# Ten years-data of milk production in beef cattle under South American grazing conditions: preliminary analysis

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URUGUAY

# Uruguay: some general figures

# Bioma pampa: 70 million of hectares ( Soriano et al. 1991)

## Uruguay: more than 80 % of area with native pastures

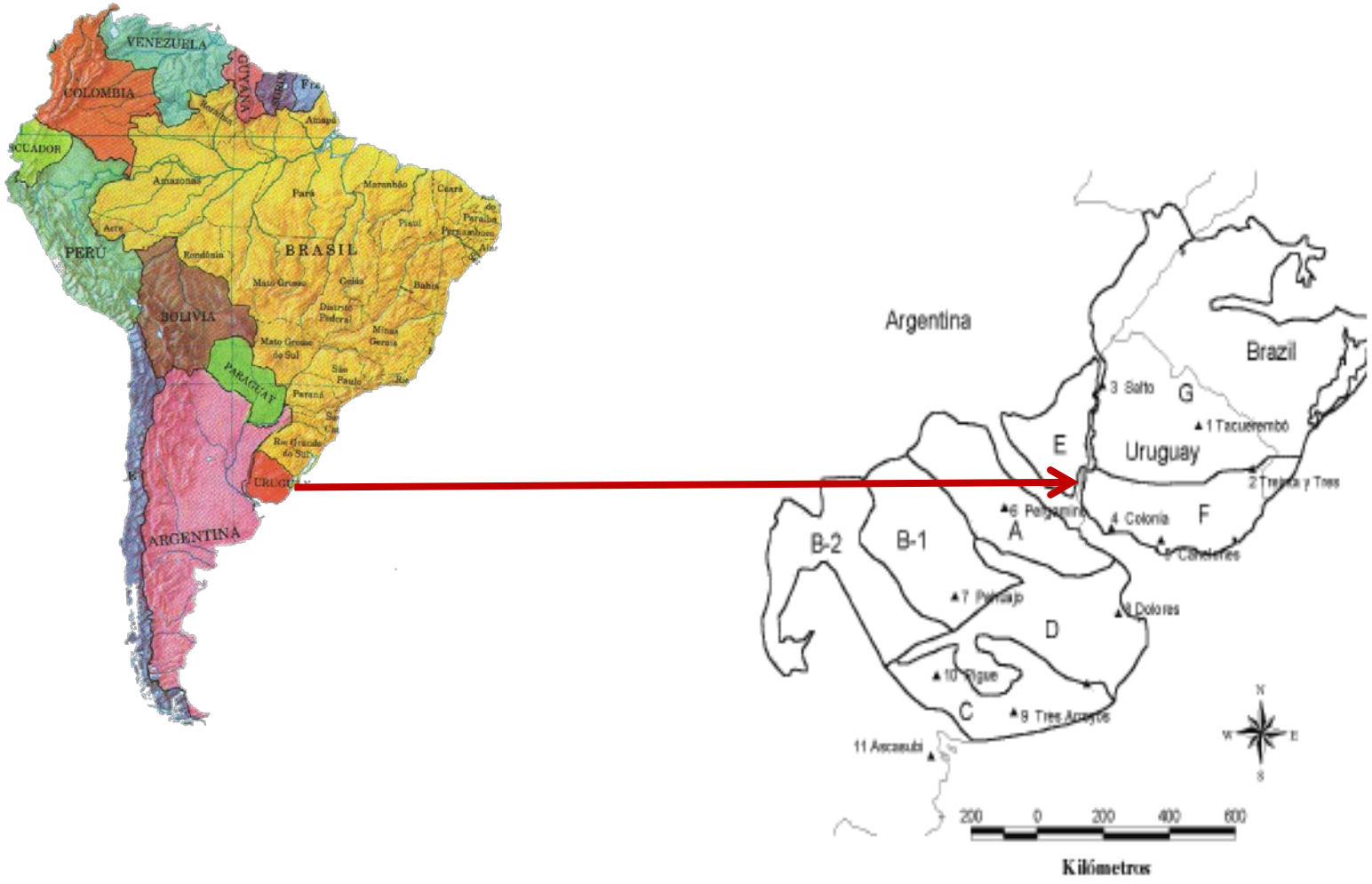



Figura 1. Pastizales del Río de la Plata y sus subregiones: A. Pampa Ondulada, B. Pampa Interior, C. Pampa Austral, D. Pampa Inundable, E. Pampa mesopotámica, F. Campos del Sur, G. Campos del Norte. Tomado de León (1993).

