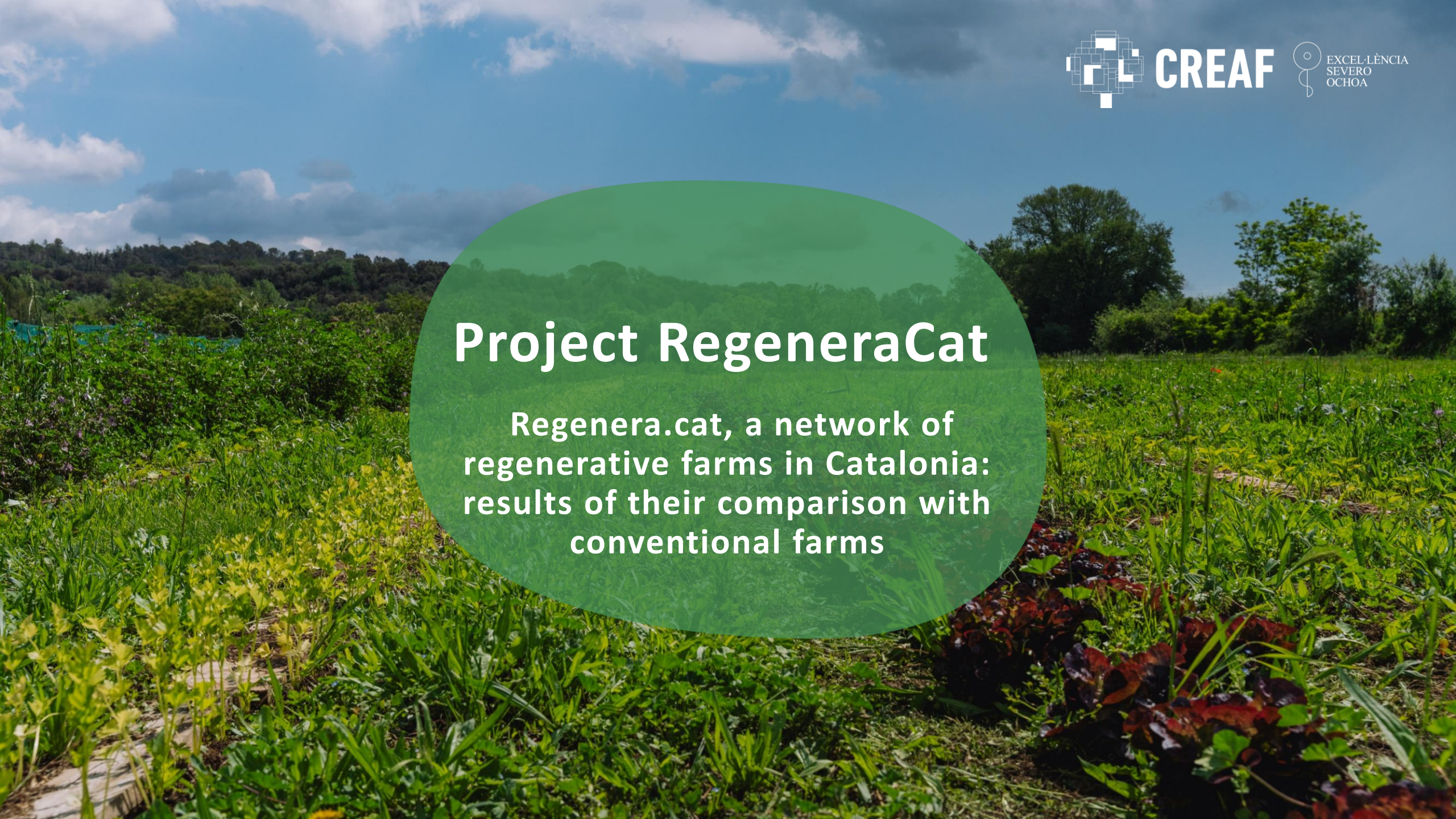



# Project RegeneraCat

## Regenera.cat, a network of regenerative farms in Catalonia: results of their comparison with conventional farms

# Creating a completely regenerative farm in the Mediterranean

MAIN OBJECTIVE

- In 2016, with the initial help of the LIFE POLIFARMING project, **we started the creation of a completely regenerative farm** in Catalonia.
- **Planeses Regenerative Agriculture** (Sant Ferriol Girona) is a pilot farm demonstrating a regenerative food production model for the Mediterranean climate.
- **The collaboration between a small farm (Planeses) and a research center (CREAF)** has enabled the demonstration, under real-world conditions, of a high quality production system with low inputs that addresses the challenges of climate change mitigation, biodiversity loss, and pollution from chemicals and plastics.
- **Three systems are highlighted on the farm**: milk production with 100% pasture-fed cows, a regenerative garden with zero inputs, and egg production with recycling hens.

