Grassland use in South America and Cow-calf system under pastoral conditions in Uruguay as a case

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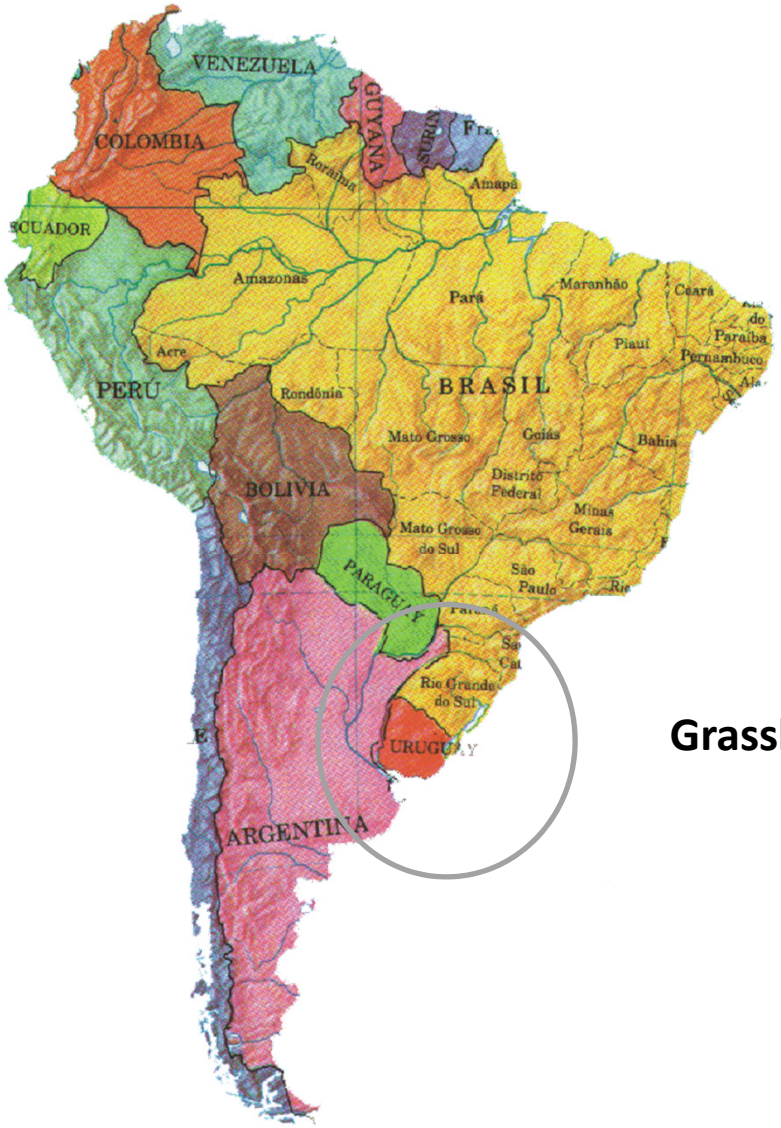


Grassland/steppe

Bioma pampa: 70 million of hectares

(Soriano et al. 1991)

