



Animal-based welfare indicators in dairy sheep: preliminary results from on-farm monitoring

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Second DairyCare Conference, Córdoba, 4th March, 2015



Guidelines



1. Introduction

2. Sheep welfare Protocol

1. Criteria & Indicators
2. Steps

3. On-farm data

1. Monitoring
2. Results

4. Conclusions

Introduction



- AWIN Welfare indicators (2011-15)
 - SHEEP, goats, horses, donkeys and turkeys
- <http://www.animal-welfare-indicators.net/site/>
- Diversity of sheep production systems
 - Productive orientation (meat, milk)
 - Level of intensification
 - Environmental conditions
 - Etc.

Objective



- To develop an animal-based protocol to assess the welfare status of the sheep, considering the diversity of farming systems
- To test the feasibility and validity



Protocol



- 5 freedoms and the 4 principles of good welfare outlined within the Welfare Quality
 - good feeding,
 - environment,
 - health and
 - behaviour

Criteria & indicators



Welfare Principle	Welfare Criteria	Welfare indicator
Good Feeding	Appropriate nutrition	Body Condition Score Lamb mortality
	Absence of prolonged thirst	Water availability
Good Environment	Comfort around resting	Fleece condition (cleanliness)
	Thermal comfort	Panting Access to shade/shelter (outdoors)
	Ease of movement	Stocking density (housed sheep) Hoof overgrowth (housed sheep)
Good Behaviour	Expression of other behaviours	Abnormal behaviours
	Positive emotional state	Qualitative Behaviour Assessment
	Good human-animal relationship	Familiar Human Approach test

Criteria & indicators



Welfare Principle	Welfare Criteria	Welfare indicator
Good Health	Absence of physical injury	Body and head lesions Leg injuries
	Absence of disease	Lameness (gait score) Faecal soiling (dag score) Mucosa colour Ocular discharge Mastitis (lactating ewes only) Respiratory quality Fleece condition (quality)
	Absence of pain	Tail length Castration policy

First Level W.A.



First Level W.A.



Approach animals quietly to record next indicators

OUTSIDE ENCLOSURE*

- QBA
Abnormal behaviour
- Panting

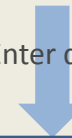
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WITHIN ENCLOSURE

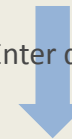
- Fleece condition
- Tail length
- Dag score
- Lameness

(Enter data)



- Familiar human approach

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MANAGEMENT RECORDS

- Lamb mortality
- Castration policy

(Enter data)




- Stocking density
- Access to shade/shelter
- Water availability


First Level W.A.




Indicator	Unit of Measurement
Lamb mortality	Number of lambs weaned / number of ewes mated * 100
Water availability	100% if all animals have access to a clean and adequate water supply 50% if all animals have adequate access to water but water is dirty 50% if water is clean but not all animals have adequate access 0% if water supply is inadequate and dirty
Fleece cleanliness	Proportion of ewes with clean fleece: scores 0 and 1 if the weather is dry at assessment; scores 0, 1 and 2 if the weather is wet.
Panting	Proportion of ewes that show no evidence of heat stress
Access to shade/shelter (outdoor animals only)	100% if all ewes have access to shade or shelter if required 50% if some but not all ewes have access to shade/shelter 0% if no ewes have access to shade/shelter
Stocking density (indoors)	Proportion of animals with good or adequate space availability
Lameness	% of ewes that are not lame (scores 0 and 1)
Dag score	% of ewes that have an acceptably clean breech area (scores 0, 1 and 2)
Fleece quality	Proportion of ewes that have good fleece coverage
Tail length	Proportion of ewes that have full tails + ewes that have docked tails that are of an adequate length
Abnormal behaviour	% of ewes that do not show stereotypic behav. during the 20' obs. % of ewes that do not show social withdrawal during the 20' obs. % of ewes that do not show excessive scratching during the 20' obs.
QBA	PCA plot
Familiar human approach	Closest distance of approach of human to sheep

Second Level W.A.


