

# Focusing on body condition to optimise lamb production

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# Plan

- Background to Challenge Sheep
  - Early data
- Future focus areas
- What questions do you have?
- Summary

# What is Challenge Sheep?

- Seven year project running from 2017 to 2024
- Monitoring ~6,000 replacement ewes for their productive lifespans
- Collecting large amount of EID data at key times of year



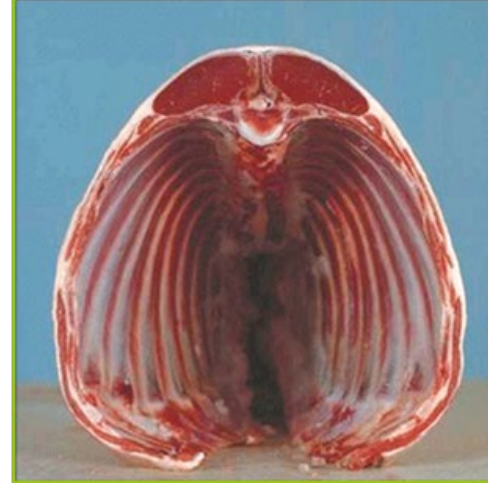
- Lamb survival decreases:
  - 5% for every  $\frac{1}{2}$  BCS lost in 4 weeks before lambing
  - 5% for every  $\frac{1}{2}$  BCS below 3 at lambing
- Ewes at BCS 3.5 at lambing produce twice as much colostrum
- Lamb weaning weight decreases
  - 6% if more than  $\frac{1}{2}$  BCS lost over the winter
  - 4% for every  $\frac{1}{2}$  BCS lost in four weeks before lambing
  - 6% for every  $\frac{1}{2}$  BCS below BCS 3 at lambing

# BCS cross-sections at the 13th rib

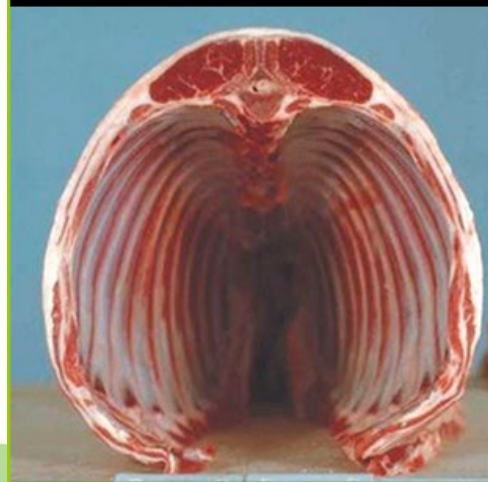
BCS 1



BCS 2



BCS 3



BCS 4



# What is Challenge Sheep? - data collection

<b>Tupping</b>	List of replacements Ewe breed BCS Weight Tupping date Deaths/cull reasons
<b>Scanning</b>	BCS Weight Scanning number Scanning date Deaths/cull reasons
<b>Lambing</b>	BCS Litter size Lamb linked to ewe Lamb birth weight Lamb sex Deaths/cull reasons

<b>Eight weeks</b>	BCS Weights Lamb weights Deaths/cull reasons
<b>Weaning (90 days)</b>	BCS Weights Lamb weights Weaning date Deaths/cull reasons

**Year 1 = 78,000+ data points**

**Year 2 = 234,000+ data points**



# Where is Challenge Sheep?

## Challenge Sheep farm locations

1. Phil Pearse, Devon
2. Gareth Beynon, Dorset
3. Robert and Anna Hawke, Wiltshire
4. Matthew Blyth, West Sussex
5. Gareth Owen, Leicestershire
6. Jake Frestone, Gloucestershire
7. Sam Jones, Worcestershire
8. Tony Offland, Harper Adams, Shropshire
9. Richard Baugh, Nottinghamshire
10. Ian Wilson, North Yorkshire
11. Peter Webster, Cumbria
12. Graham Wilkinson, County Durham
13. James Drummond, Northumberland