# Creating a completely regenerative farm in the Mediterranean

MAIN OBJECTIVE

CREAF EXCEL·LÈNCIA SEVERO OCHOA

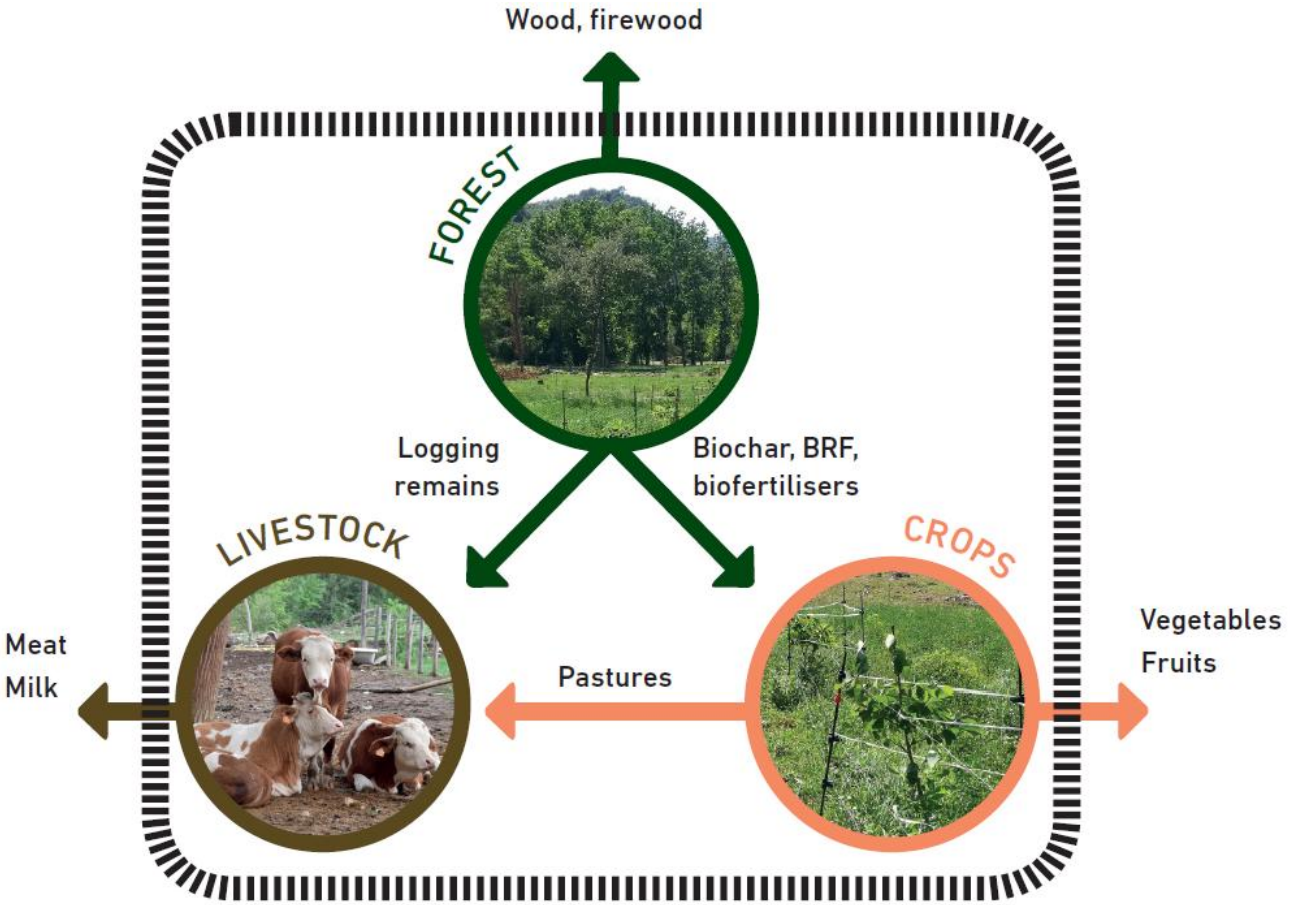
PLANESES agricultura regenerativa

Marc Gracia

Planeses, Girona, Catalonia

# The POLYFARMING system in the Planeses farm

The Polyfarming system: a multifunctional and integrated agro-silvo-pastoral management