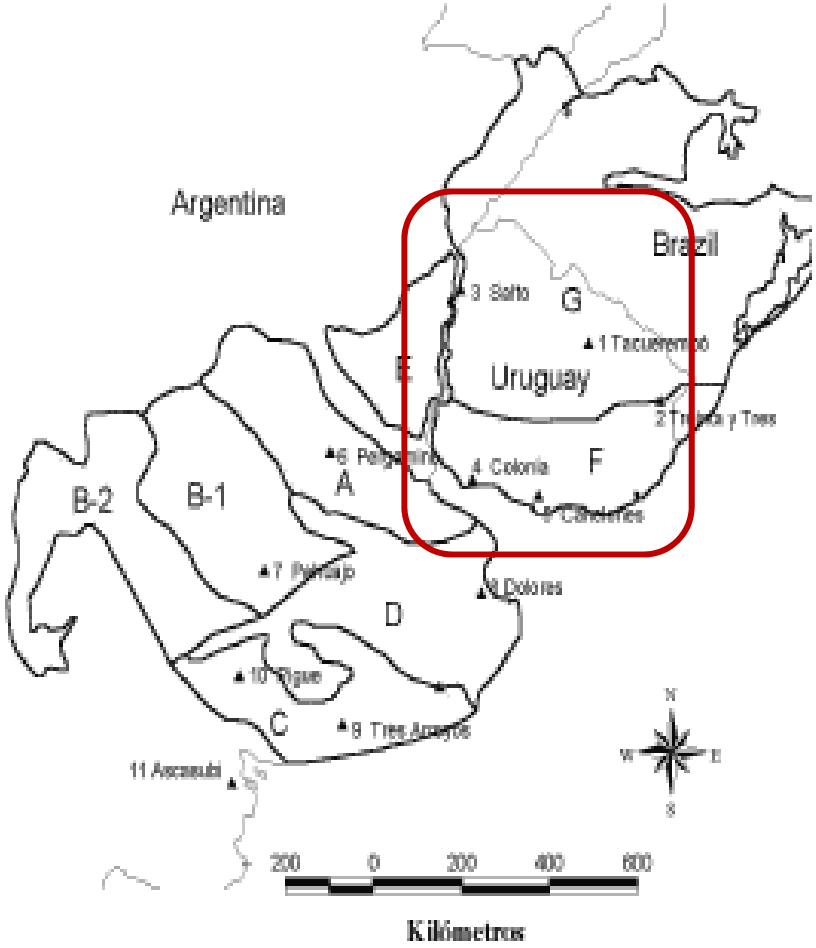


Figura 1. Pastizales del Río de la Plata y sus subregiones: A. Pampa Ondulada, B. Pampa Interior, C. Pampa Austral, D. Pampa Inundable, E. Pampa mesopotámica, F. Campos del Sur, G. Campos del Norte. Tomado de León (1993).

Bioma Pampa

(Carvalho et al., 2011)