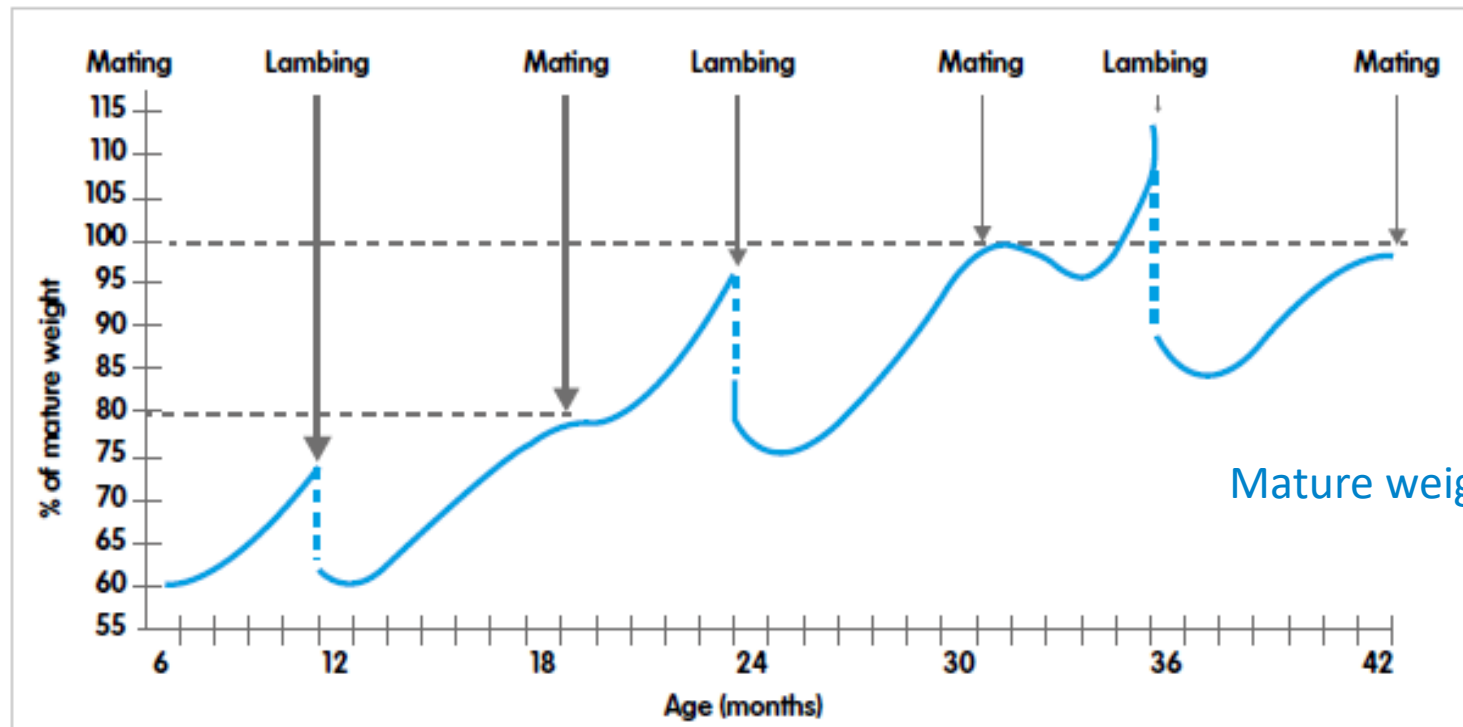
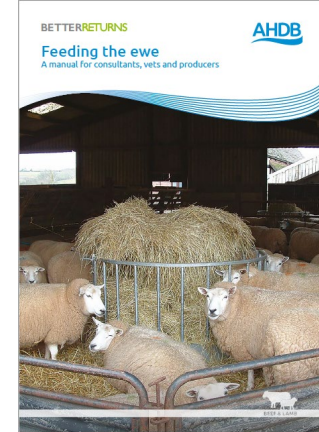
# What do we aim to achieve?

- To understand how management during first breeding impacts lifetime performance
- To understand how improved management can reduce replacement costs





# Challenge current targets



Mature weight?

# Challenge current targets

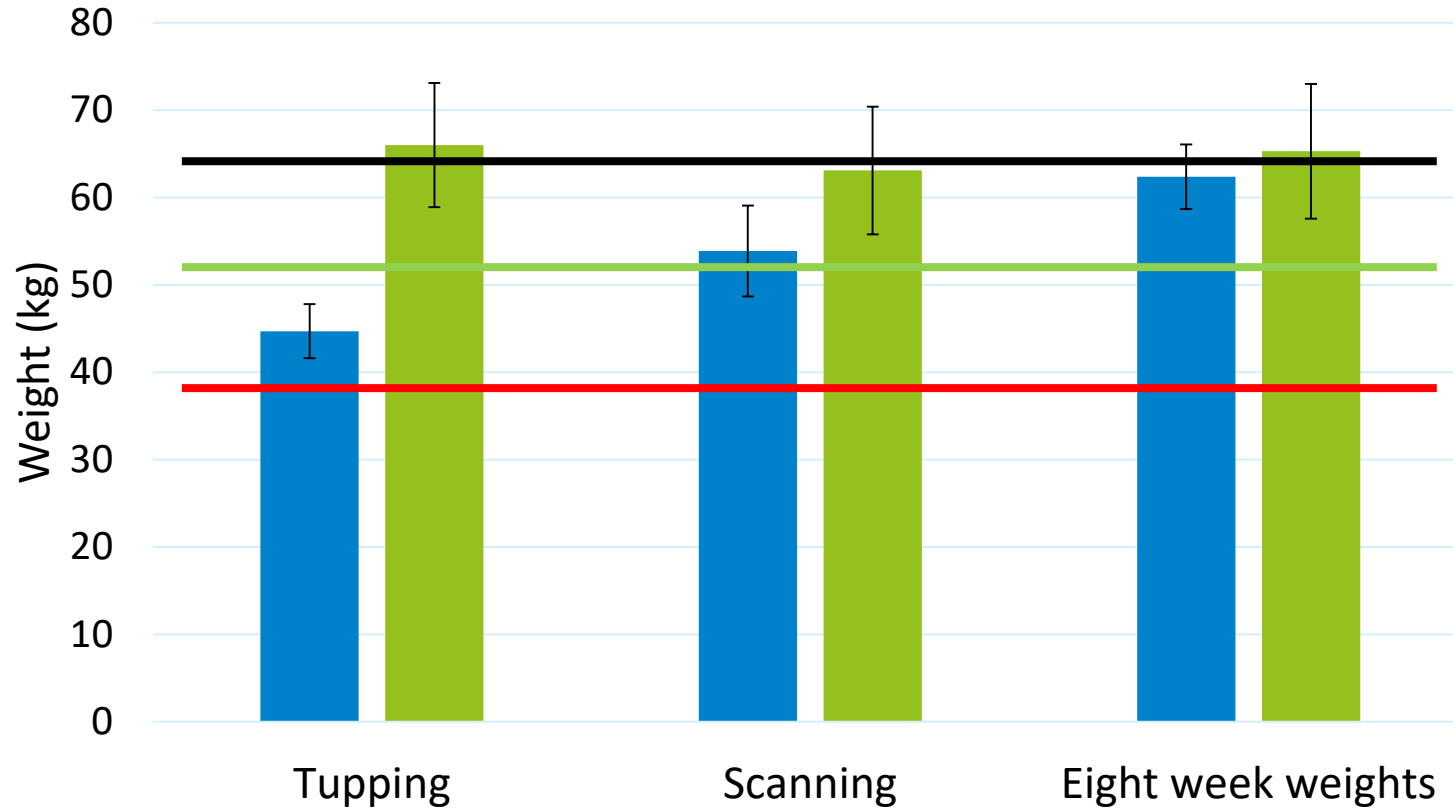
Ewe type	Ewe lambs (mature weight 70kg)	Lowland shearlings (mature weight 70kg)	Hill shearlings (mature weight 50kg)
Minimum weight at mating (kg)	42 (60% of mature weight)	56 (80% of mature weight)	40 (80% of mature weight)
Target weight at lambing (kg)	56 (80% of mature weight)	63 (90% of mature weight)	45 (90% of mature weight)
Target BCS at lambing	3.0	3.0–3.5	2.5