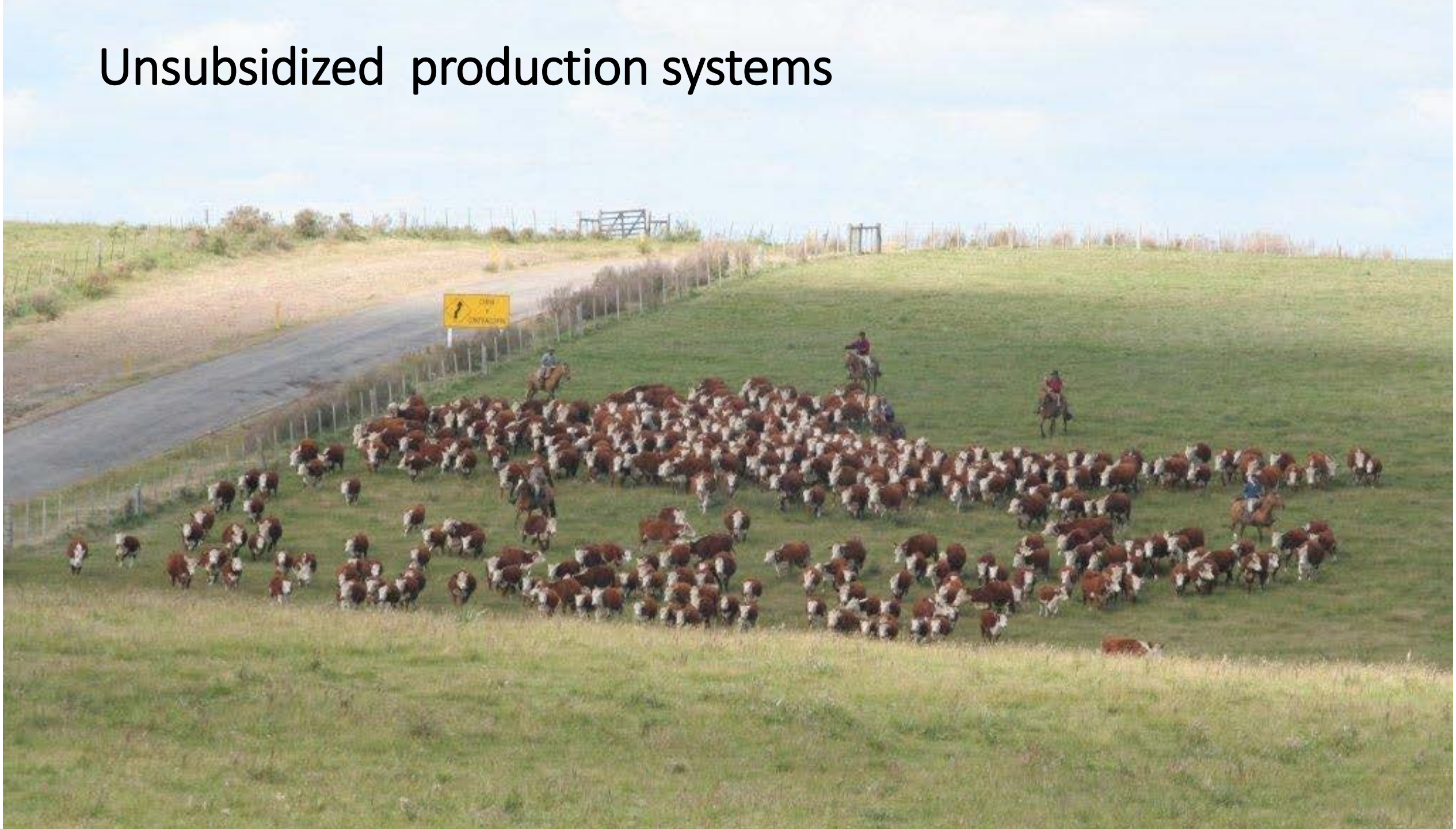
- Stock: 11 million of cattle (4.2 million of cows)

- Cattle with whole tracking (allows to identify the origin of the product at any time)

# Uruguay: some general figures

- Beef represents 30% of the total exportations of the country
- 80% of the beef produced is exported
- 6th exporter in the world (370.000 ton)
- Livestock production takes 87% of the total area of Uruguay
- **Beef consumption: 61 kg beef meet/hab/year**