- 450 grasses
- 150 legumes
- 385 species of birds

- Ecosystem degradation

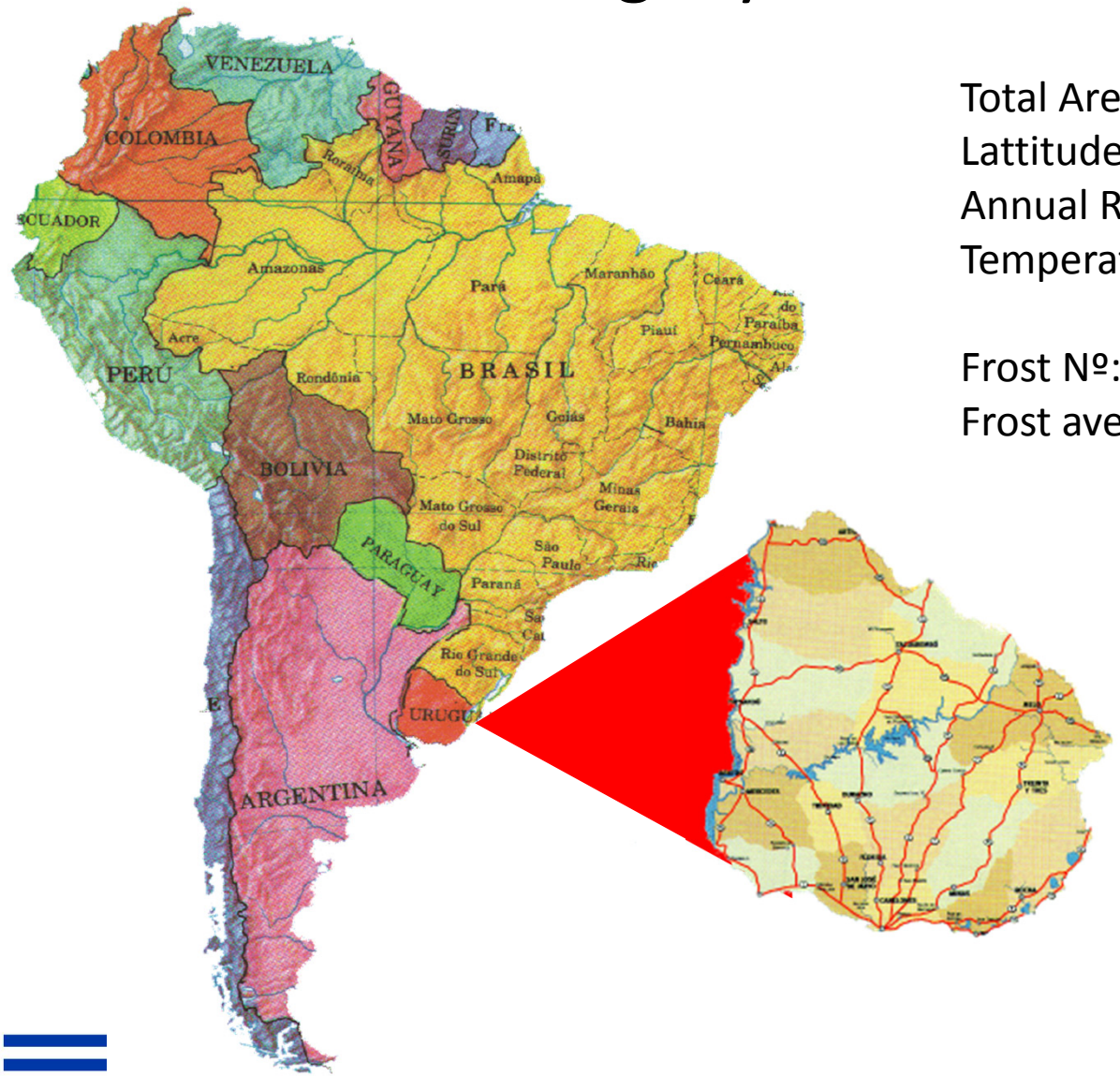
Loss of biodiversity

Soil erosion

Water polution

EXPANSION OF AGRICULTURAL BORDER (soybean and foresty)

South America
Uruguay



Total Area:	17.6 million ha
Lattitude:	30 - 35º South
Annual Rainfall:	1.175 mm ± 500
Temperatures:	Max. 28-33º
	Min. 6-9
Frost Nº:	10-50
Frost average/yr	21

INIA URUGUAY

Uruguay: some general figures

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

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

Uruguay: some general figures

- No hormones used (by law since 1978)
- Without animal protein in feed (by Law since 1996).
- Country free of BSE, Scrapie and Maedi-Visna.
- Uruguay is the 7th (beef) and 3erd (sheep meat)