# Why focus on replacements?

- Sheep KPI project:
  - Young ewes in the flock are responsible for around 40% of light lambs (<17 kg at eight weeks)
  - Shearlings gradually gaining weight scan better than those gaining rapidly followed by store or loss



# Example from one farm with both ewe lambs and shearlings - weight



■ Ewe lambs ■ Shearlings

Black line = 65 kg

Mature weight

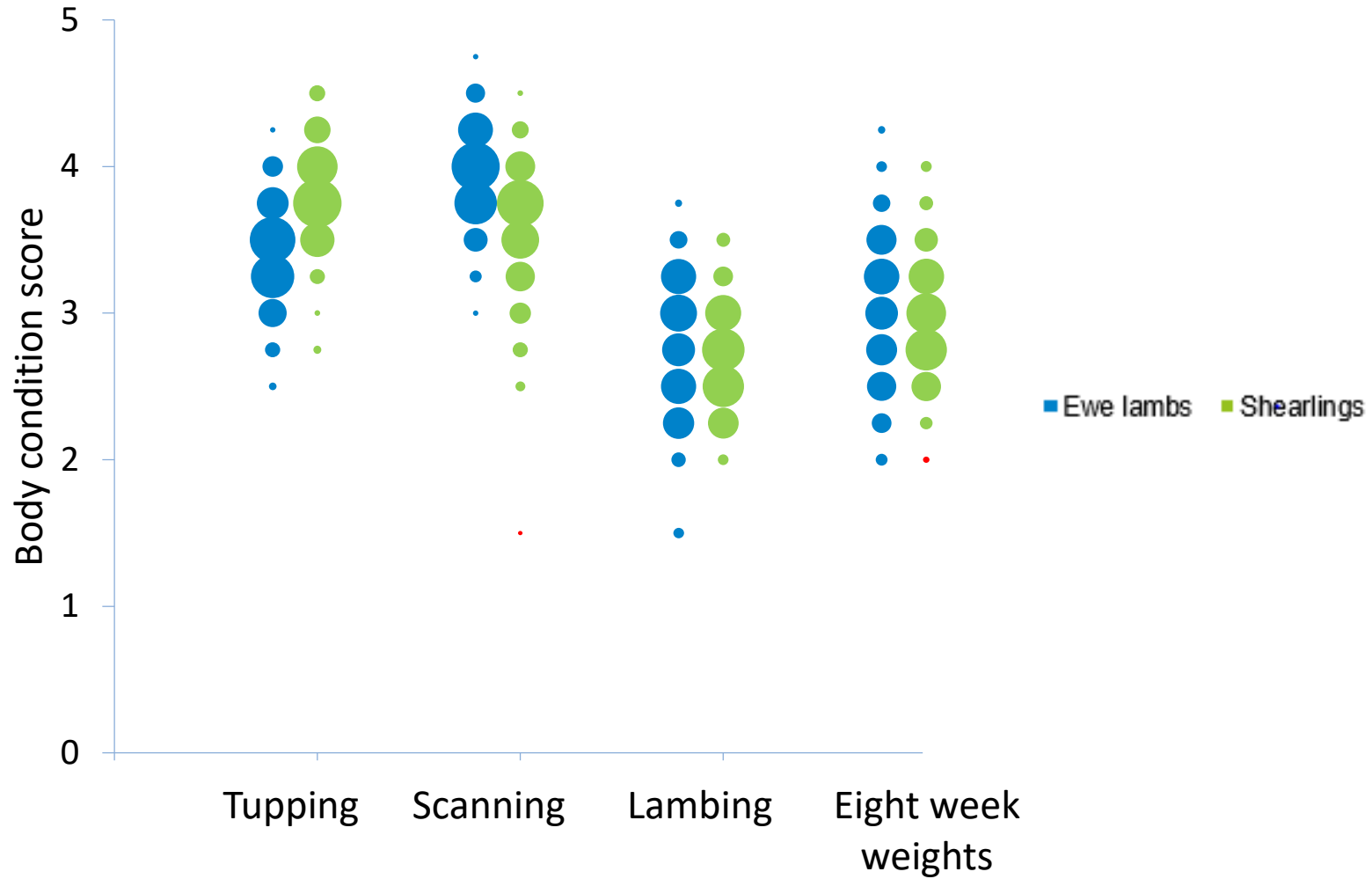
Green line = 52 kg

80% mature weight

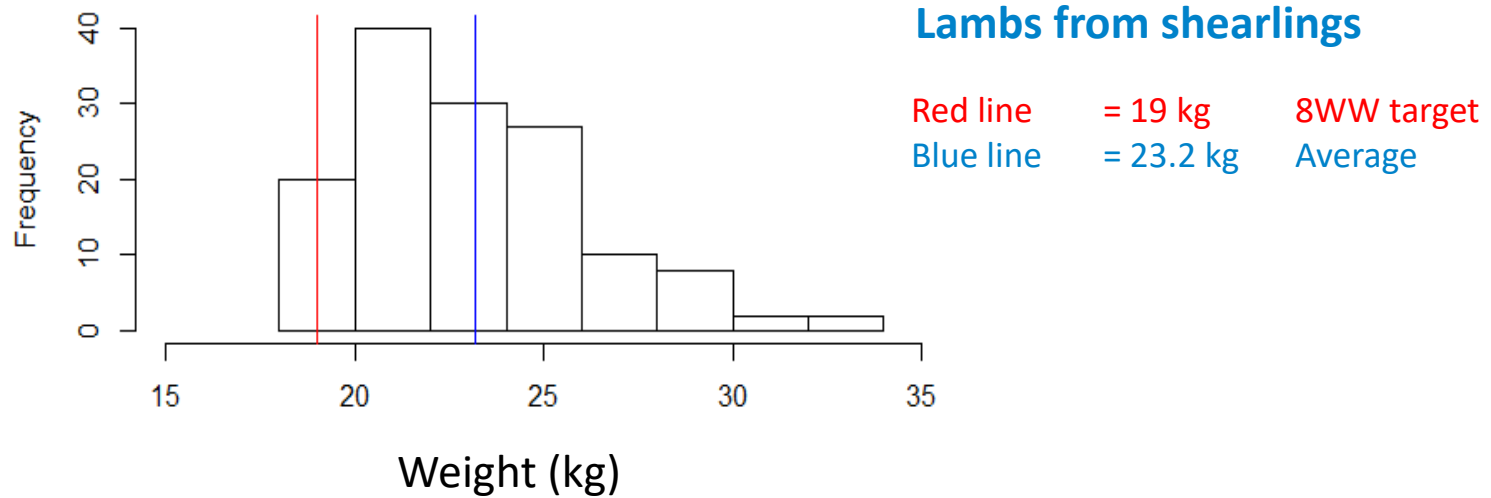
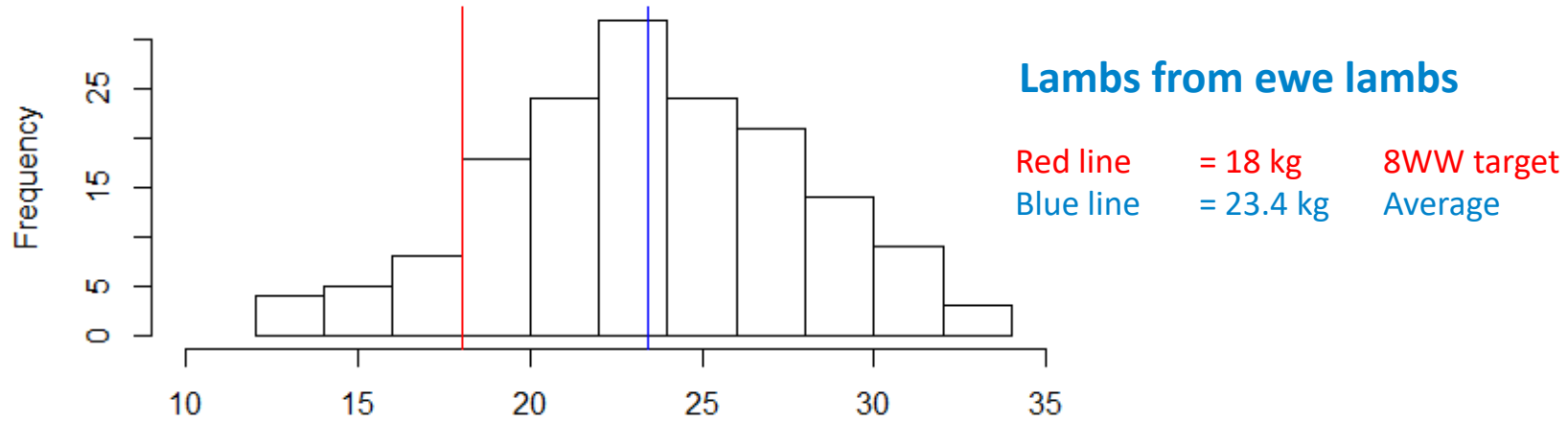
Red line = 39 kg