# Unsubsidized  production systems




Open sky: weather dependent

# Main diet for cows and calves: NATIVE PASTURES

# Materials and Methods

# Animal description

- Palo a Pique Experimental Unit-INIA
- 740 total lactation curves (primiparous and multiparous with different nutritional and suckling restriction treatments)

- 114 multiparous, British crossbred cows were selected for this analysis
- 4 to 10 years old
- Calved in spring
- Managed on native pastures

# Biotype

# Native pastures characterization

- Forage allowance = 8 – 12 kgDM/100 kg cow LW
- Crude Protein = 8 -10 %
- Digestibility = 45 – 55 %

# Milk measurements

- Milk production was measured using a milking machine after an oxytocin injection (cows separated from calves at 6am, oxytocin and milked, then 8h after oxytocin and milking, measured and samples for quality)

- Milk yield was assessed between 20 - 30 days postpartum and monthly until weaning (day 180)

- Milk samples were analysed for fat, protein and lactose.

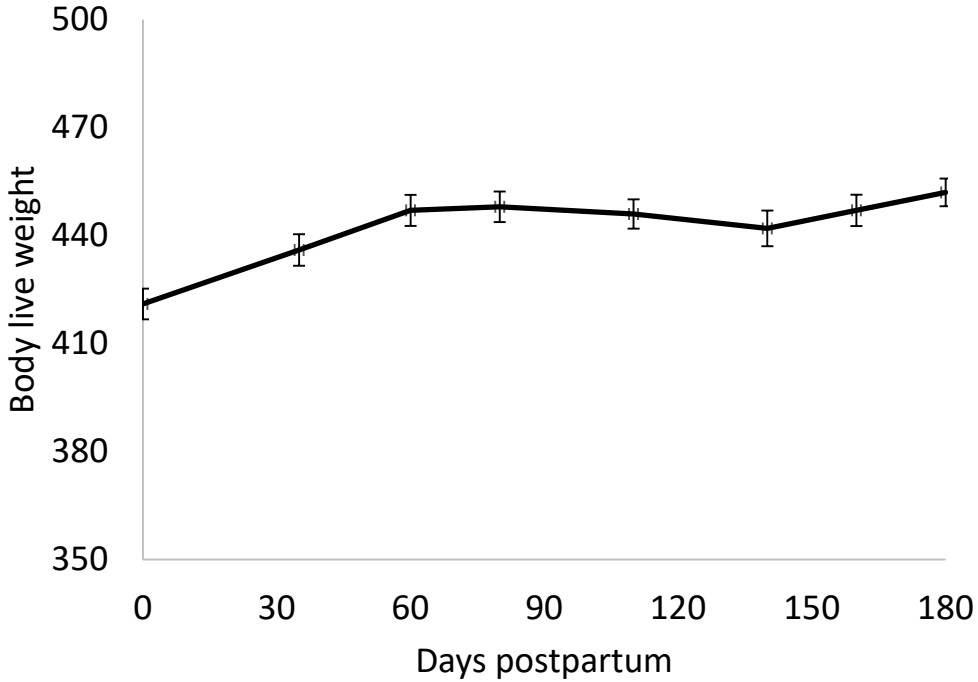
# Live weight and body condition score

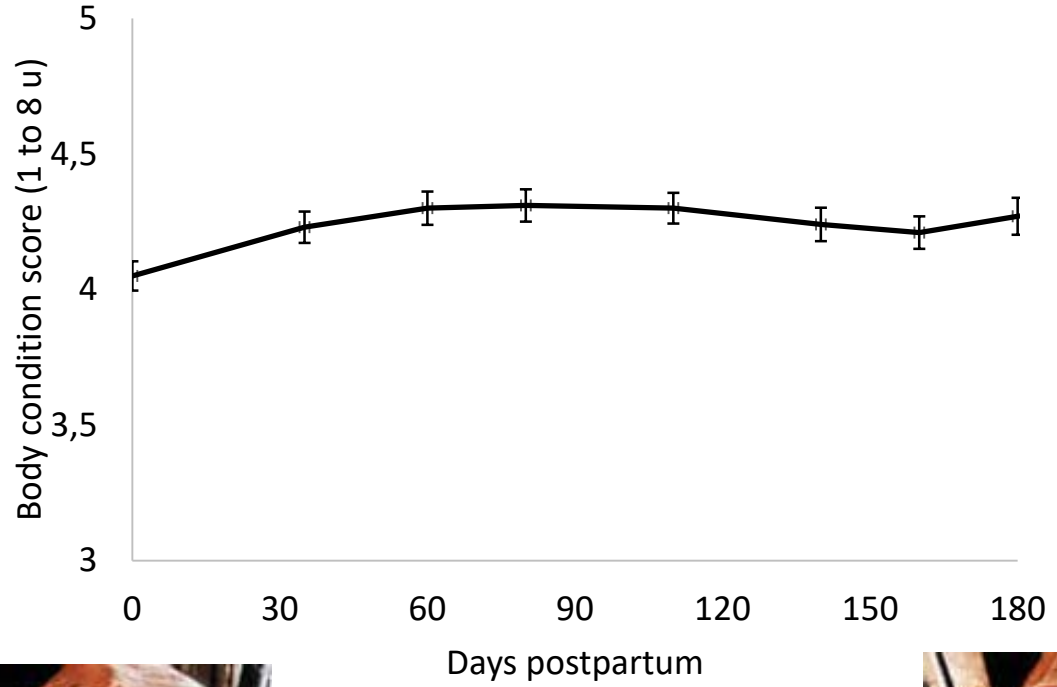
- Body live weight and body condition score (1 to 8 units) were measured monthly from calving to weaning.

