ECPA 2017
11th European Conference on Precision Agriculture
Grassland and Grazing Satellite Meeting
Precision Management of Grassland & Grazing Livestock
18 -19 July 2017, Edinburgh

SRUC

Evaluating precision management of sheep in a hill farming system

Claire Morgan-Davies[1], Nicola Lambe[1], Tony Waterhouse[1], Fiona Kenyon[2], Dave McBean[2], Harriet Wishart[1], Ann McLaren[1], Davy McCracken[1]

[1] SRUC Hill & Mountain Research Centre, Kirkton, Crianlarich, FK20 8RU, Scotland, UK
[2] Moredun Research Institute, Pentlands Science Park, Bush Loan, Penicuik, EH26 0PZ, Scotland, UK

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Outline

- Overview: Precision management & hill farming
- Case study on hill farm
  - Methods
  - Results
- Concluding remarks

Precision farming

- Many facets
- Livestock?
  - EID
  - Sen
- EID in
  - Con
  - How to use it in management?

Hill farming in UK

- **Challenging**
  - Marginal land/poor land
  - Large size flocks (>1000), low stocking density
  - Labour critical
  - Economically fragile, reliance on support

Hill farming in UK

High nature value, importance for rural landscape/economy

Could technology & precision farming be useful for hill systems?

Precision management of hill sheep

- SRUC Hill & Mountain Research Centre
  - Research hill farm
  - In marginal areas of Scotland
  - 1300 sheep
  - 2200 ha – most of it hill land
- Series of measures implemented

The research – how?

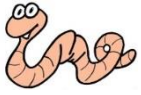
2 management systems
900 sheep

Conventional	PLF
Non-EID managed	EID managed

- Animal performance recording
- Labour recording at each task
- Financial data

Use manua… | …nology

Based on sl… | …ight change
assessment… | …Feb)
+ scan result (>Feb)



