameness percentage over time**



## Case Report – Farm Two

Farm Location: North Yorkshire  
Time on plan: 18 months  
Starting lameness level in October 2014: 8%  
Final lameness level in March 2016: 3.6%

### Farm background

A mixed farm with a commercial flock of 220 ewes, arable and forage crop land, an autumn-calving 40-cow suckler herd, with additional calves bought in as stores. Grower pigs are brought in to finish at various points through the year.

At the start of the study, the farmer reported that he had an average lameness level of six ewes lame per 100 ewes in the flock (6%). However, investigation by the researcher at visit one found 8% lameness.

There is a history of CODD on this farm. Ewes are routinely housed from January until they finish lambing in late April.

### Original lameness management practices

1. Routine trimming done once a year
2. Treatment within one week from when first seen lame, based on available time
3. Consistent treatment of footrot, CODD and scald with a long-acting antibiotic injection
4. Routinely trimmed diseased feet
5. Treated lame animals throughout pregnancy
6. Routine footbathing of flock once a month at pasture and once a fortnight at housing
7. Culling based on memory after three or more cases of lameness within a year
8. Purchases replacements from various sources via the market
9. New purchases not inspected on arrival and kept separate for up to one week
10. All boundaries and paddocks have stock-proof fencing, but none are double-fenced
11. Fields are sometimes rested for least two weeks between grazing groups, depending on grass growth

### Changes

1. NO routine trimming of the flock
2. NO trimming of diseased feet
3. Built up to treatment within three days from when first seen lame
4. Reduced footbathing to only while in for treatment, or during an outbreak of scald
5. New purchases were kept in a separate group for more than four weeks
6. Separation of lame animals at key times of year, including at housing, at turn-out, post-weaning and post-tupping
7. Identify and cull ewes with more than two treatments in a year, based on monitoring separated animals, as well as those with conditions unlikely to respond to treatment, eg toe granulomas
8. Avoid selecting replacements from ewes to be culled for being repeatedly lame
9. Regular dusting of bedding with lime during housing
10. Bedding scraped out and replaced between housed lambs and ewes

### Outcome

The changes made on this farm were made over time, leading to a delay in signs of improvement.

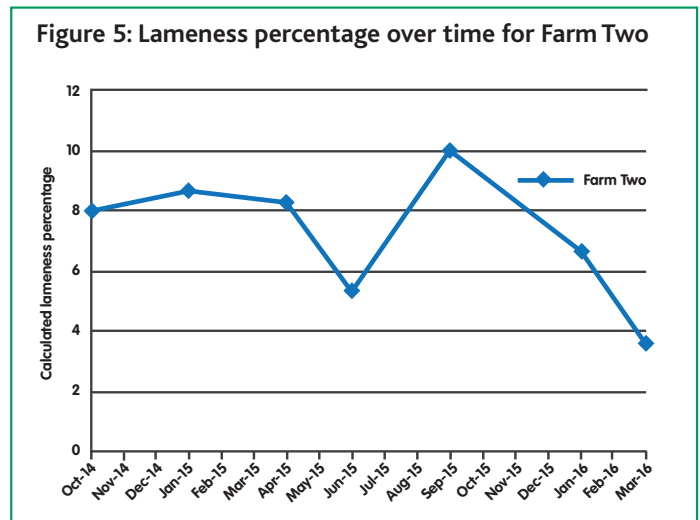
A few of the original practices were maintained, including treating all cases of footrot, CODD and scald with injectable long-acting antibiotics, as well as continuing to treat lame animals throughout pregnancy.

Several practices were modified or eliminated, such as routine foot trimming, trimming of diseased feet and routine footbathing of the flock. Some completely new practices were started, including separating lame animals during certain times of year and monitoring to ensure no replacements were selected from ewes in this group.

At the end of the study, the farm had reduced lameness percentage by over half to 3.6% at visit seven (Figure 5).

Although there had been a sharp increase during visit five, this may be due to an increase in scald brought on by conditions in the field, which had a significant amount of large thistles and rough terrain.

On completion, the farmer was very happy with the condition of his ewes and the time and labour saved by not trimming feet.



## Case Report – Farm Three

Location: Herefordshire

Time on plan: 12 months (was a control farm at the start)

Starting lameness level in August 2014: 7.5%

Final lameness level in February 2016: 1.6%

### Farm background

A mixed farm with a commercial flock of 400 ewes, arable and forage crop land and a spring-calving 20-cow pedigree suckler herd. The farmer does some contract harvesting from July to October.

At the start of the study, the farmer reported that he had an average lameness level of between 5-10%, so the flock was evaluated on the average of 7.5%, ie just over seven ewes lame per 100 ewes in the flock. This was confirmed by the researcher at visit one.

There is a history of CODD on the farm. Ewes are routinely housed from January until they finish lambing in late March.