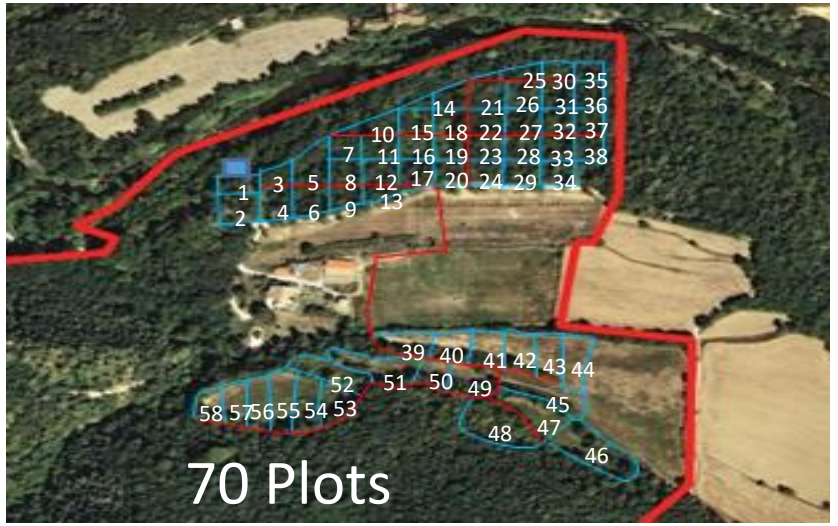

polyfarming

# The different elements in the Planeses farm


(1) Cows on pasture (2) Small animals (3) Regenerative orchard (4) Forest

# The cows on the pasture





# Small animals on the pasture


Chickens


Mobile plots


Daily movement

# Recycling hens in mobile coops


Mobile coops

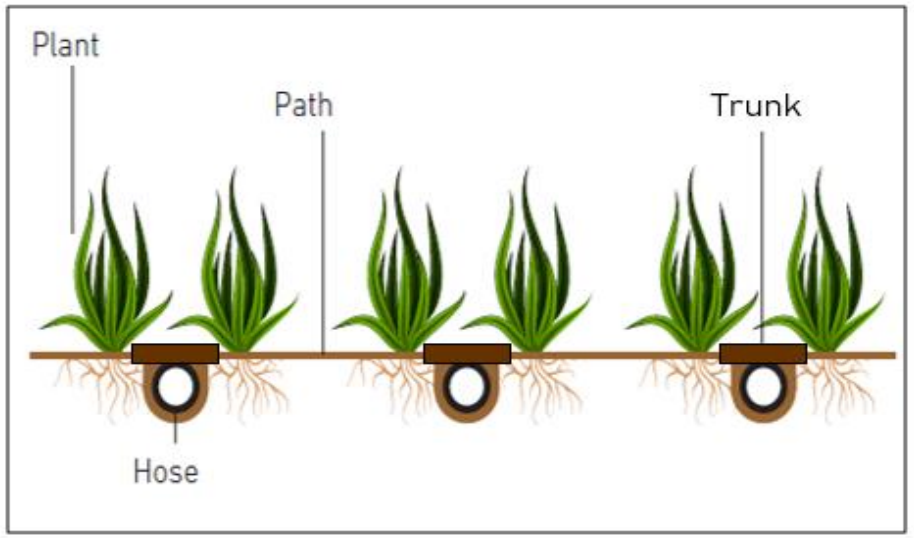

Hens in the orchard


Hens in the orchard

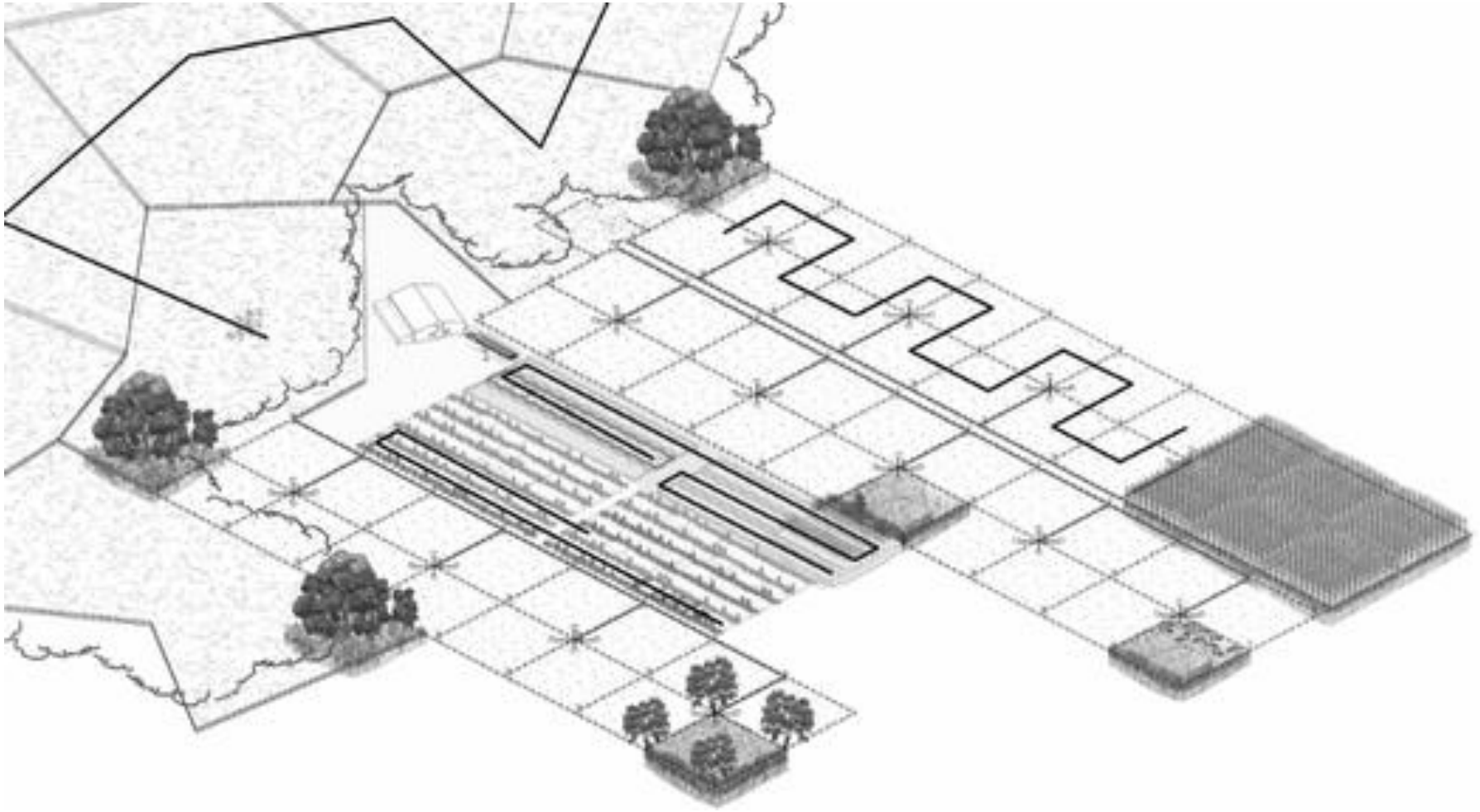
# Completely regenerative orchard

- No tillage.
- No insecticides, herbicides or chemical fertilizers.
- Crop rotation in space and time.
- Management of weed plants.
- Use of forest resources (trunks, …).
- Use of biofertilizers produced on the farm.