- Calves live weight was measured at birth and monthly until weaning.

# Results

# Body live weight and body condition score



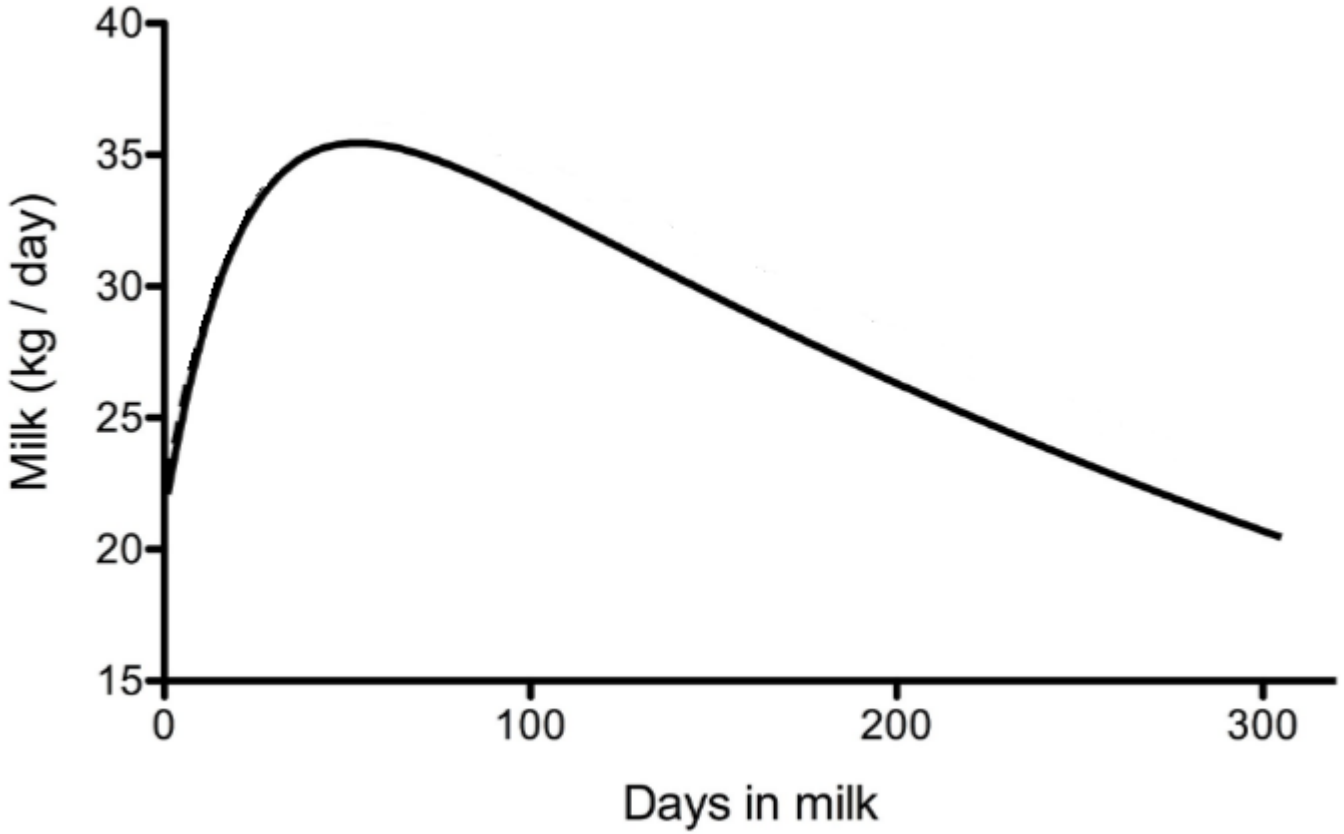




Mean± Standard Error

**CC = 3**

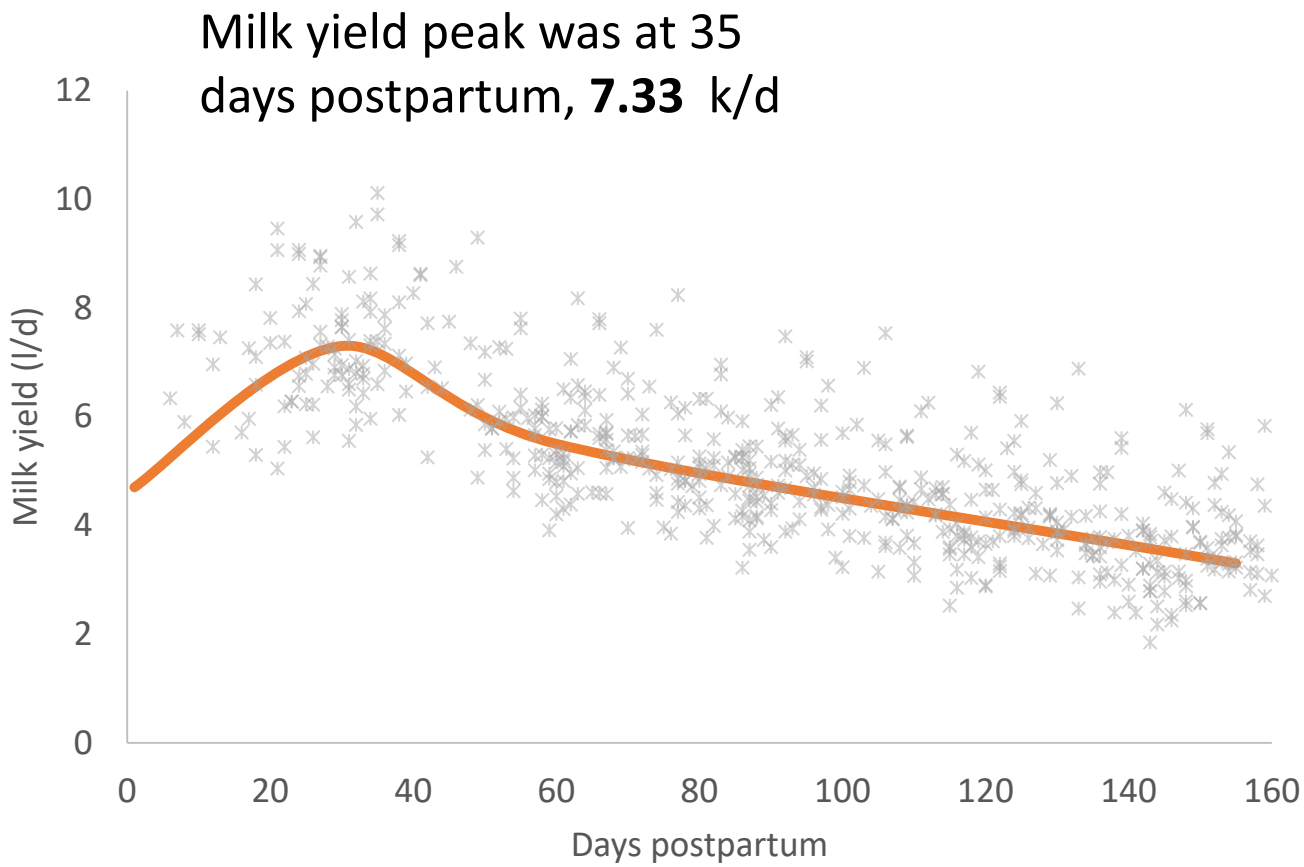
**CC = 5**

# Lactation curve
# Dairy cattle



# Lactation curve

Analysis with lineal splines with 3 knots at 30, 60 and 150 days




Average milk production was **5.3** k/d

Average total milk production was **821** k.