60% mature weight

# Example – body condition score

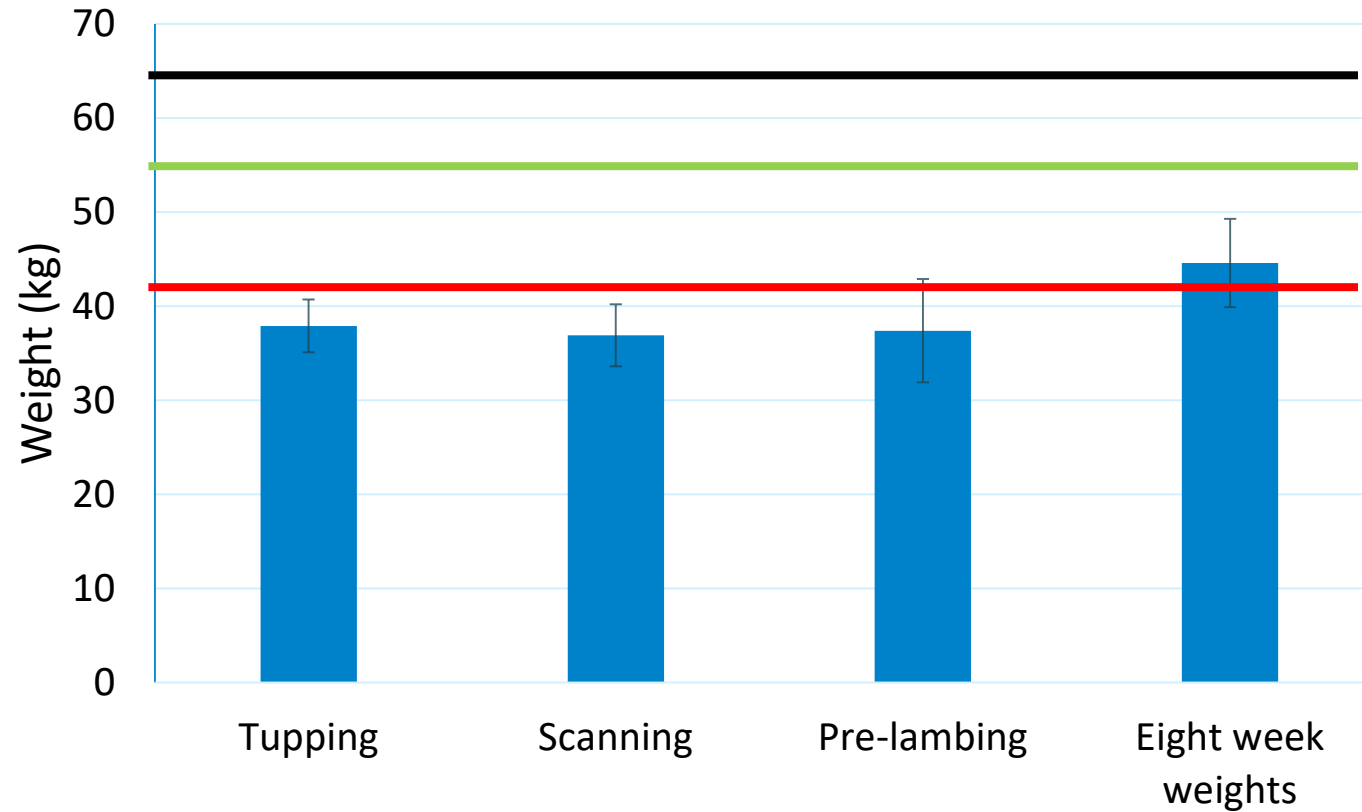


# Example – eight week weight





# Different farm example – ewe lambs



Black line = 65 kg

Green line = 56 kg

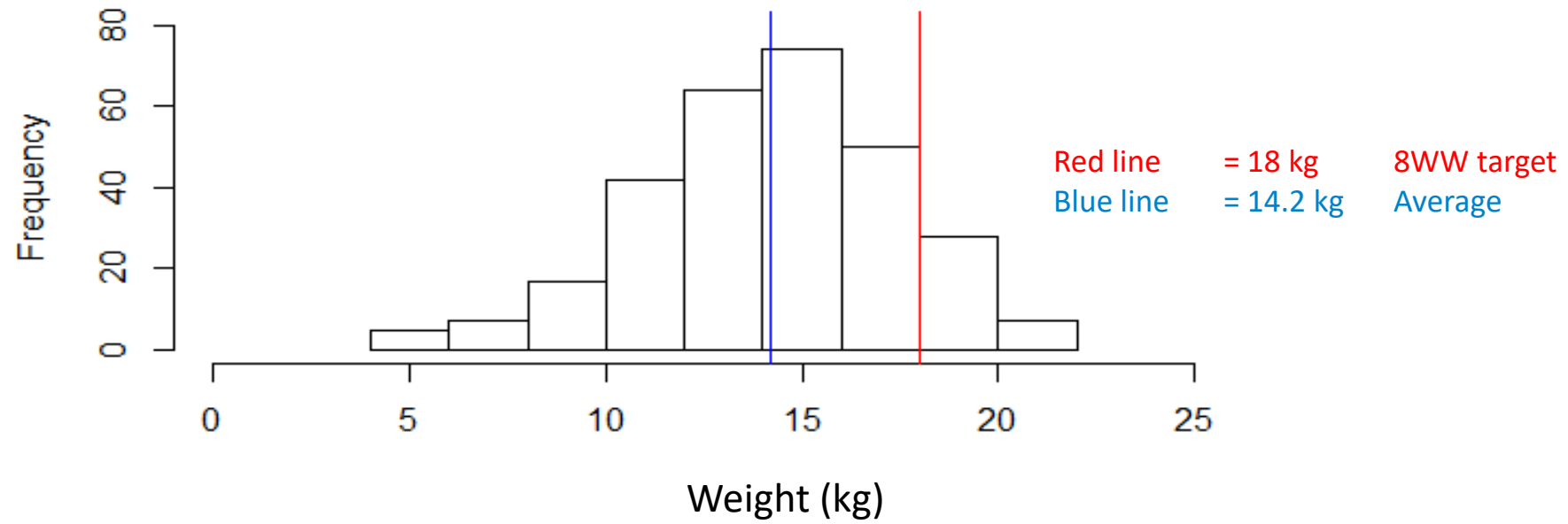
Red line = 42 kg

Mature weight

80% mature weight

60% mature weight

# Different farm example – ewe lambs

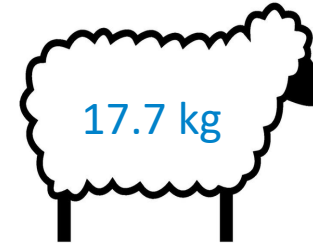
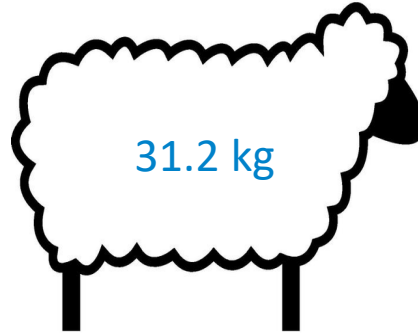


# 90 day weight for ewe lambs' progeny (reared lambs)

At or above weight  
target

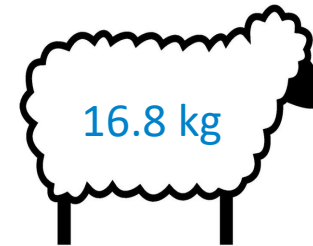
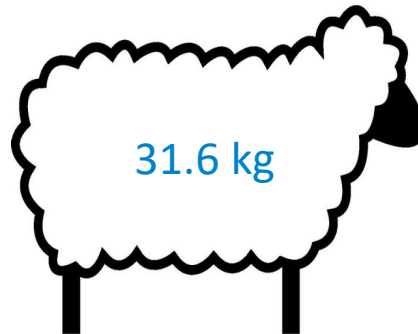
Below weight  
target (<60%)

