



# Robust animals for grass based production systems

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# The message to take home ...



*« A robust animal is transparent »*

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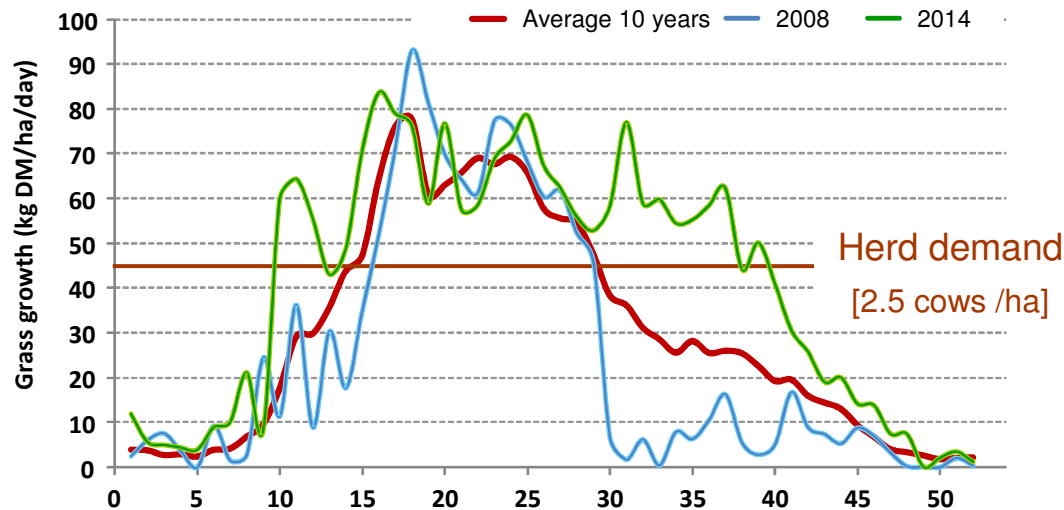


**« A robust animal is transparent »**

# Grass-based production systems

The ruminant's natural ability to consume grass and forage is a chance and a challenge for the future

Pasture-based systems are seasonal, less stable and more uncertain



*Good grazing management imposes low post grazing height*



A robust animal should be able to face all the constraints associated with grass-based systems

# 1. The animal for the system

## Ability to adapt to grazing

High level of intake in adverse conditions  
(*balance per animal and per hectare performance*)

Large intake relative to their productivity potential

Motivation : « aggressive grazers »

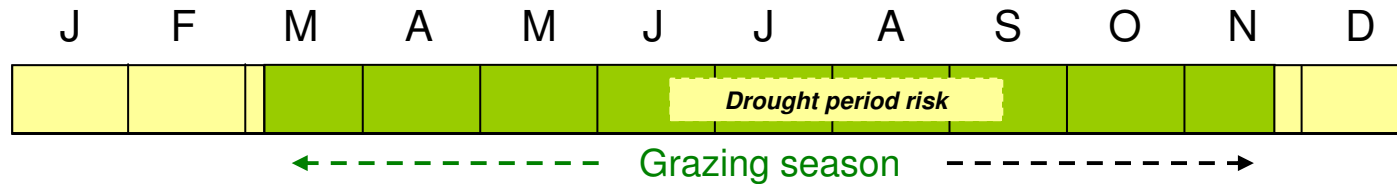
## Ability to cope with resource variability and to rebound

Easier to do if the nutrient demand is aligned with  
available resources

- ❖ Capability to adapt milk or growth without  
negative effect on reproduction (body reserves)
- ❖ Able to react (milk yield, fertility,...) when  
the feeding situation is improved



# The key role of the breeding season



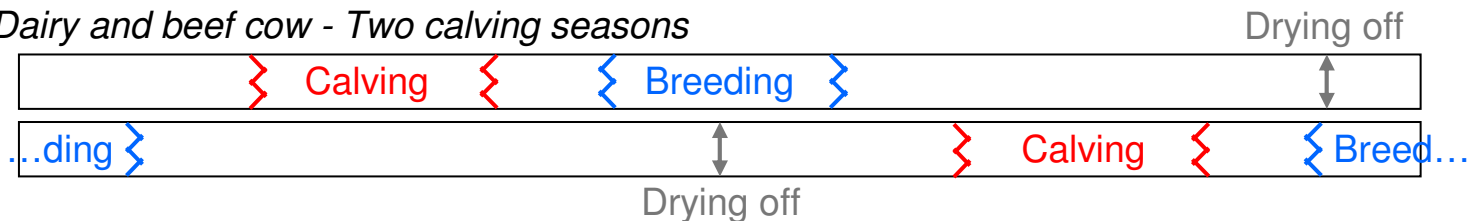
*Dairy and beef cow - One calving season*



