

Silvopastoral systems (SPS) – A sustainable option for beef production

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agri benchmark Beef and Sheep Network World Meat Congress – Beef Comittee



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Livestock, compelling figures



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Practice change

"Is a significant alteration of a production system against the background of specific objectives"

- Mitigate greenhouse gas emissions
- Contributing to ecosystem services
- Reduce overgrazing, erosion and degradation of grasslands
- Improve animal welfare
- Maintain or increase productivity and profitability
- Improve working conditions of producers and their employees
- Food systems
- Sustainable diets

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To analyze practice change you need knowledge, competence and capacity

 Production systems, economics, framework conditions and perspectives



Environment CIPAV
 GASL, LEAP, GRSB
 IIASA, ...



Animal welfare World Animal Protection



to be confirmed

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Social

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The approach: Efficiency matrix

FORAGE & GRAIN PRODUCTION	ANIMAL FEEDING	LIVI PERFC	ESTOCK DRMANCE	ANIMAL HEALTH	MANURE MANAGEMENT SYSTEM
Housing	 Fresh/dry matter intake 	HERD PERFORMANCE	PRODUCTION PERFORMANCE	Mortality distribution by	Methane emission per unit/year
Prevention he	ealth schemes	Reproductive performance	• Yield per unit per	age group • % disease incidence	Manure applied as % total produced
Herd manager production	• Feed ration mentke per ingredient ertion ratio	 Nº. Animals transferred or sold to other production units 	 Nº. of production periods per year Yield/unit per period 	 by age group % disease prevalence by age group 	 Synthetic fertilizier applied/ha/year Manure applied per ha/year
Strategic feed	ing practices		 Co-products per unit/year 		
Strategic crop	• Protein, energy ping d fiber		()		
Silvopastoral	systems ^{version}				
Balancing inventories/forage offer					
N, P, K, M, Ca	utrients	Land	www.anderware.	Water	Natural Resources Us
Reference Scenario - baseline Vs. New Scenario after intervention					
Economic	Anim	al Welfare	Social	Impact	Environmental

Silvopastoral Systems (SPS)



Regional evidence - Case studies



Feed Production and land productivity



Total farm: returns and costs





kg CO2 / 100 kg LW added / ECMilk



Animal welfare





Preliminary conclusions

 Results provide evidence for the ability of SPS to create 'triple-win' solutions: Sustainable options

 (a) Productivity and profitability gains (b) Environmental improvement © Animal welfare benefits

- 2. The overall uptake of SPS hpracticleridina hgehe level of investments, access to capital, and investment risk.
- 3. As intensive SPS are management-intensive, capacity building (advisory services) is a key compon Regional evidencey.
- The benefits from such investment are clear and this is an area where international and local policy mechanisms, donors and governments can play a crucial role

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The Amazonian region (Colombia)





SPS as a sustainable alternative for reducing **deforestation**

México (12.000 has on SPS)



Improving natural resource use efficiency and profitability on a wider **scaling up** (12.000 has.)

Argentina (forestry + beef cattle)



Improving land use,

combining complementary enterprises under SPS schemes **Colombia and Paraguay** (Palm oil / Soy bean vs. sustainable cattle ranching)



Sustainable land use alternatives (WWF)

Next steps

 In order to better define critical periods and main cash flow needs, a detailed analysis of level of investment is required, as well as for risk evaluation.

2. At local level, will be necessary to **increase coverage of case studies**, where regional and production system differences and farmers reactions, can be measured and illustrated when adopting SPS.

3. It will be also essential to analyze the **impact of financial and incentive measures**, when adopting SPS.

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Thanks

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