Tupping



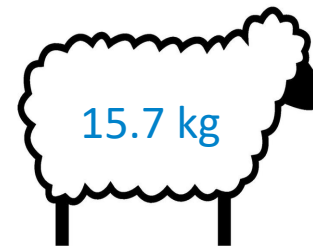
13.5 kg

Scanning



14.8 kg

8WW



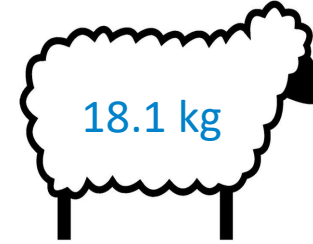
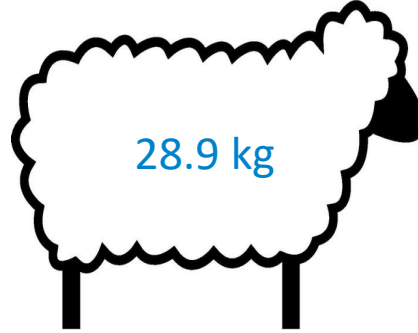
11.0 kg

# 90 day weight for ewe lambs' progeny (reared lambs)

At or above BCS target

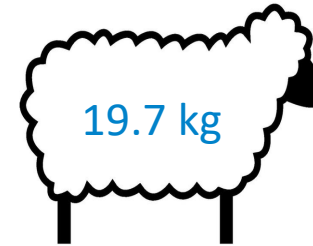
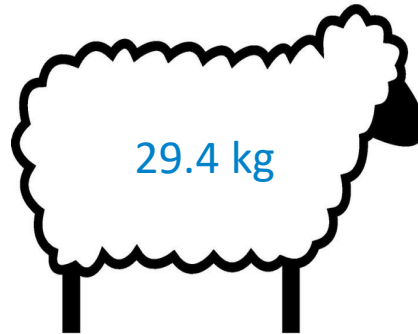
Below BCS  
target ( $\leq 2.75$ )

Tupping



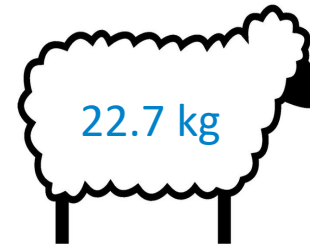
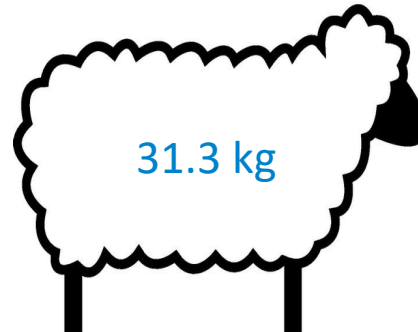
10.8 kg