 Body condition score

 Lesions to head
Ocular discharge
Mucosa colour
Respiratory quality
Lesions to body

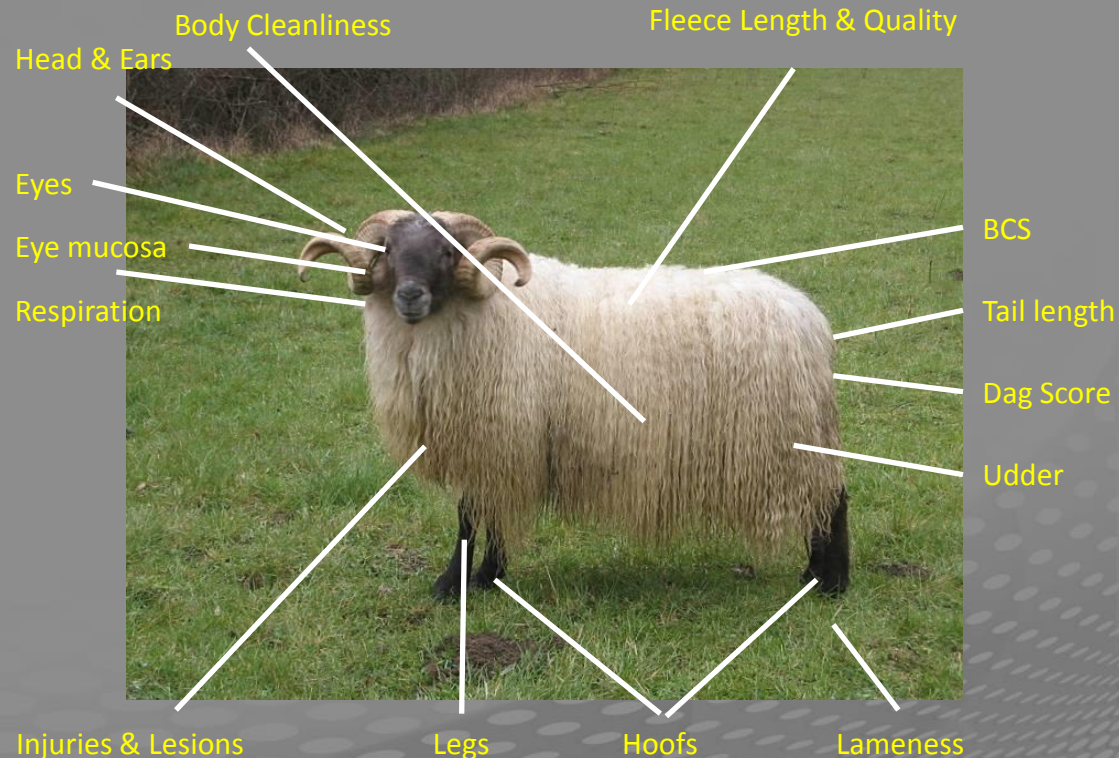
 Fleece condition

 Leg lesions/callus
Overgrown hoof
Dag score
Mastitis
Tail length

(Enter data)

 Lameness

(Enter data)



Monitoring



30 sheep flocks x 2 rounds / year = 60 visits (2014)

