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U R U G U A Y

Production gaps in livestock grazing systems in Sierras del Este, Uruguay: magnitude, causes and strategies to reduce them.

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The problem

- In Uruguay beef cattle production is the main source of income in most of family farms.
- Those systems have very low productivity: 70-80 kg of meat ha⁻¹
- Natural grasslands are the main forage resource available



What are we doing?

- We are working in 4 focus farms throughout Uruguay, around each of which it has been formed a group of 8-12 farmers.
- A co-innovation approach (Dogliotti et al., 2014) is being followed.
- To analyze the magnitude of the production gap, we compared the meat production levels of the four focus farms with those obtained in the seven case studies reported by a Co-innovation project in Rocha-Uruguay (Ruggia et al., 2014)



Farm characteristics and productive results of each of the four focus farms, its average, and the average for the seven pilot farms of the CoInnovation project in Rocha, at the beginning and after three years of changing implementation.

Farm	Total area (ha)	Stocking rate (LU)	Natural grassland area/ Total area (%)	Sheep-to-cattle ratio	Cow's pregnancy rate (%)	Meat yield (kg ha ⁻¹)	Weaning calf per breeding cow	Number of cows mated per year	Forage allowance (kg DM per kg LW)
1	179	0.89	53	0.14	80	86	97	105	3.0
2	517	0.83	90	1.5	79	99	110	202	2.8
3	520	0.62	60	0.5	63	65	79	171	3.8
4	189	1.10	100	2.0	85	86	105	92	3.9
MSGF Este 2014 ¹	351	0.86	76	1.0	77	84	98	143	3.4
CoInn Rocha 2014 ²	240	0.84	84	1.4	90	123	149	101	6.1
CoInn Rocha 2012 ²	240	0.92	87	2.6	76	99	107	95	3.5

LU: livestock units. DM: dry matter. LW: live weight.

¹Average Project "Improving the sustainability of family farming" year 2014.

²Average Co-innovation project in Rocha (Ruggia *et al.*, 2014) years 2012 and 2014.

Production gap = [(MSGF Este 2014 - CoInn Rocha 2014)/CoInn Rocha 2014] * 100 = **31%**

Which are the causes of current production levels and the production gaps?

- There is a lack of planning in the production systems and an imbalance between forage production and animal requirements (forage allowance 3.4 kg dry matter kg live weight⁻¹).
- No management practices for breeding were used in the cattle herd, such as: differential feeding management according to body condition and physiological state, mating period setting, suckling control, final weaning in March and diagnosis of ovarian activity and pregnancy, differential feeding management of the female calves in the first winter.

So... what?

There is a production gap in farms under study. They are reaching lower results than the possible ones to achieve with the available resources. As reported by national research this gap can be reduced. The challenge is to generate changes in management practices without adding external inputs based on systems approach and with active participation of farmers