### Original lameness management practices

1. Routine trimming done once a year
2. Treatment within one week from when first seen lame, based on available time
3. Consistent use of long-acting antibiotic injection and topical antibiotic spray for treatment of CODD
4. Inconsistent treatment of footrot and scald, some receiving an injection but others only spray
5. Frequently trimmed diseased feet
6. Treated lame animals throughout pregnancy
7. Routine footbathing of flock once a month at pasture and once a fortnight at housing
8. Culling based on memory and multiple coloured marks after two or more cases of lameness within a year
9. Purchased replacements from a single known private source (family owned)
10. Some isolation of lame animals during certain times of year
11. All boundaries and paddocks have stock-proof fencing, but none are double-fenced
12. Fields are rested for least two weeks between grazing groups

### Changes

1. NO routine trimming of the flock
2. NO trimming of diseased feet
3. Routine use of long-acting antibiotic injection and topical antibiotic spray for treatment of footrot
4. Reduced footbathing to only while in for treatment, or during an outbreak of scald
5. Routine separation of lame animals for most of the year
6. Identify and cull ewes with more than two treatments in a year, based on monitoring separated animals, as well as those with conditions unlikely to respond to treatment, eg toe granulomas
7. Regular dusting of bedding with lime during housing

### Outcome

Several of the original practices were maintained, including treating all cases of CODD with injectable long-acting antibiotics, purchasing from a single known private source and treating lame animals throughout pregnancy.

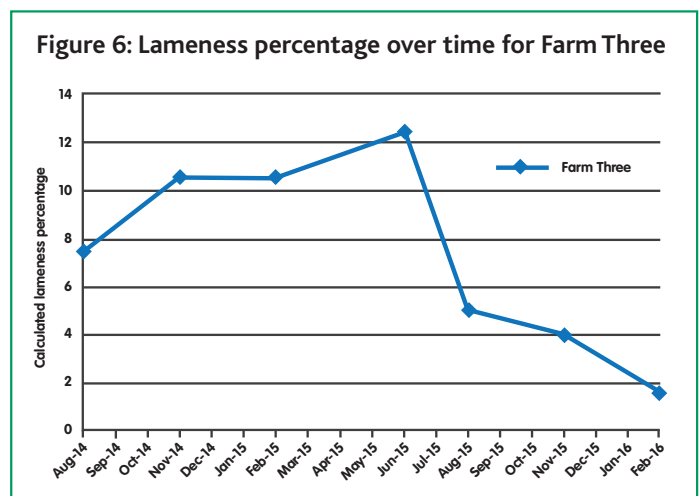
Some practices were modified to provide a more consistent approach to lameness control, such as routinely treating all cases of footrot with injectable long-acting antibiotics and topical antibiotic spray, reducing the use of footbathing and separating lame animals routinely from weaning to lambing.

Other practices were eliminated, including routine foot trimming and trimming of diseased feet.

At the end of the study, the farm had reduced lameness percentage by over half to 1.6% at visit seven (Figure 6) and reached the goal set by the Farm Animal Welfare Committee (FAWC) of <2%.

On completion, the farmer felt confident he had built a polished routine that could be maintained.

These Farm Case Reports have been funded by the British Veterinary Association Animal Welfare Fund.



## Taking time to treat individual sheep is important for reducing lameness

Farmers who catch and treat lame sheep within three days have fewer lame sheep.

Most lameness is caused by footrot or scald, which are caused by the same bacteria. Sheep with these conditions are infectious and spread disease to the rest of the flock.

Treating them quickly reduces spreading disease; fewer sheep become lame and fewer sheep require treatment.

### STEP 1: CATCH lame sheep within three days of becoming lame

Consider checking the whole flock every three days, or one-third of the flock every day.

### STEP 2: INSPECT the feet. Clean away dirt. Do not trim

Check for heat, smell, pus, blood, thorns or stones.

### STEP 3: DIAGNOSE the cause of lameness

There are six common causes of foot lameness in sheep. Making the correct diagnosis ensures the correct treatment.

Consult the vet or use the Lameness Decision Tree at [beefandlamb.ahdb.org.uk](http://beefandlamb.ahdb.org.uk) to decide the diagnosis.

### STEP 4: TREAT appropriately

Footrot and scald should be treated with a long-acting antibiotic injection and antibiotic foot spray. Ensure the correct dose of injection is used. Under-dosing will mean the antibiotic will not work. Consult the vet for advice on the product and appropriate dose.

### STEP 5: MARK and RECORD

Keeping records is important to monitor levels of lameness and for deciding whether to cull a repeatedly lame sheep.

### STEP 6: SEPARATE lame sheep. CULL sheep that are repeatedly lame

Wherever possible separate sheep lame with footrot into a treatment group. Only cull those that do not recover or are repeatedly lame. Those that do recover can be returned to the main flock.

Culling ewes that are repeatedly lame with footrot reduces the source of disease. There should be very few affected sheep once footrot is under control in a flock.



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