# Completely regenerative orchard




# How does the Planeses farm work?



# Flows between uses of the Polyfarming system: no external inputs

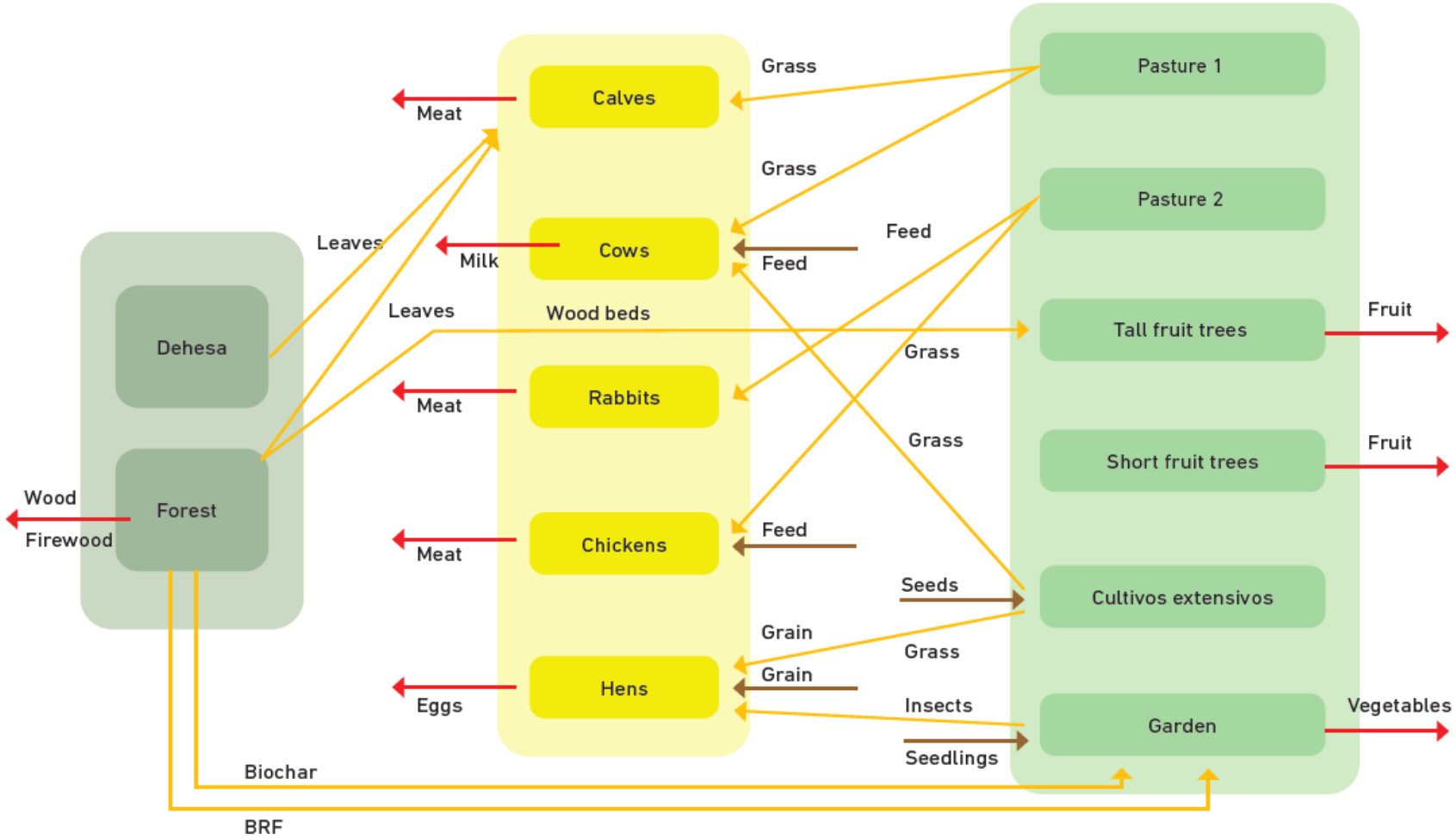
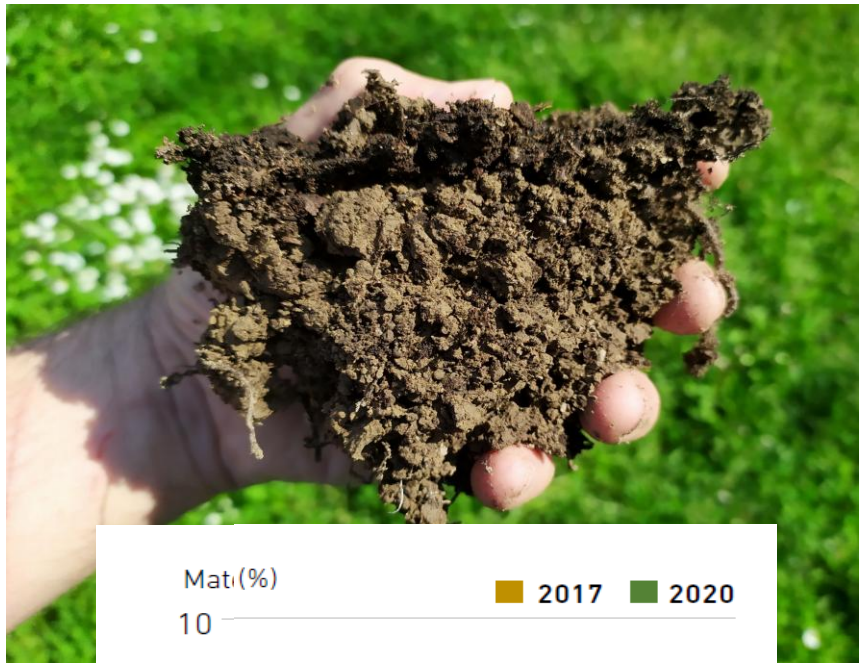
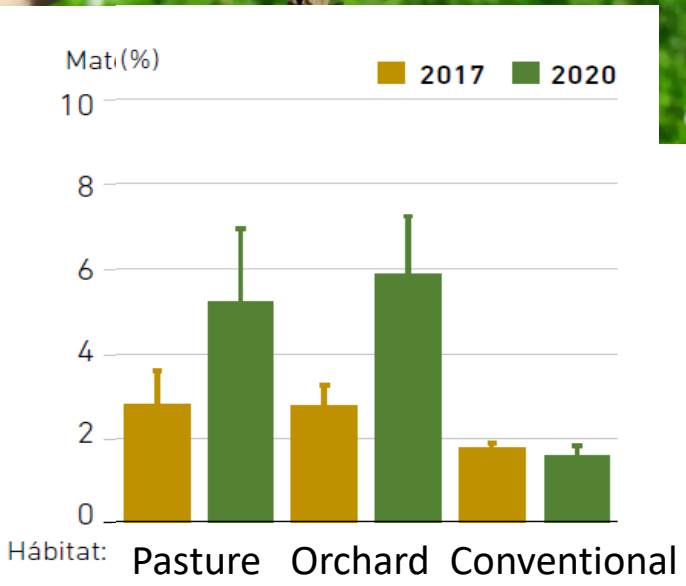