Montossi, 2012

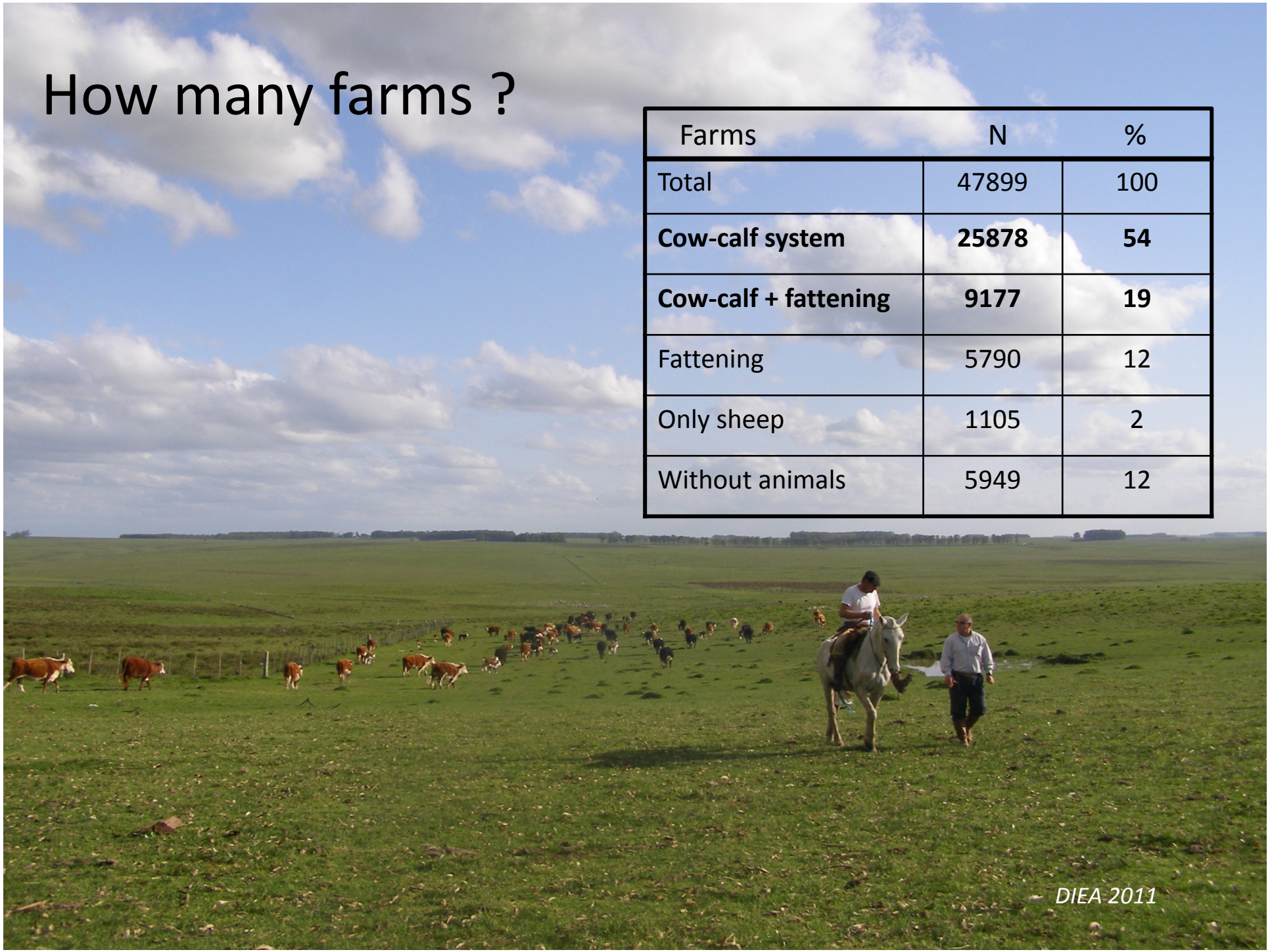
Uruguay: some general figures

- Beef represents 30% of the total exportations of the country.
- 80% of the beef produced is exported.
- Livestock production takes 87% of the total area of Uruguay
- Beef consumption: 61 kg beef meet/hab/year

Montossi, 2012

How many farms ?

Farms	N	%
Total	47899	100
Cow-calf system	**25878**	**54**
Cow-calf + fattening	**9177**	**19**
Fattening	5790	12
Only sheep	1105	2
Without animals	5949	12



DIEA 2011

Number and percentage of beef operations by size

Total area (ha)	Farms (n)	Farms (%)
< 50	17570	**42.7**
50-100	5359	**13.0**
100-200	5474	**13.3**
200-500	6397	15.5
500-1000	3440	8.4
1000-3000	2400	5.8
3000-5000	354	0.9
> 5000	142	0.3