Scanning



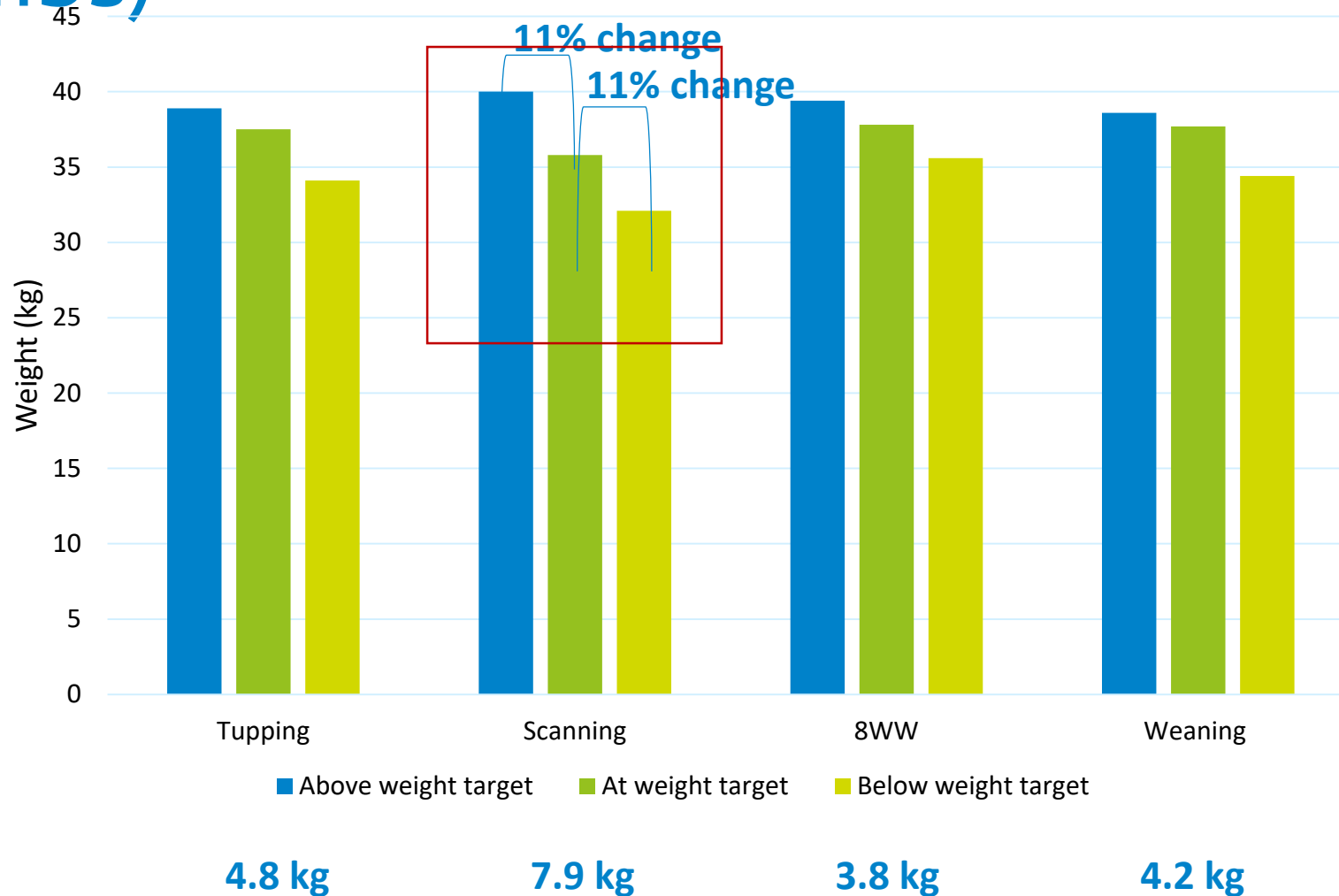
9.7 kg

8WW

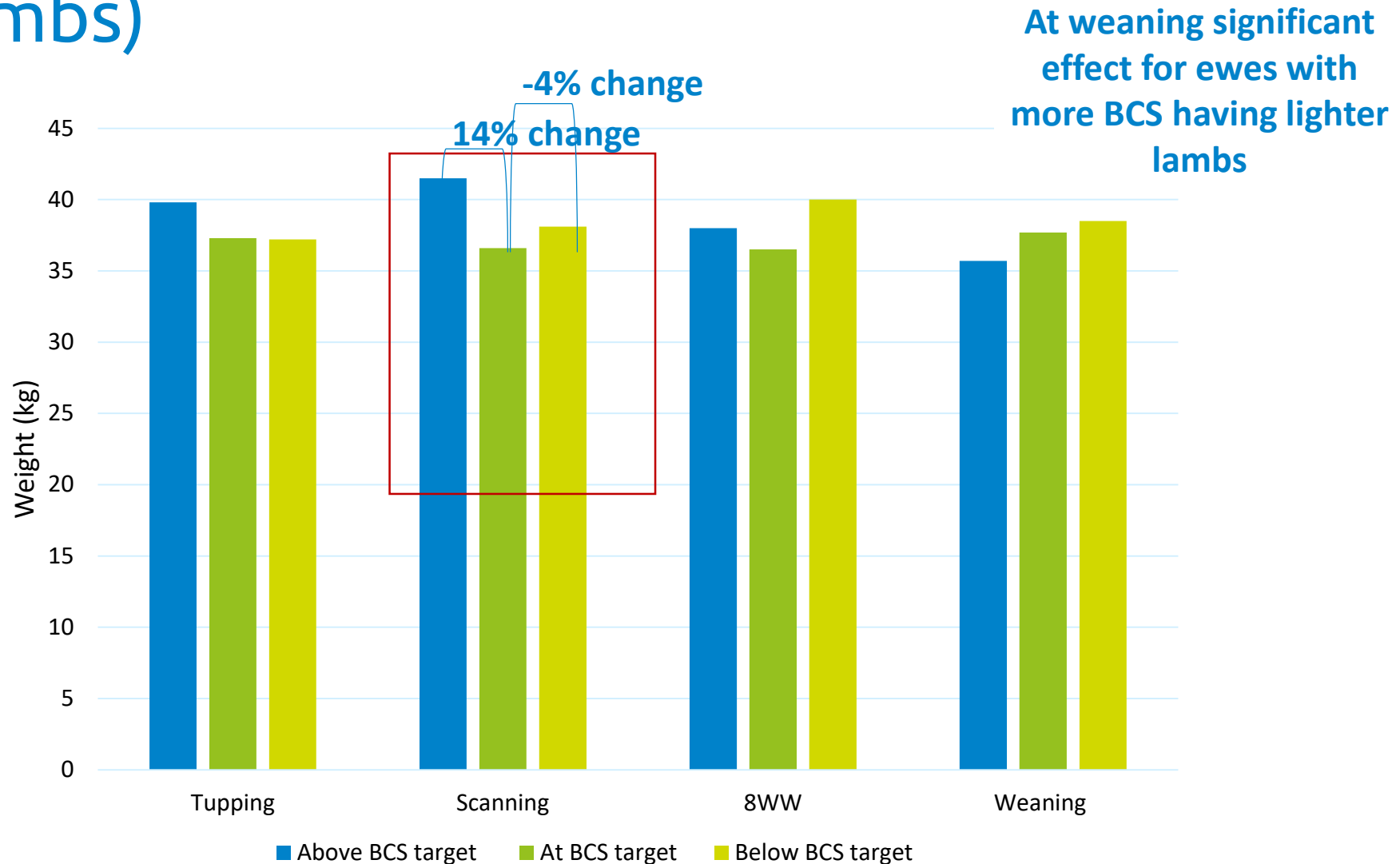


8.6 kg

# Combined 90 day weight for shearlings' progeny (reared lambs)



