

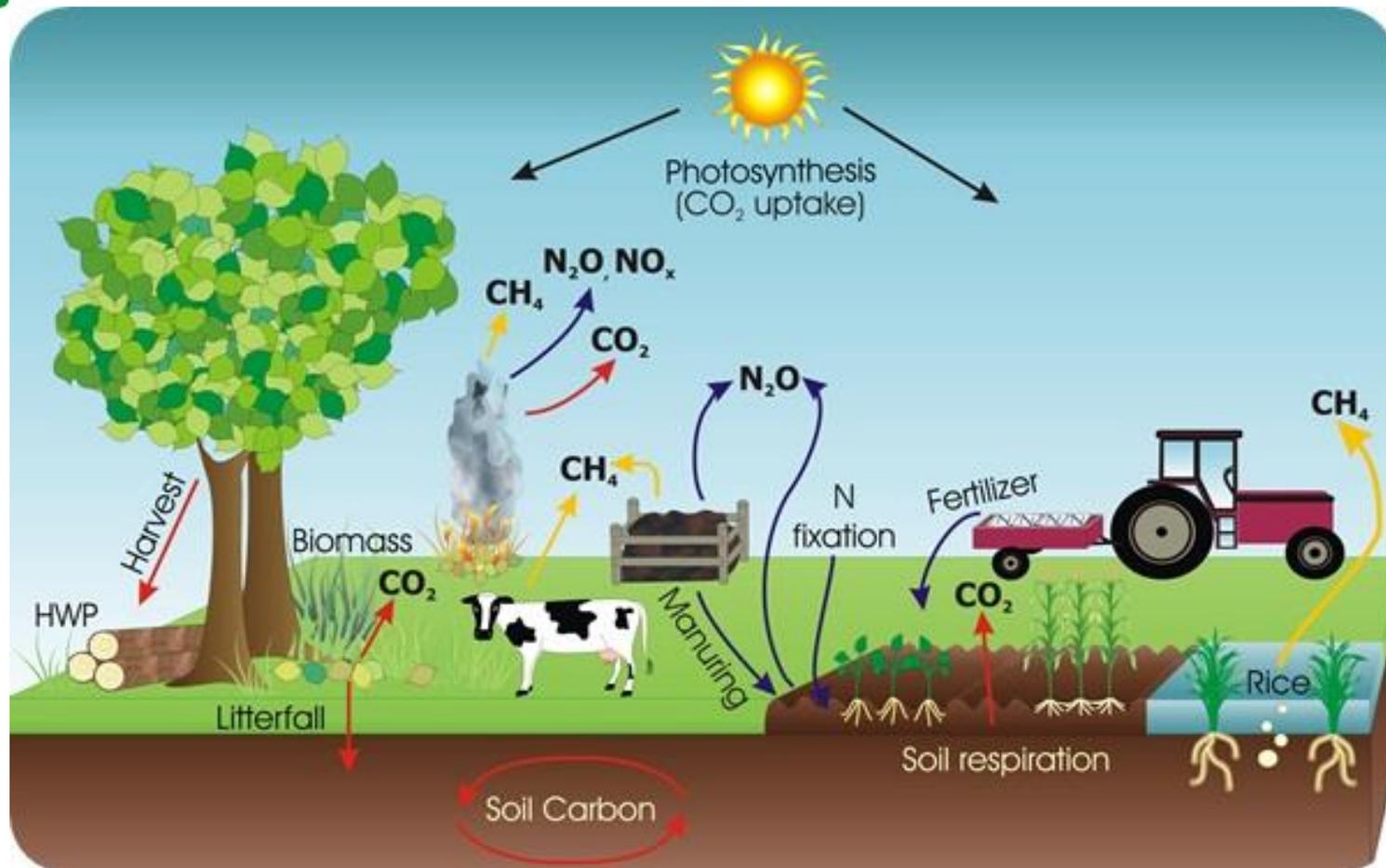
**LIFE REGEN FARMING - Demonstration of a
sustainable agricultural and livestock soil
management alternative
LIFE12 ENV/ES/232**

**R. Ruiz and N. Mandaluniz
Brussels, 1st of June 2017**





LifeRegen Farming



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



- **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

El uso, delimitación gráfica u otros atributos de los recintos que aparecen en el SIGPAC tienen por objeto facilitar al agricultor la cumplimentación de su solicitud de ayudas de la PAC. Cuando el uso que aparece en el SIGPAC sea distinto del uso real, el agricultor debe realizar su solicitud de ayuda en base a este último, el real, debiendo comunicar la incidencia al servicio competente de su Comunidad Autónoma.

Datum: ETRS89
Latitud: 42° 51' 21.08" N
Longitud: 2° 37' 8.55" W
Huso UTM: 30
Coordenada X: 531.123.76 m
Coordenada Y: 4.744.878.52 m
Nivel: 17
Versión 6.8.4

Inicio | Garmin ANT Agent(tm) | ORTOFOTOS | VisorSigPac - Window... | 13:35

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

LIFE REGEN FARMING - Pastoreo 2014										MES: ABRIL	
dia	Salen (hora)	Entran (hora)	HUETOS (1)				FRUTALES (2)				Observaciones
			Dirigido	Libre	n° ovejás	Dirigido	Libre	n° ovejás			
1	12:00	14:00									
2	12:30	16:30	X		50				X		43 D + 50 L 6°C
3	12:00	16:00	X						X		
4	12:00	17:00	X						X		
5	12:00	17:00	X						X		
6	12:00	17:00	X						X		
7	12:00	17:30	X						X		52 D + 54 L
8	12:00	17:30	X						X		
9	12:00	17:30	X						X		
10	11:30	17:30									
11	10:00	17:30									52 D
12	11:00	17:30									
13	10:30	17:30									
14	11:15	18:00									53 D - 63 L
15	11:00	18:00									
16	11:00	19:00									
17	11:00	18:00									