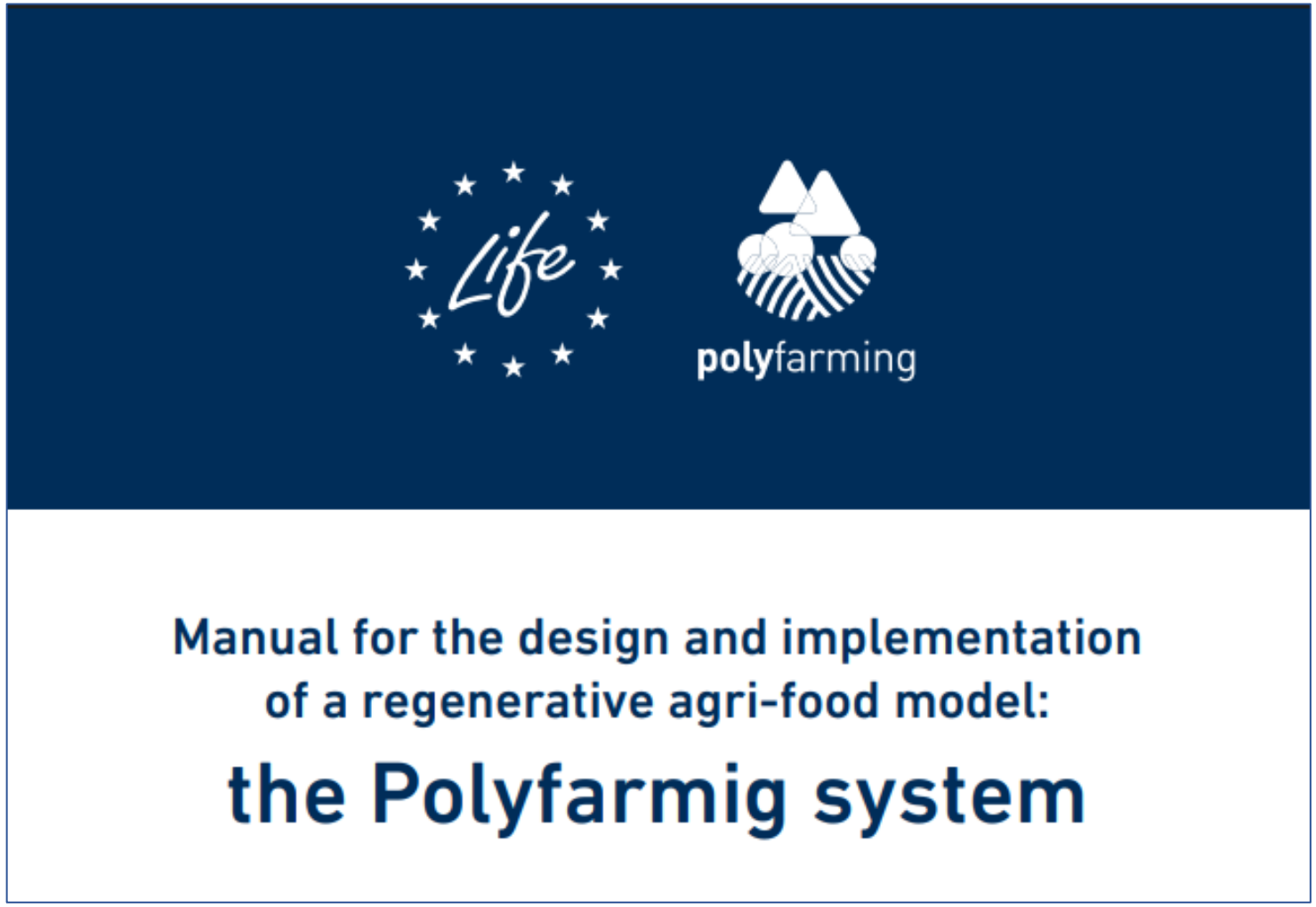

**Figure 2.** Circulation of products between the different elements of the Polyfarming system. Final products or outputs, red arrow; intermediate products between elements, orange arrow; products coming from outside or inputs, brown arrow. Uses: forestry (dark green), agricultural (light green) and livestock (yellow).