# Effect of BCS for shearlings' combined weight of progeny (reared lambs)

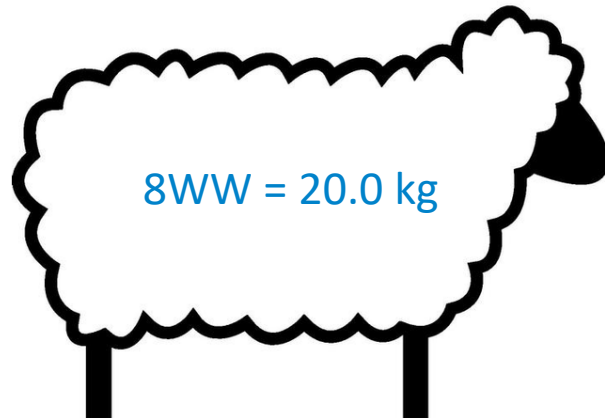




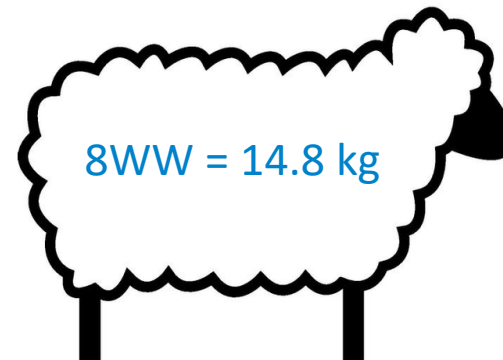
# What is the consequence?