*Suckling ewe - One lambing season*



*Dairy and beef cow - Two calving seasons*



**To match herd & flock demand to the seasonality of grass availability**

## 2. The animal for the system



Age at puberty / 1st calving or lambing age

Assume all the cascade of fertility to recalve/lamb at the right period



# 3. The animal for the system

## Ability for maternal care

Deliver a viable offspring with minimal (no ?) human assistance

Limit calf and lamb mortality with a high maternal behaviour



## Ability to stay healthy

Cope with parasite burdens – High resistance (less impacts, less anthelmintic treatments)

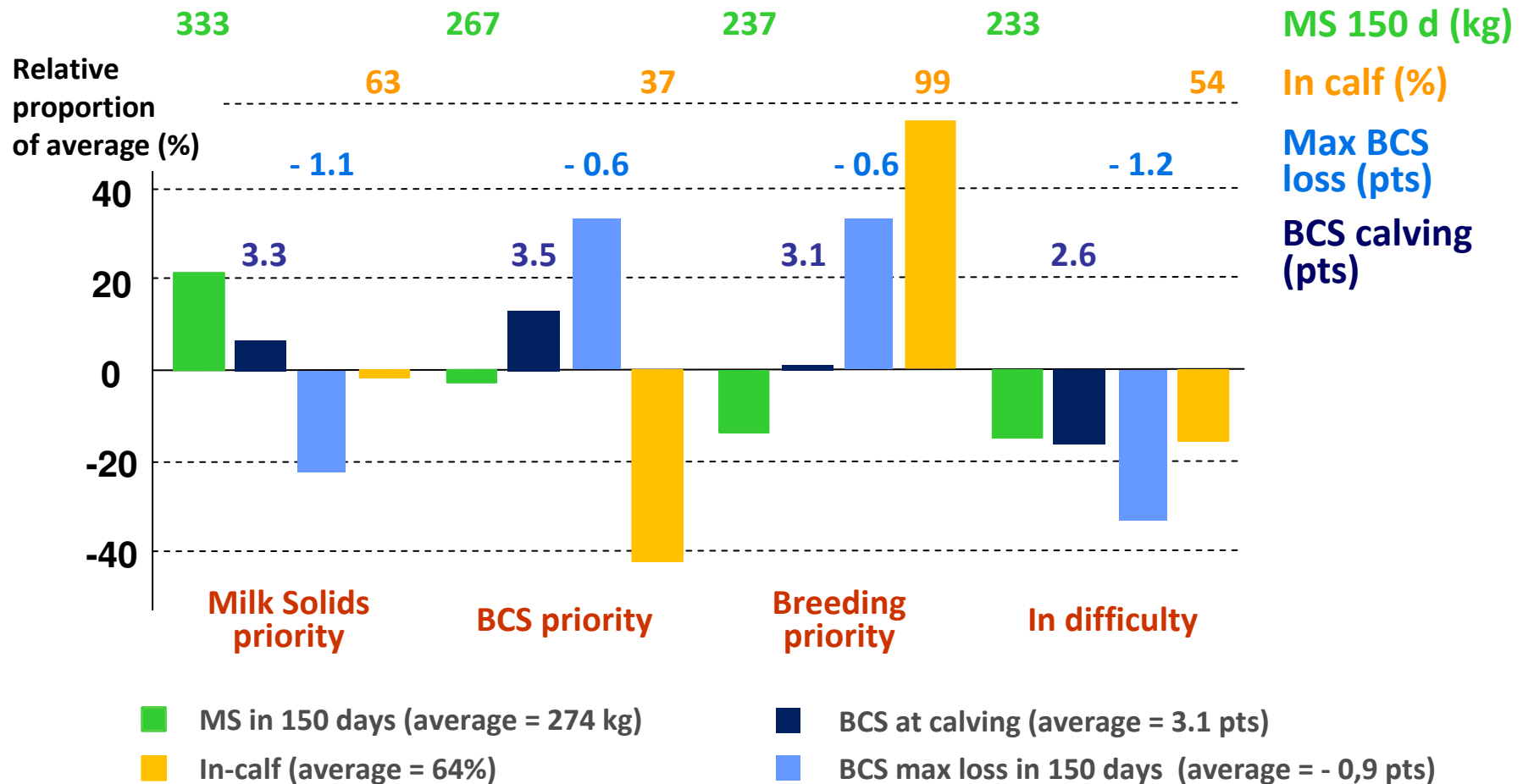
Metabolic disorders due to inclement weather and/or nutrients imbalance (tetany, toxemia, bloat)

Feet and legs diseases (grazing is walking ...)





# Robustness is multi-functional traits



# To conclude ...

**In high input indoor systems, the entire farm system serves the animal requirements**

**In low input and grass based systems, the animal has to be adapted to the specific environmental context and challenges**

**Better combine the genetic sub-indices available to select animal traits for grass-based systems**

**Better understand the trade-off and more accurately identify robust animals**

**Develop research to define new traits of interest and imagine tools and methods to evaluate them**



**Thank you for your attention**