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LifeRegen
Farming





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Farming



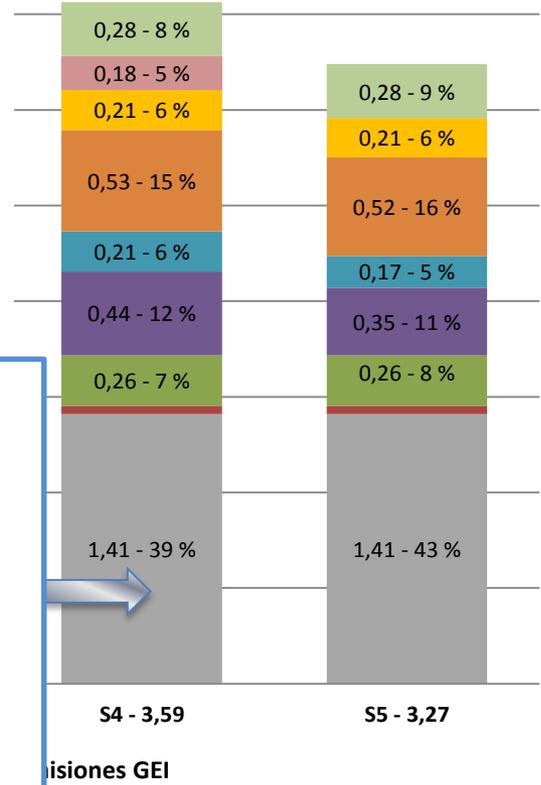


Carbon footprint (-10%)

Regenerative practices reduce GHG emissions associated to:

- Mineral fertilization (- 100%)
- Manure management (- 2%)
- Direct N₂O emissions (- 20,5%)
- Indirect N₂O emissions (- 19%)

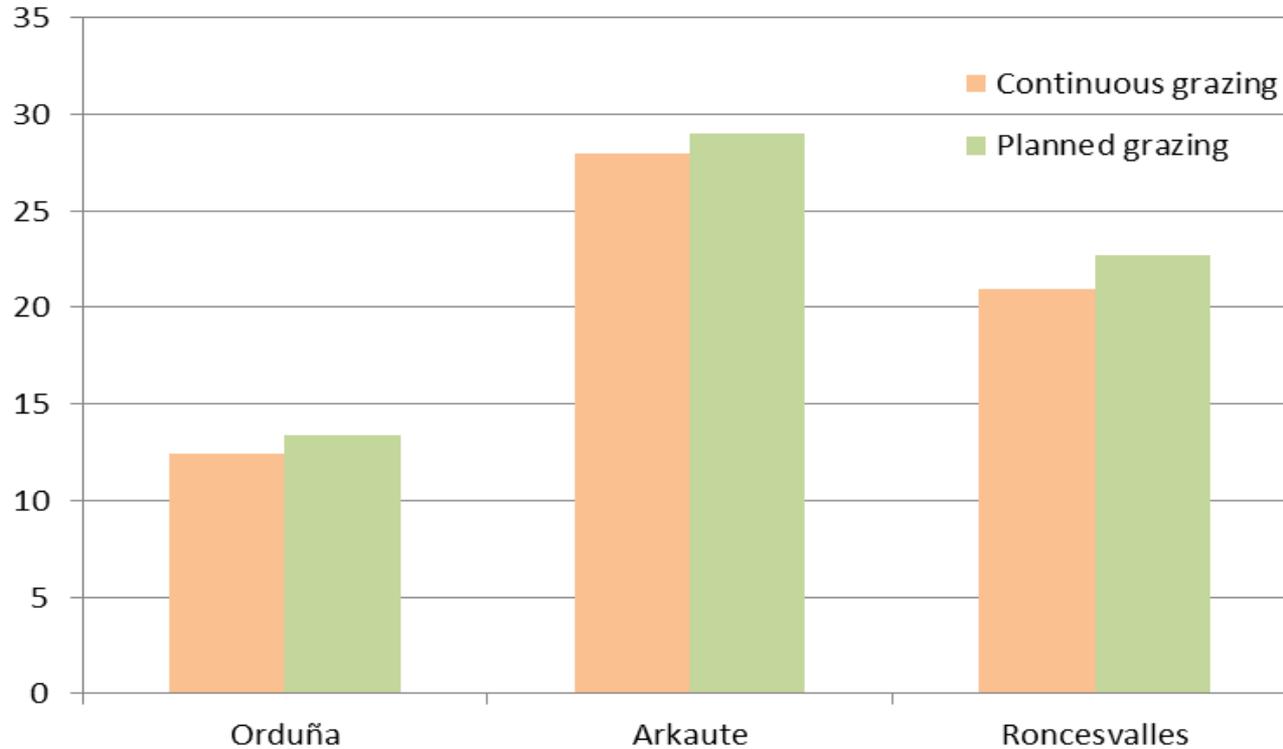
Highest emissions – **enteric methane**.
 CF tool does not consider forage quality or fat use. Pineda-Quiroga et al (2014):
 From 2-17% CH₄ emissions reduction due to high quality forage and higher fat content in the concentrate (cold-pressed rapeseed cake)



- FERMENTACIÓN ENTÉRICA (Kg CH4)
- GESTIÓN DE ESTIÉRCOL (Kg CH4)
- GESTIÓN DE ESTIÉRCOL (Kg N2O)
- EMISIONES DIRECTAS DE N2O
- EMISIONES INDIRECTAS DE N2O
- COMPRA DE CONCENTRADOS
- COMPRA DE FORRAJES
- FERTILIZANTES MINERALES
- CONSUMO ENERGÉTICO



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/>



THANK YOU

