LifeRegen Farming

LIFE REGEN FARMING - Demonstration of a sustainable agricultural and livestock soil management alternative

LIFE12 ENV/ES/232

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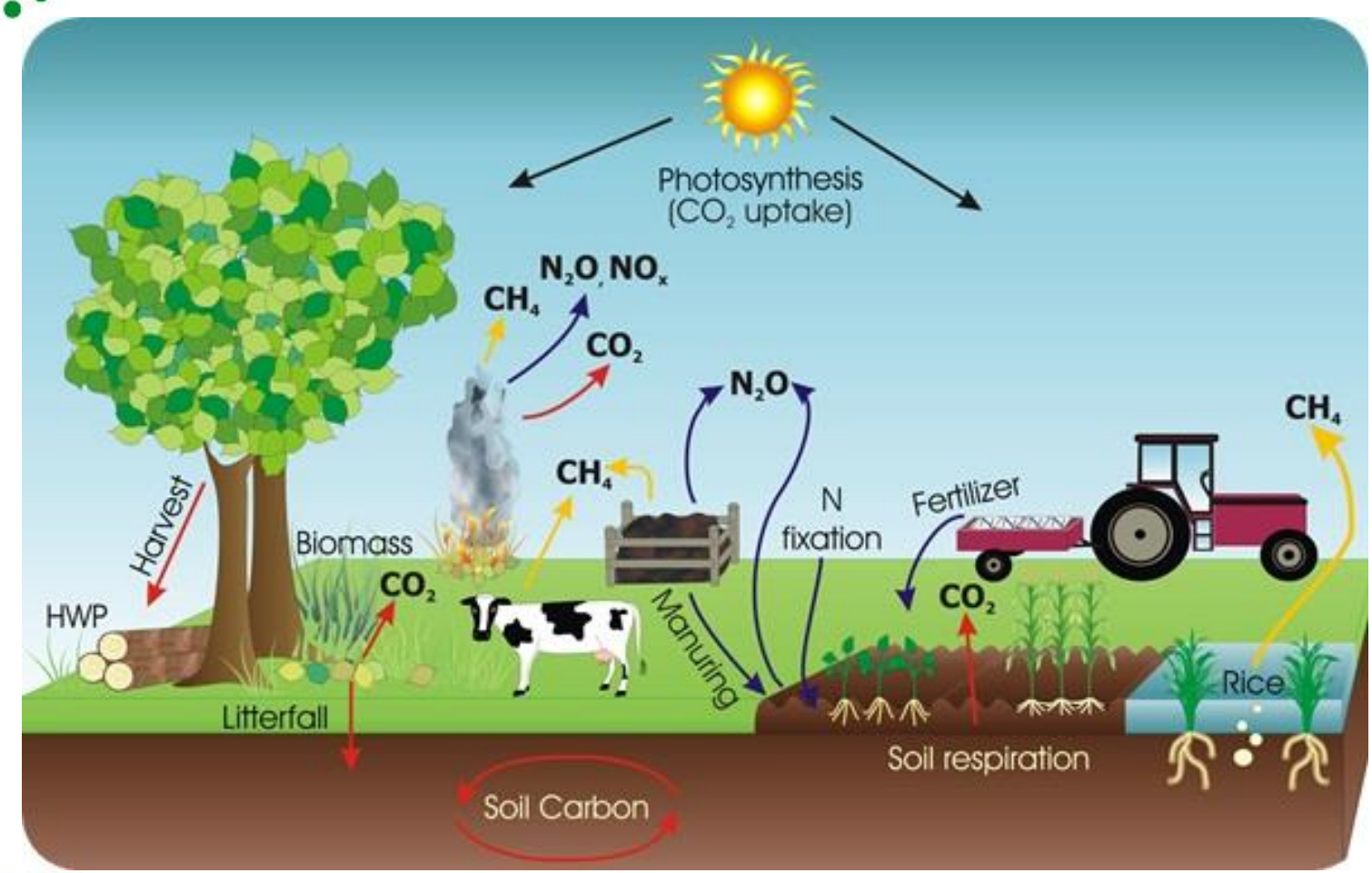
Brusels, 1st of June 2017

LifeRegen Farming



*Sources and sinks of GHG emissions in agriculture, forests, and other land use systems (**IPCC 2006**)*

LifeRegen Farming

- Objective: to test the viability and effectiveness of the management of pastures based on the regenerative agriculture principles, as well as to disseminate and transfer the results obtained.
  - Increase grazing time with "Planned grazing"
  - NO inorganic fertilizer, only manure
  - Avoid tillage/soil plough by direct pasture sowing