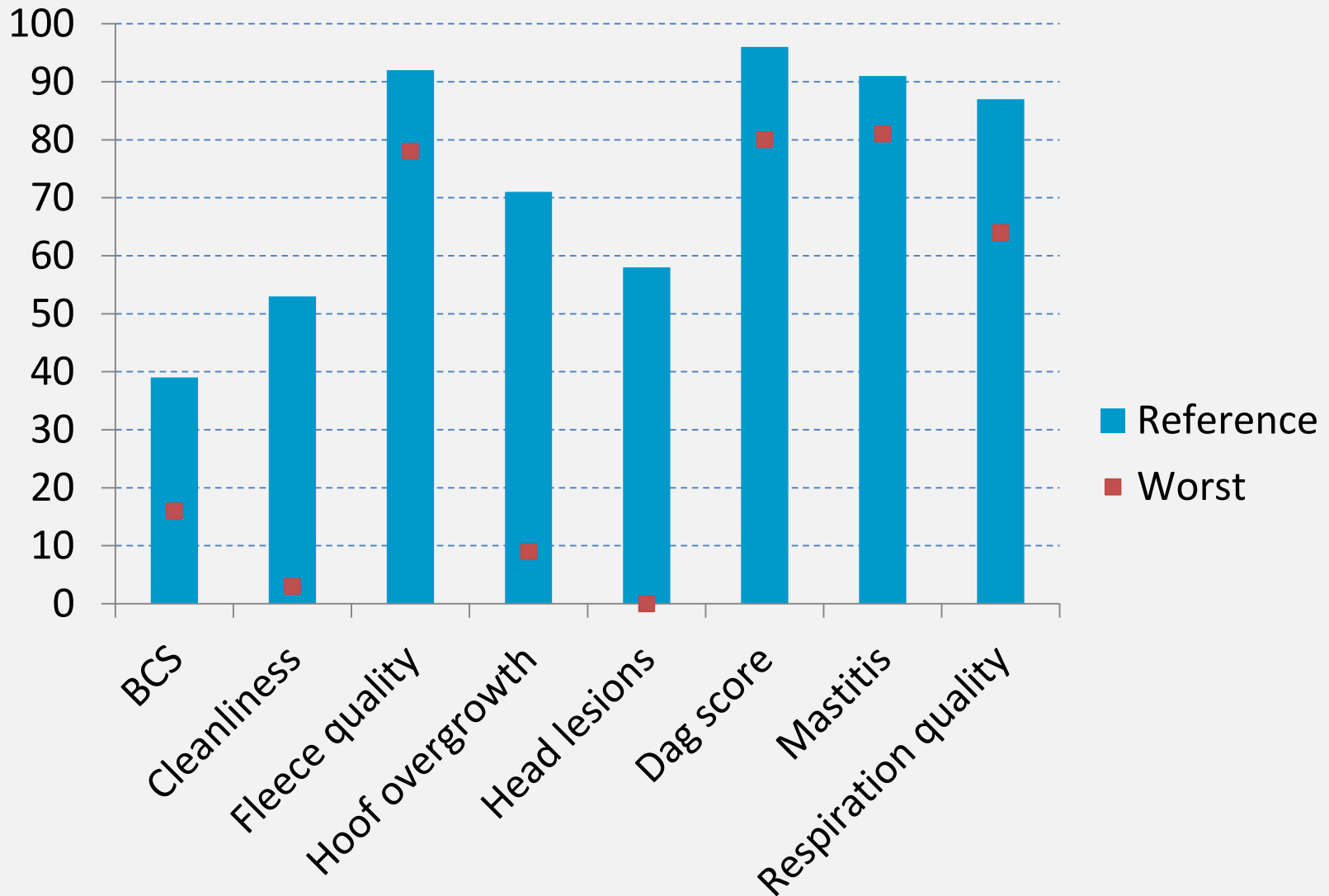
– 15 meat flocks in Scotland

– 15 flocks in Spain