- Early analysis for in-lamb ewe lambs at or below weight target at tuppung on total eight week weight reared

At target

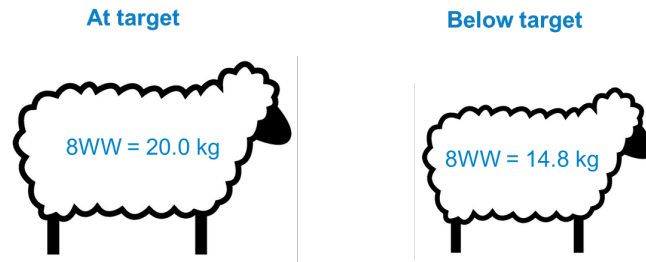


Below target



5.2 kg difference  
@ £2 per kg LW  
= £10.40

# What are the interventions?



- From this example, justify interventions costing around £10 and still break-even
  - Selection of home-bred replacements from eight week weights of age and preferential grazing to get to weight targets
  - Supplementary feeding from weaning to get to targets
  - Weight targets for bought-in ewe lambs
  - Choose not to tup underweight ewe lambs and run them around

# What have we learnt – ewe lambs?

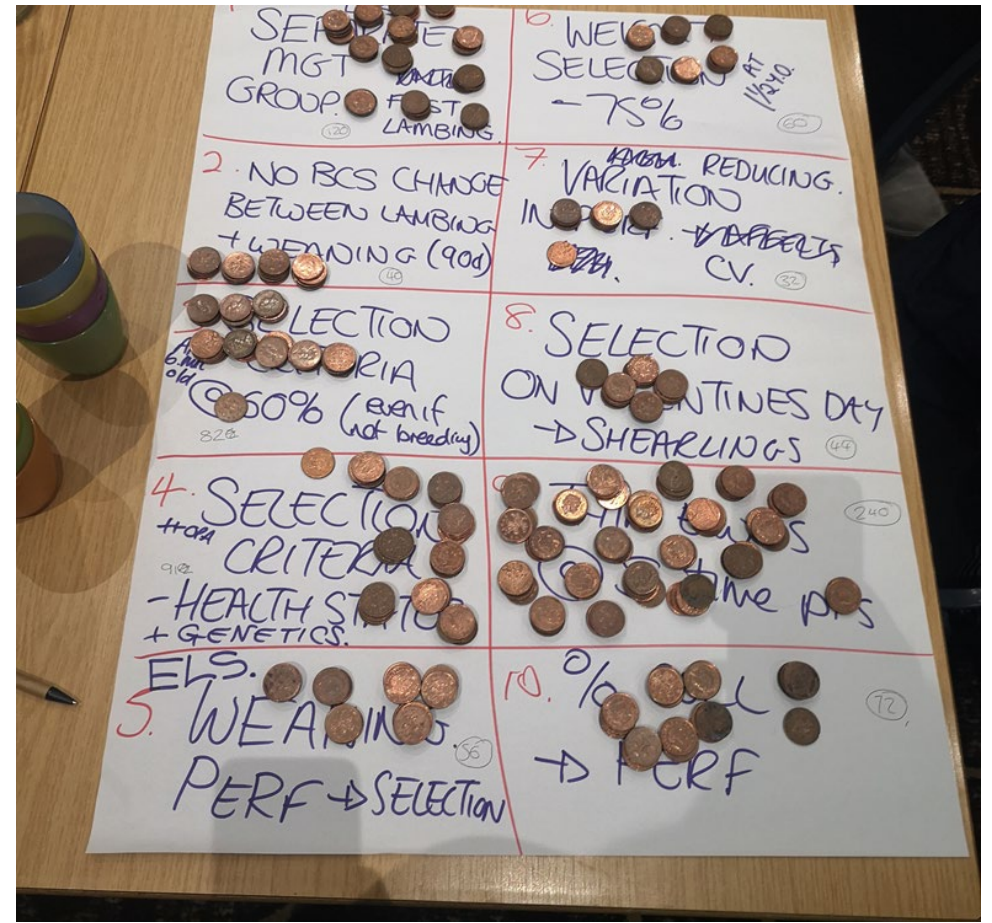
- Weight and BCS seems to be important
  - But there are different traits, but not independent
- Very dramatic differences in terms of weight weaned for ewe lambs not at target
  - KE messages will focus on weight until more is understood about BCS in ewe lambs
- Mobilising BCS seems to be important for lamb performance
  - Significant result around weaning

# What have we learnt – shearlings?

- Impact of weight and BCS seems to be less but still important
  - Greater impact of being above targets than for ewe lambs
  - Highest impact appears to be around scanning
- Mobilising BCS seems to be important for lamb performance
  - Significant results around weaning

# Key interventions from the Challenge Sheep farmers

1. Actively managing thin ewes at five time points
2. Separate management group to first lambing
3. From good and healthy mothers
4. >60% of mature liveweight at 6 month old (even if not breeding)
5. Regular assessment of performance and culling if necessary



# Future focus

- What is the consequence of “poor management” and what can be justified in terms of interventions?



- What does body condition score tells us that liveweight doesn't and vice versa?





# Massive thank you to the Challenge Sheep farmers

Any questions?

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<http://beefandlamb.ahdb.org.uk/returns/project-farms/challenge-sheep/>





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A vibrant landscape of a green field at sunset. The sun is low on the horizon, casting a warm glow over the scene. The sky is filled with colorful clouds, and a path leads through the field towards the horizon. The overall mood is peaceful and inspiring.

**‘Inspiring our farmers, growers  
and industry to succeed in a  
rapidly changing world’**