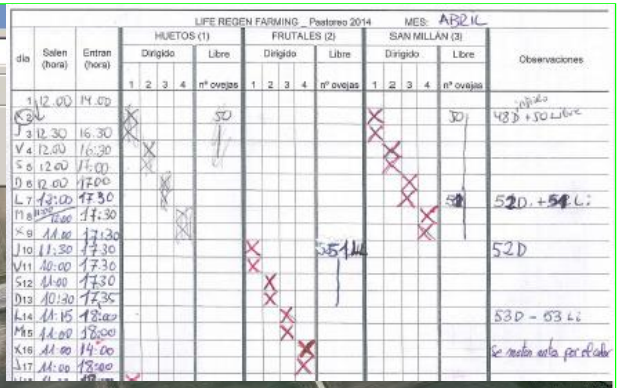
- 2013-2016: Monitoring
  - Dairy sheep: 2 experimental Latxa breed flocks.
  - Beef cattle: 4 commercial farms, organic.

Planned Grazing

Experimental Flock
Latxa Dairy Sheep
Arkaute, Northern Spain

Spring and autumn 2014-16

2014-15	Continuous	Planned
Grazing days/paddock	7±1	10±2
Resting days/paddock	15±3	24±2
Grazing times/paddock (spring)	4	3



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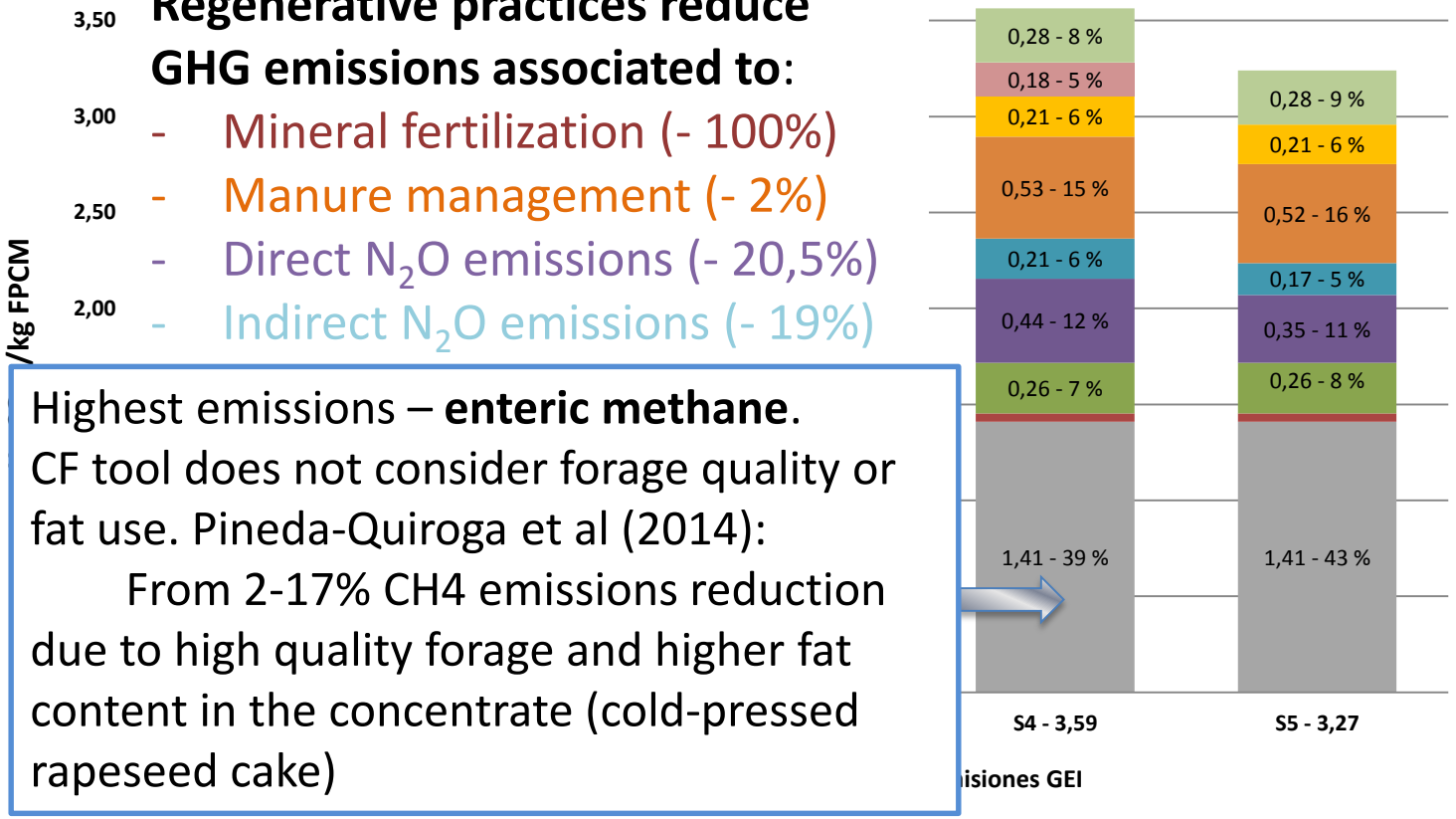
Carbon footprint (-10%)