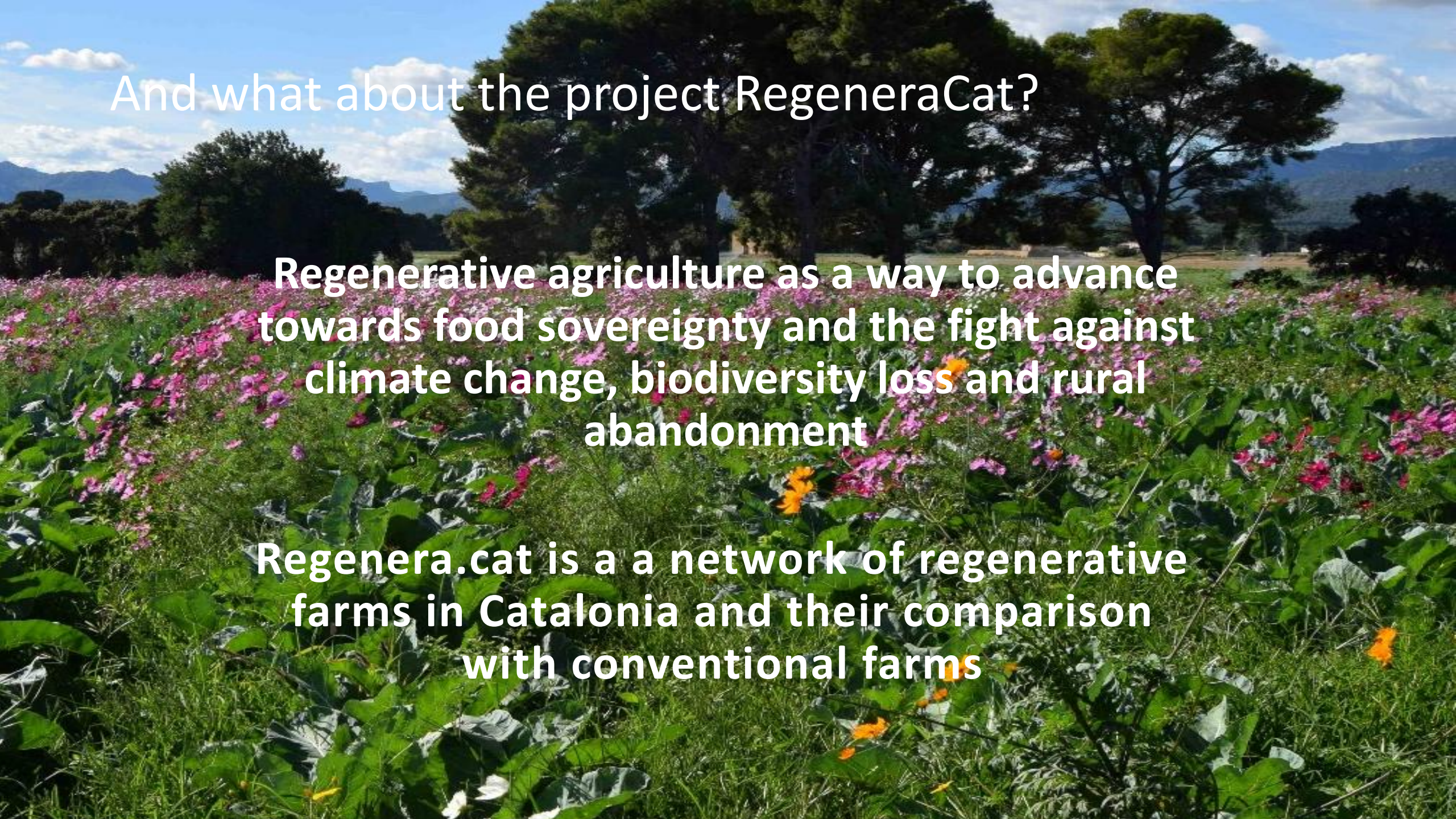
# Key impact: there is a great improvement in organic matter and soil fertility






# A free manual in Spanish and English with all the information about the Polyfarming system





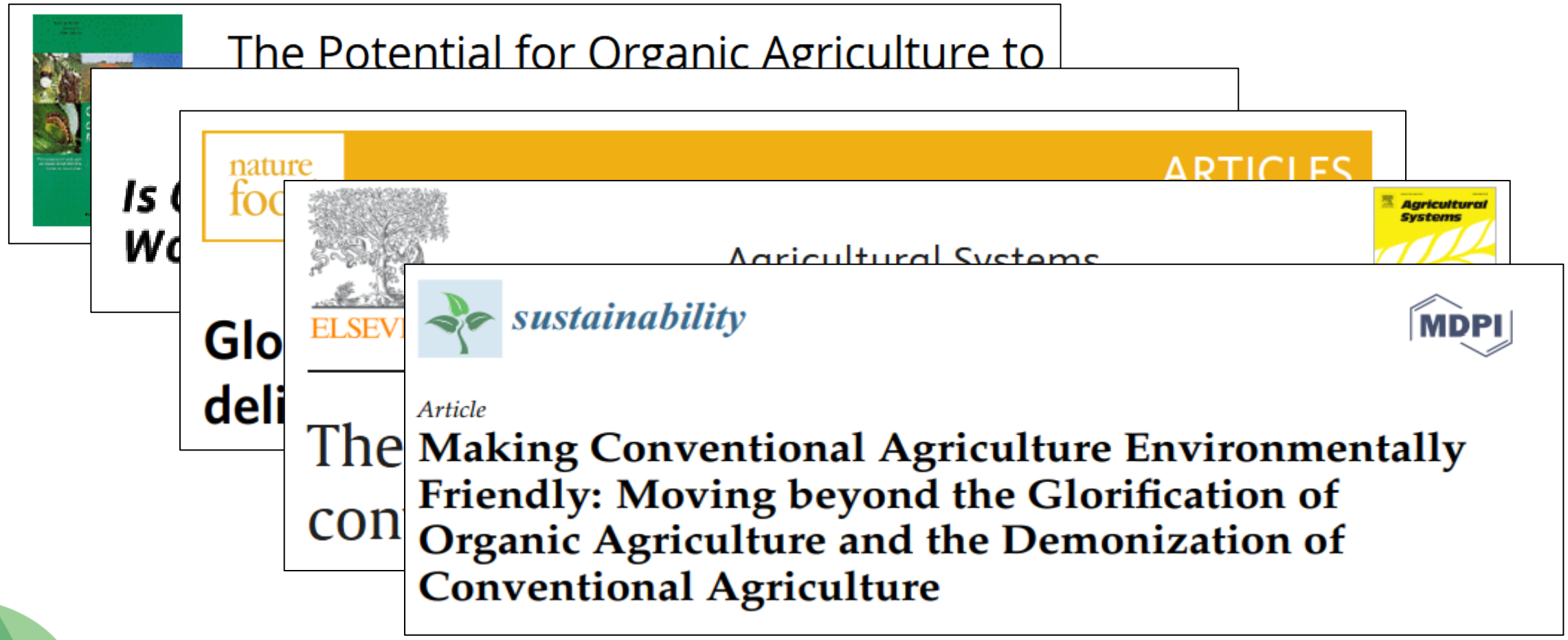
# And what about the project RegeneraCat?

**Regenerative agriculture as a way to advance towards food sovereignty and the fight against climate change, biodiversity loss and rural abandonment**

**Regenera.cat is a a network of regenerative farms in Catalonia and their comparison with conventional farms**

# Criticisms of “non conventional" agriculture

Scientific literature considers that the potential of “non conventional" agriculture to feed the world have been overestimated, even considered as an unjustified luxury...