Whole flock approach
- pooled FEC, threshold

Targeted Worming
- lamb weight change

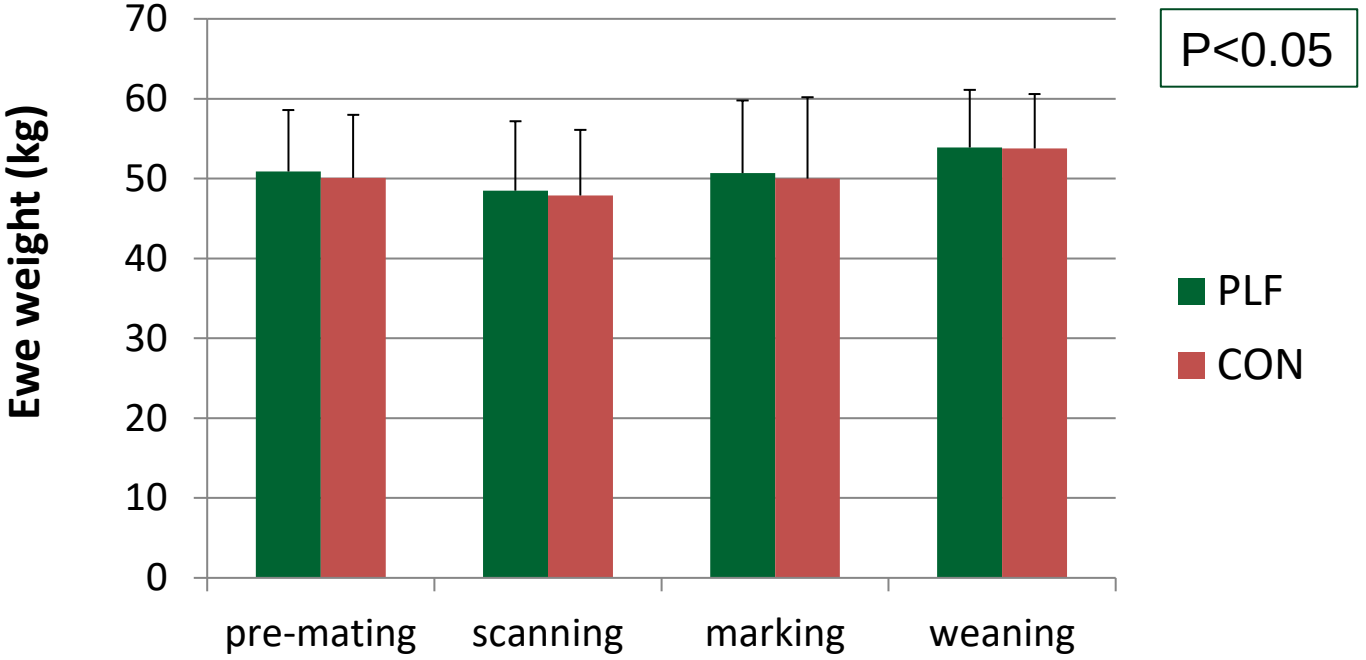
EID technology used

- Automatic weigh-crate (5 ways-shedder)
- Weigh head
- Handhelds
- Farm software

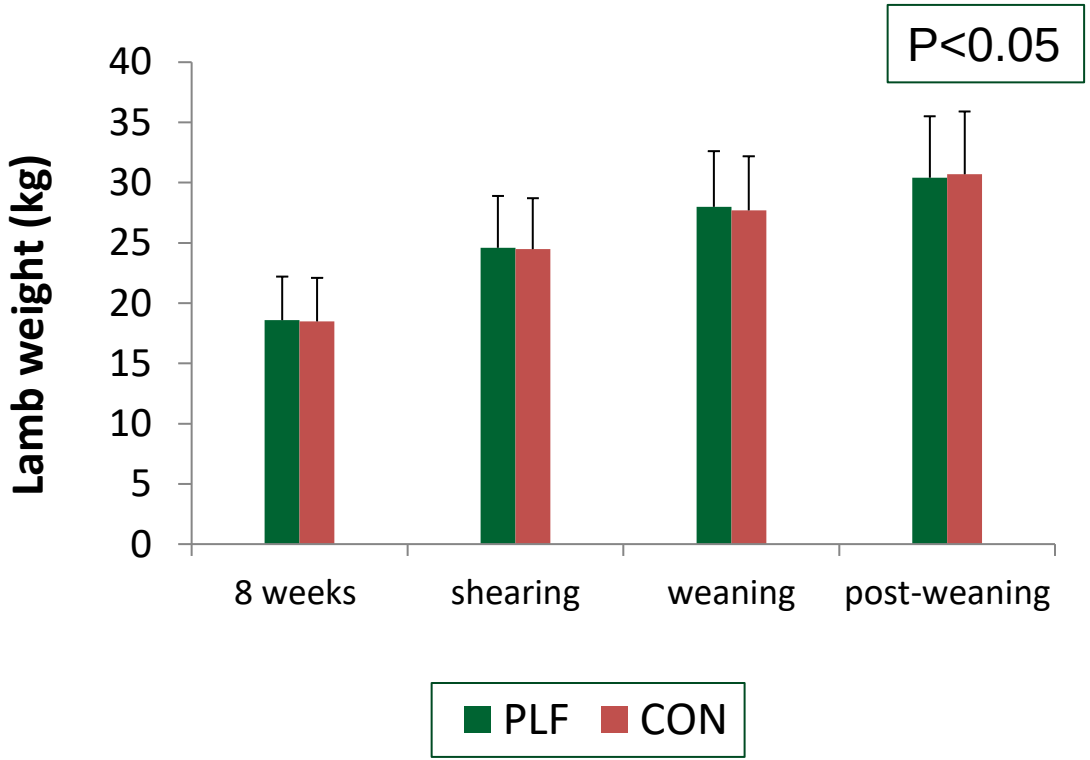
Measurements – when & how?