69% < 200 has

DIEA 2011

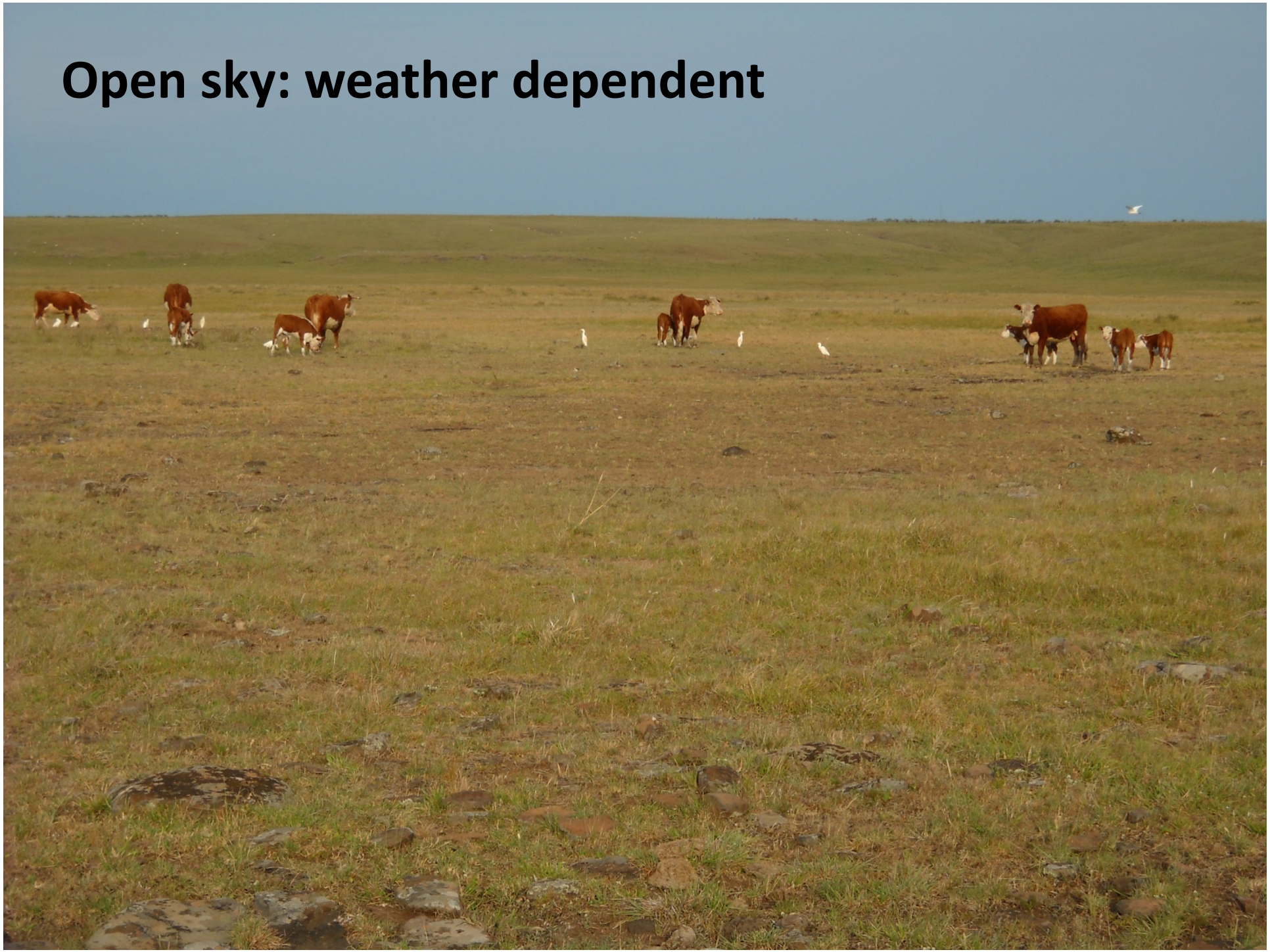
Unsubsidized production systems

Main resource of food for cows and calves : NATIVE PASTURES