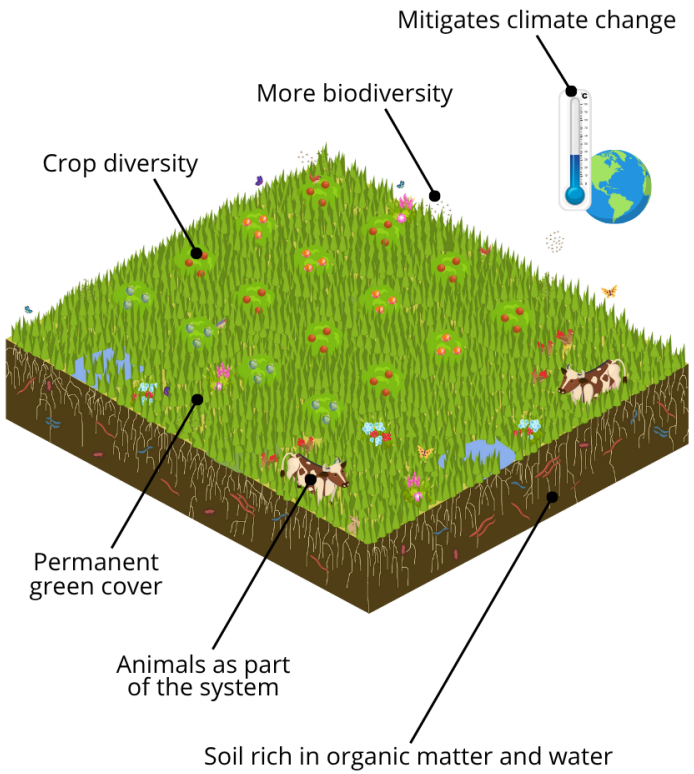


# Comparing regenerative and conventional farms

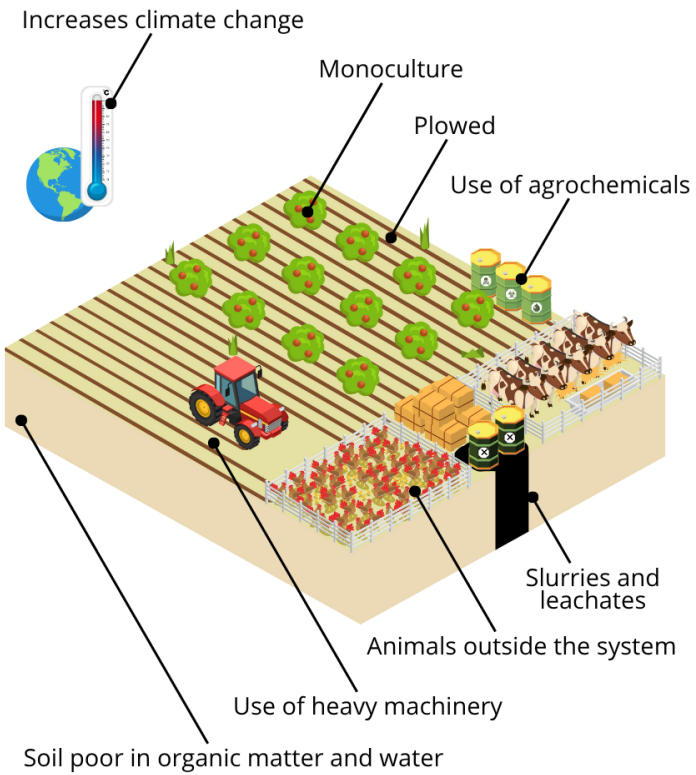
There are almost no studies that compare regenerative and conventional agriculture.

In the RegeneraCat project, we have compared pairs of similar farms of the same crop managed in conventional and regenerative model.