Sales (Sept/Oct) → Mating (Nov) → Post mating (Jan) → Mid-pregnancy scanning (Feb) → Pre-lambing (March) → Lambing (April) → 8 weeks after lambing → Shearing (July) → Weaning (Aug) → Sales (Sept/Oct)

Results – ewe weights (2013-2015)

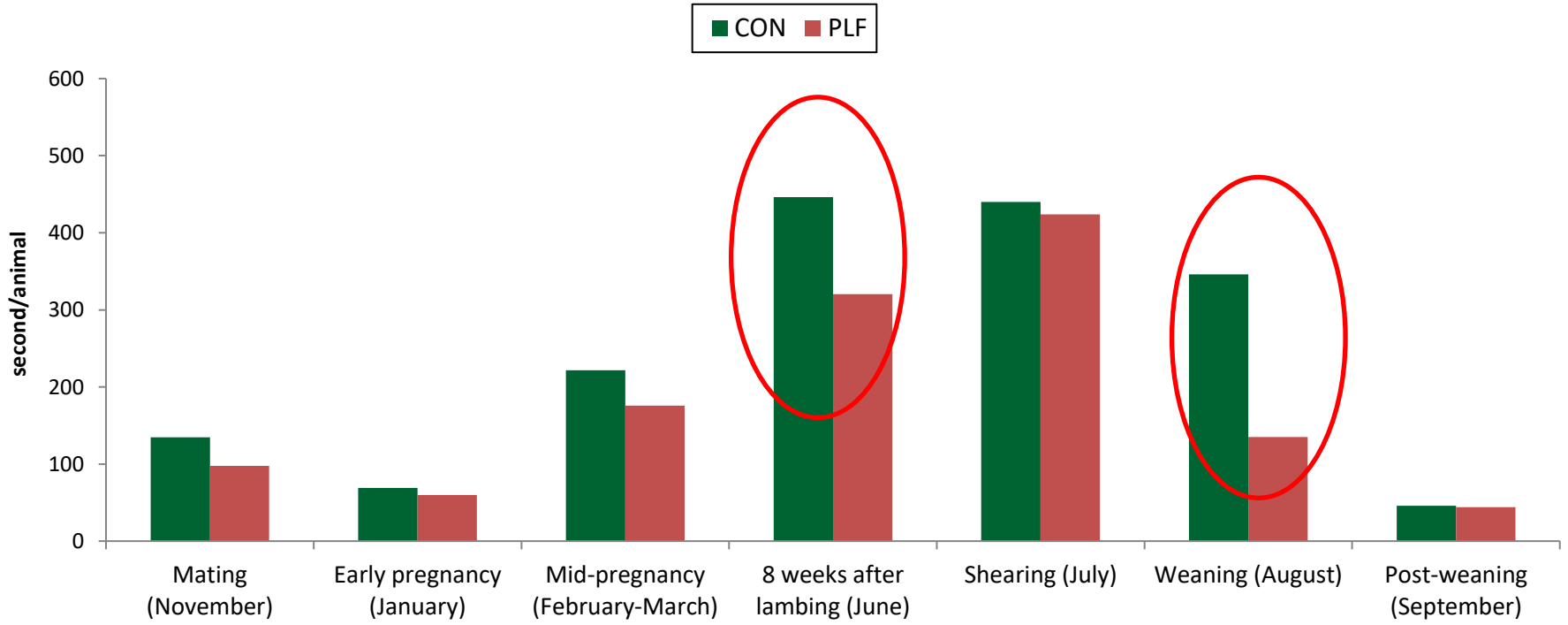


Results – lamb weights (2013-2015)



Worming:
40% less lambs treated

Results – yearly labour profiles



Results – annual labour (8 hours day)

	CON	PLF	
Overall	42 days	25 days	40%
Winter feeding	4 days	3 days	17%
Worming lambs	13 days	9 days	32%

Results - Net Margin

	CON (£/head)	PLF (£/head)
Lamb income	£62	£62
Ewe & wool income	£43	£41
Total incon		104
Winter feed		£14
Finishing feed & off-		£39
Health cost		£9
Total variable		£62
Gross marg		£41
Labour costs	£17	£10
Other fixed costs	£56	£56
Total fixed costs	**£72**	**£66**
Net margin	**£28**	**-£24**

£4/ewe difference

3 years payback for 900 ewes

Concluding remarks

- Precision management & hill farming system?
- Benefits
- Uptake?
- Next stage?

Using precision management is part of the future for hill farming

Acknowledgments

- Funders

- Colleagues at SRUC Hill & Mountain Research & Moredun Research Institute

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