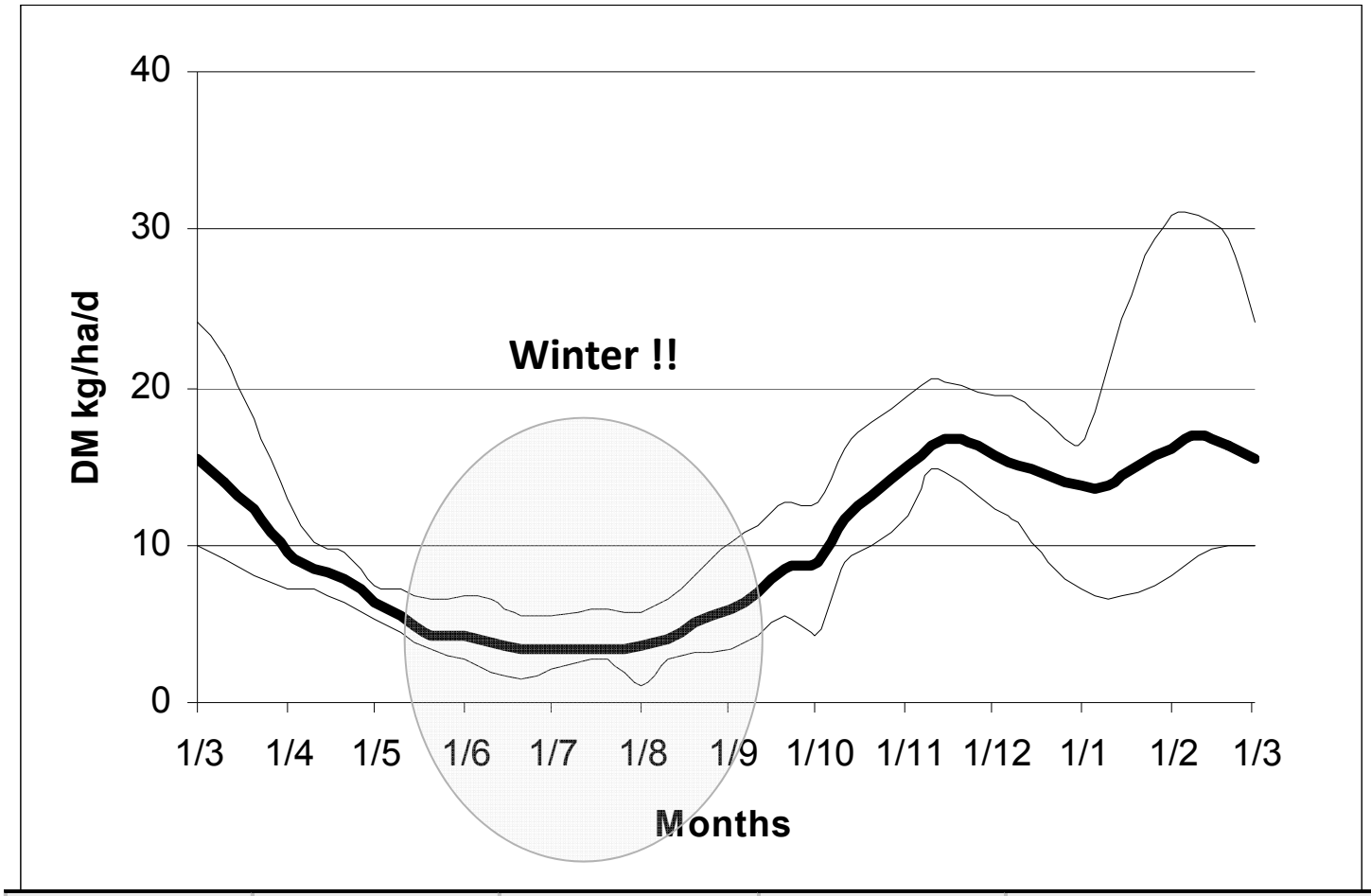
Characteristics of native pastures in Uruguay

- Crude Protein: 7-11%
- Energy: 1.8 – 2.0 Mcal/kg DM (7.5 - 8.4 MJ/kg DM)
- Digestibility of DM: 40-50 %