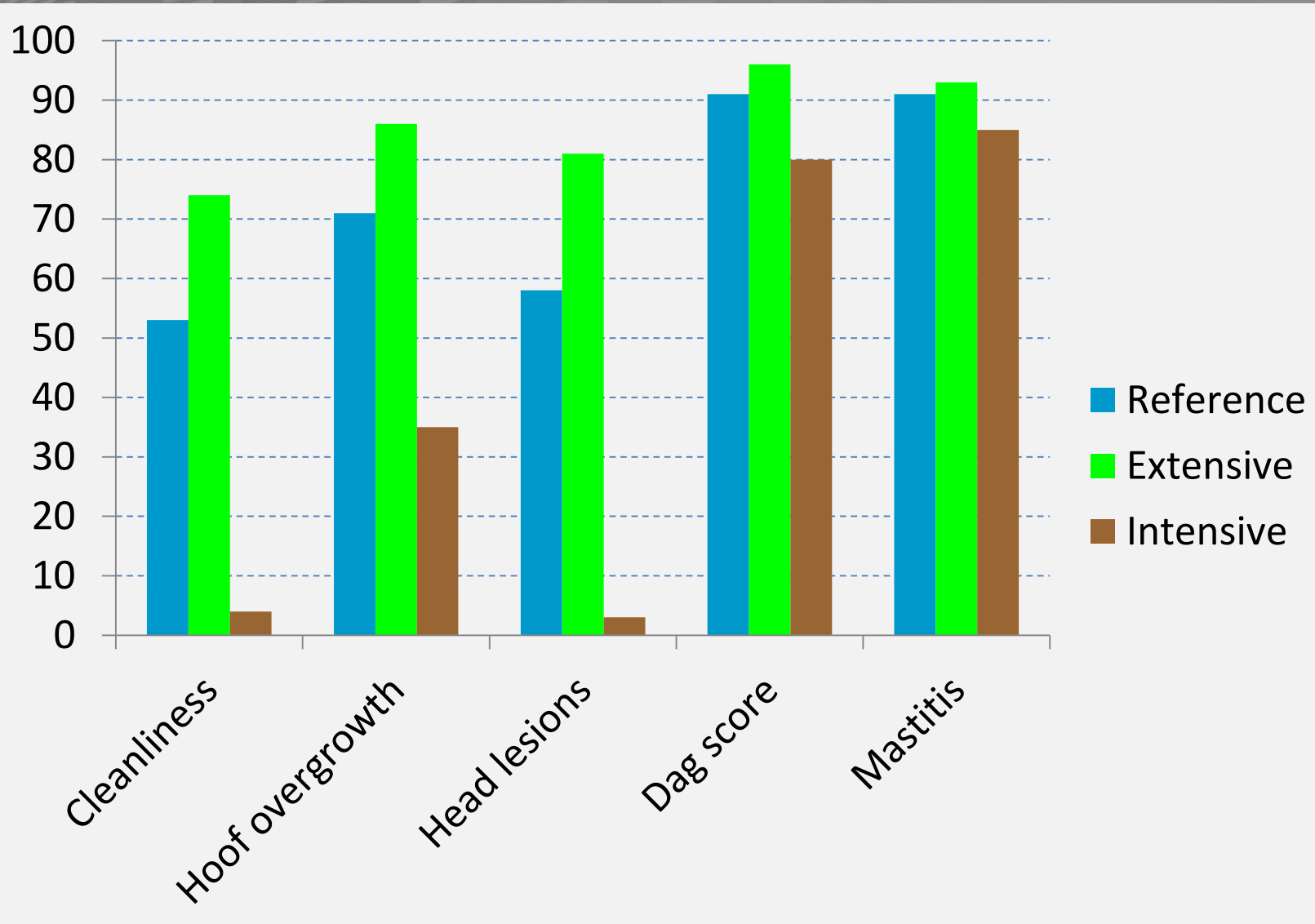
- 6 meat
- 9 dairy:
 - 2 Assaf
 - 7 Latxa