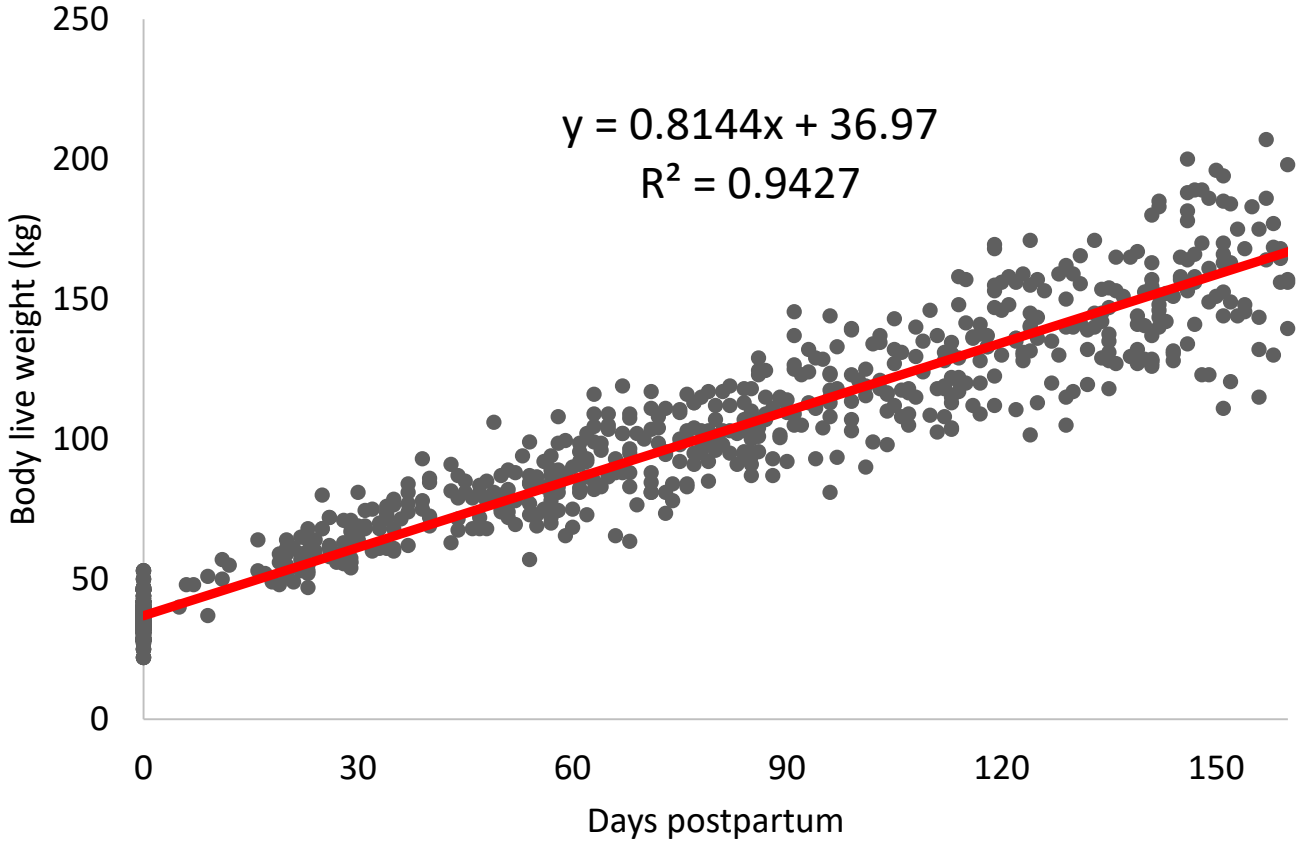
Milk yield decrease until weaning, with a daily milk production of **3,3** k

# Average milk composition for the entire lactation period

- Fat = 2.38 % ± 0.13
- Protein = 3.15 % ± 0.03
- Lactose = 4.93 % ± 0.03

Mean ± Standard error

# Calves performance




Calves daily live weight gain was 980 g from birth until peak; decreasing to 793 g until weaning

Birth live weight = 36 ± 0.2 kg
Weaning live weight (at 180d) = 176 ± 1.0 kg

Mean ± Standard error

# Implications

- Knowledgement of milk production of beef cows under our range conditions
- To establish the correlation between milk production and calves daily live weight
- Inputs for a model of lactation and maintenance requirements  to fuel an EPD in Maintenance Energy

# Our team


**Delegation from Uruguay- EAAP 2016 Belfast**

# Thanks!

# Gracias!