Open sky: weather dependent



Daily growing rate of native pastures



AUTUMN	WINTER	SPRING	SUMMER	TOTAL PRODUCTION
				DM (kg/ha/d)
23.40%	**9.70%**	**28.90%**	**38%**	**3626**

Ayala y Bermudez, 2005

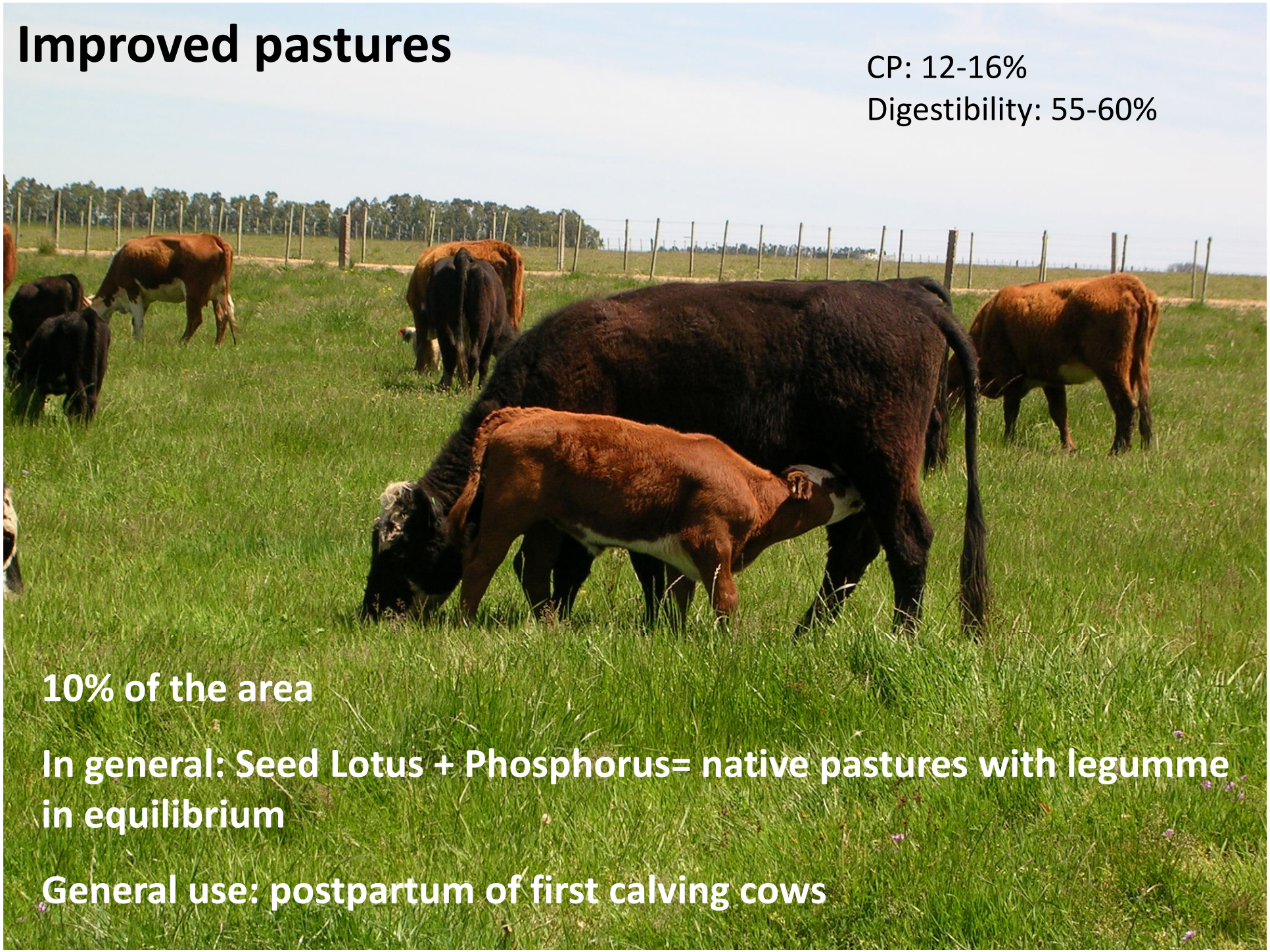
In summer: higly dependent on rainfall

Some strategies developed to manage cows/calves on these pastoral conditions

- Adequate stocking density or management to avoid overgrazing (sward structure, height and species)
- Improved pastures
- Strategic supplementation