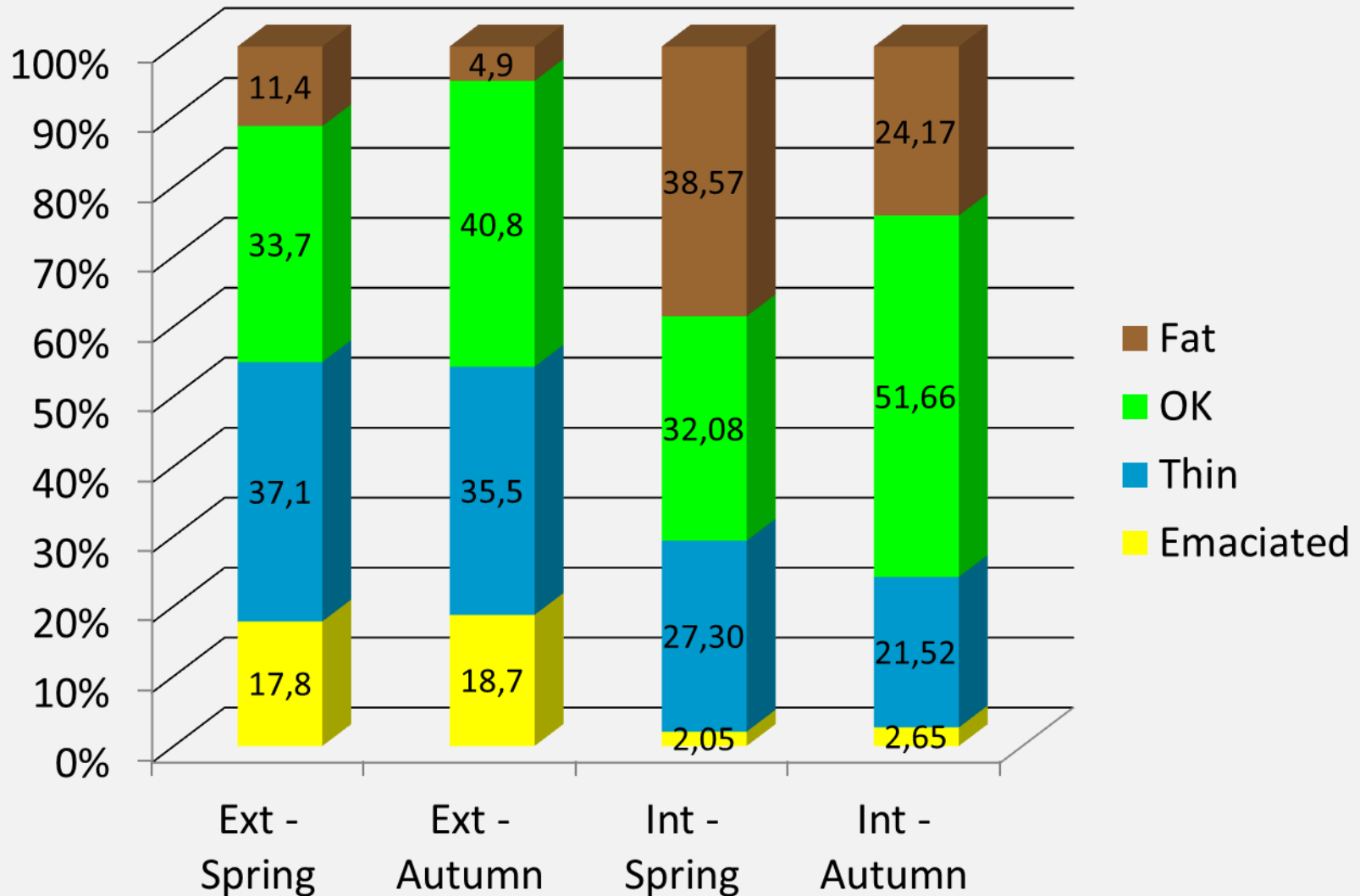
Results: Dairy Sheep



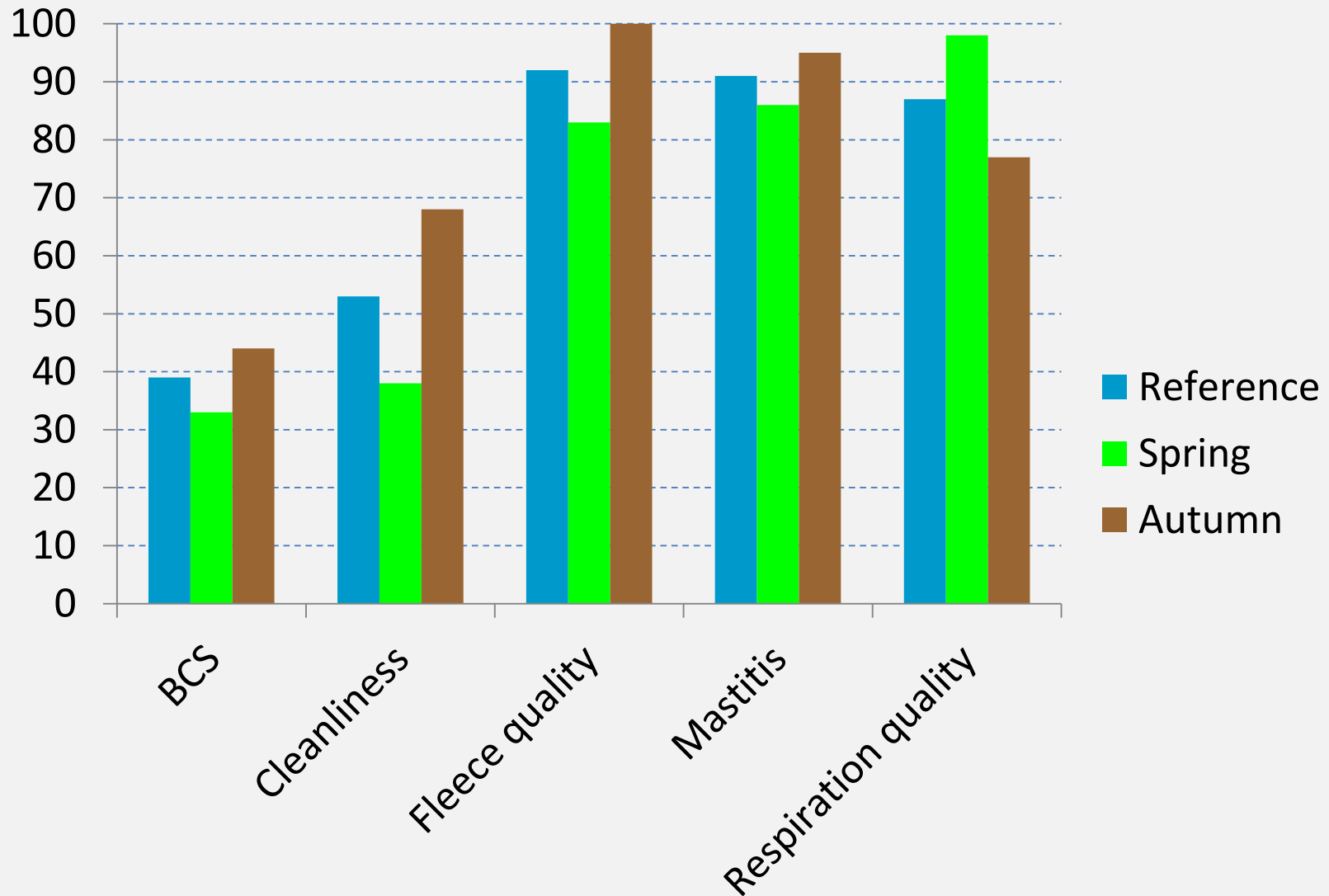
Extensive vs. Intensive



BCS



Seasonality





Conclusions



- Identification of:
 - Individuals in poorer welfare conditions
 - Critical features and severity
 - Data for prevalence assessment
 - Good practices
- Education & Training: farmers, vets, technicians, students...
- Tool for Decision Making within the farm
 - Periodical assessment & Continuous improvement
- Reference population:
 - Flocks & farming systems

<http://www.animal-welfare-indicators.net/site/>



Eskerrik asko!