Regenerative practices reduce GHG emissions associated to:

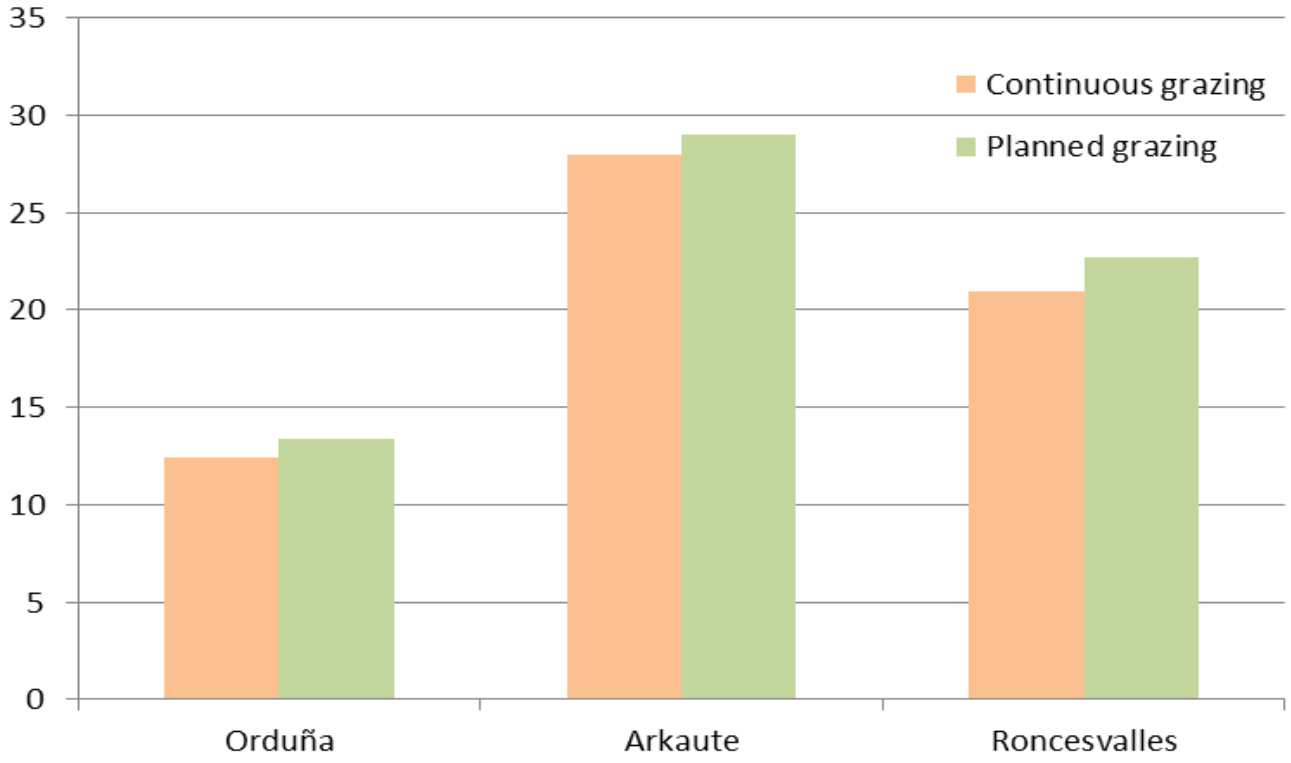
- Mineral fertilization (- 100%)
- Manure management (- 2%)
- Direct N_2O emissions (- 20,5%)
- Indirect N_2O emissions (- 19%)



Highest emissions – **enteric methane**.
CF tool does not consider forage quality or fat use. Pineda-Quiroga et al (2014):

From 2-17% CH4 emissions reduction due to high quality forage and higher fat content in the concentrate (cold-pressed rapeseed cake)

Soil - Carbon fixation: POM (+7%)



Particulate organic matter: soil organic matter between 0.053 mm and 2 mm in size; includes partially decomposed soil detritus and plant material, pollen, and other materials. POM is readily decomposable and serves as a source of food or energy for soil organisms and nutrients for plants. POM also enhances soil structure leading to increased water infiltration, aeration and resistance to erosion.

Lessons learnt:

- Potential of grasslands and livestock to reduce emissions and fix carbon in the soil
- Suitability of regenerative practices: depend on the farming system and land resources
  - Accessibility to plots
  - Meat vs. dairy systems

Nowadays:

- Longer term impact assessment
- Transfer and implementation in commercial farms

GAPS & BARRIERS

Specialization: CROPS vs LIVESTOCK

- How to foster linkage livestock – agriculture?

Consider grazing management practices into environmental services payment schemes

- Monitoring

http://regenfarming.eu/