Improved pastures

CP: 12-16%
Digestibility: 55-60%



10% of the area

In general: Seed Lotus + Phosphorus= native pastures with legumme in equilibrium

General use: postpartum of first calving cows

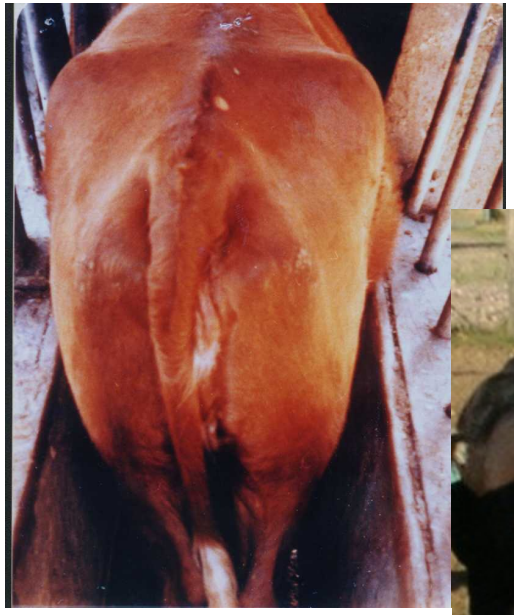
Strategic supplementation

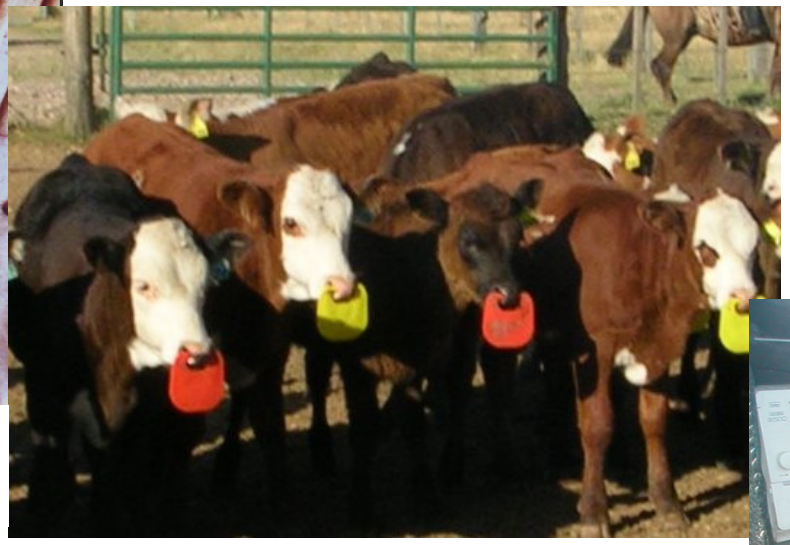
- Early weaning when cows are in very low BCS or in primiparous cows in a not adequate BCS
- Calves weaned with at least 60 days of age and 70 kg of LW

Strategic supplementation

- First winter of the female calf (after weaning)
- 90 days of a concentrate to avoid live weight looses

Other technological strategies to improve productivity in beef cow-calf systems





Interaction between researchers, extensionists and farmers = sharing the knowledge

Some challenges in the management of cow-calf systems

- Work with “more grass” (adequate stocking rate)
- Increase national weaning rate

Results of the XII National Workshop in Evaluation of Beef Cows Pregnancy - INIA Treinta y Tres, 22 July 2014

	Total Cows	Pregnant cows	% Pregnancy
Treinta y Tres	54147	40101	**74**
Cerro Largo	47049	33959	**72**
Lavalleja y otros	80389	61184	**76**
Centro (Durazno y otros)	83609	60700	**73**
Salto-Artigas y otros	17470	14850	**85**
Rocha	10625	8681	**82**
Soriano-Colonia Florida y otros	36982	28937	**78**
TOTAL	**330271**	**248412**	**75,2**

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- Keep on selecting adequate cow biotype /frame for our own conditions

Some challenges in the management of cow-calf systems

- Work with “more grass” (adequate stocking rate)
- Increase national weaning rate
- Keep on selecting adequate cow biotype /frame for our own conditions
- Increase livestock production in marginal and fragile lands (expansion of agricultural border)

Maintaining the native pastures healthy, productive and sustainable

Thanks to

- Daniel Formoso (INIA-Uruguay)
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Thanks!

TAK !