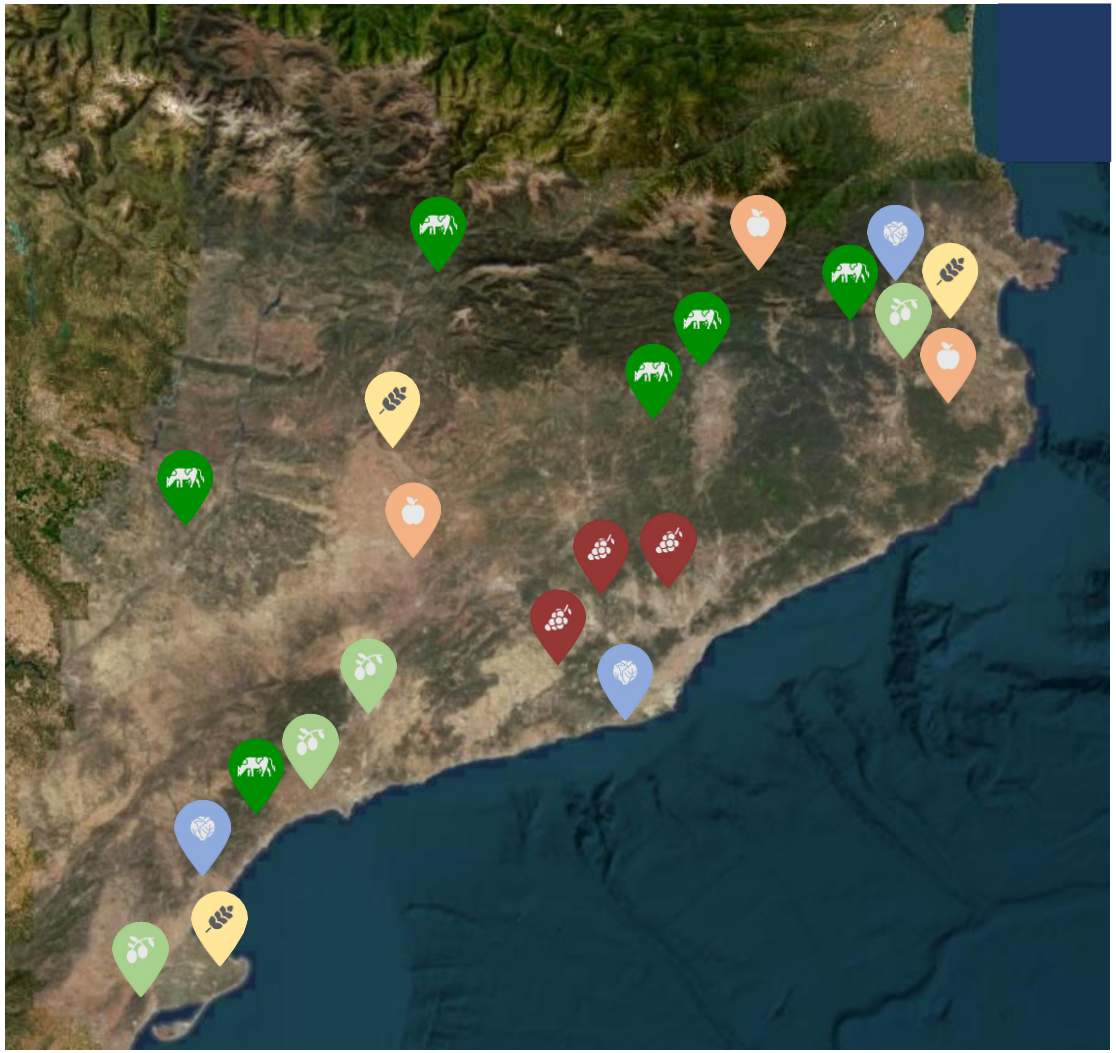
**Regenerative**




**Conventional**



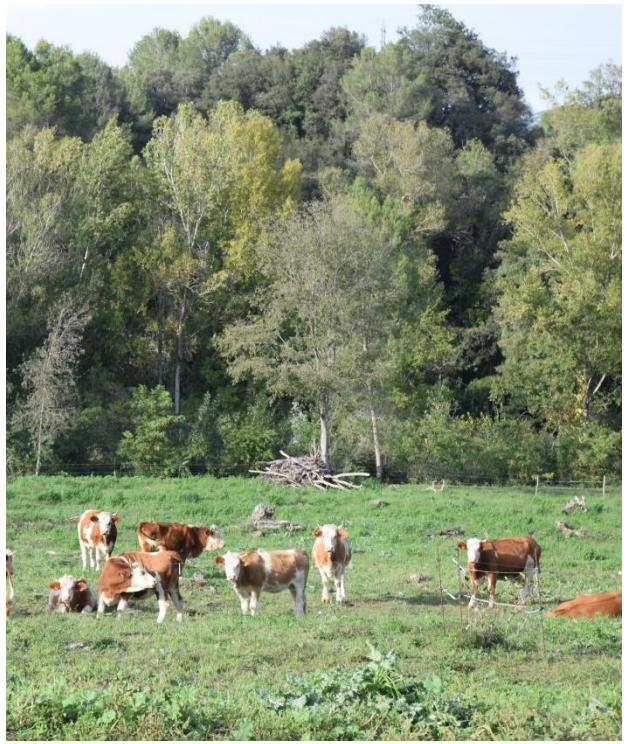
# Regenerative farms in Catalonia



In Spain, and in particular in Catalonia, we already have different farms that work with the regenerative model and that show that it is possible.

# Regenerative farms in Catalonia

Today we will focus on the results we have obtained in the project in three of them.



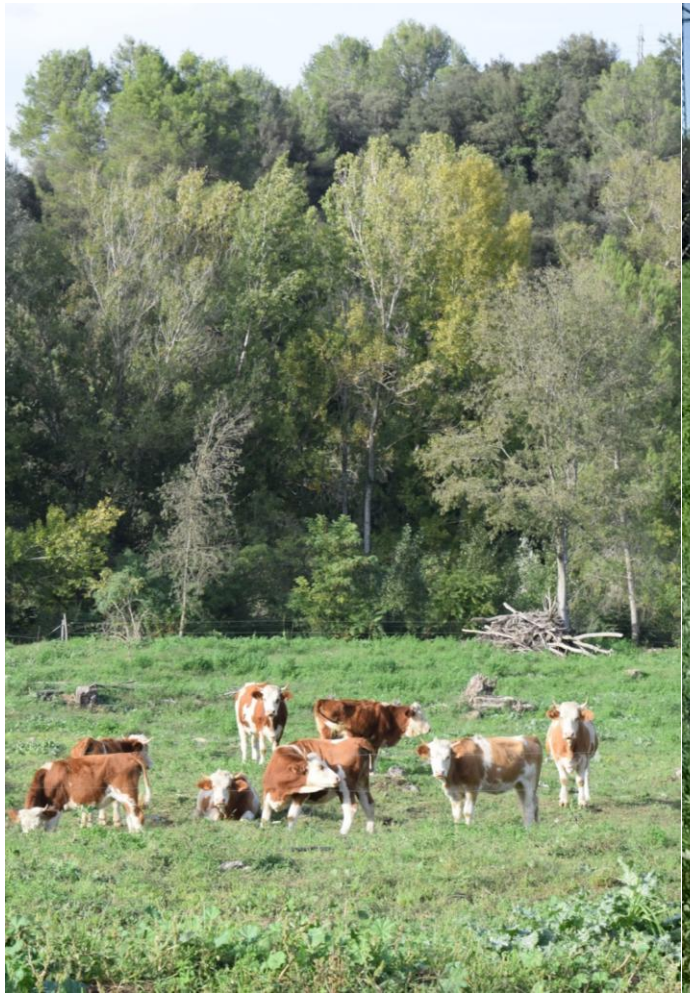
# Mas Planeses

## Regenerative pastures in Sant Ferriol (Girona)

# Mas Planeses

## Pastures with cows in Planeses

- The herd grazes on a different plot every day.
- Fertilization is done with the cows' own excrement.
- There is no need to move the feed to where the cows are.

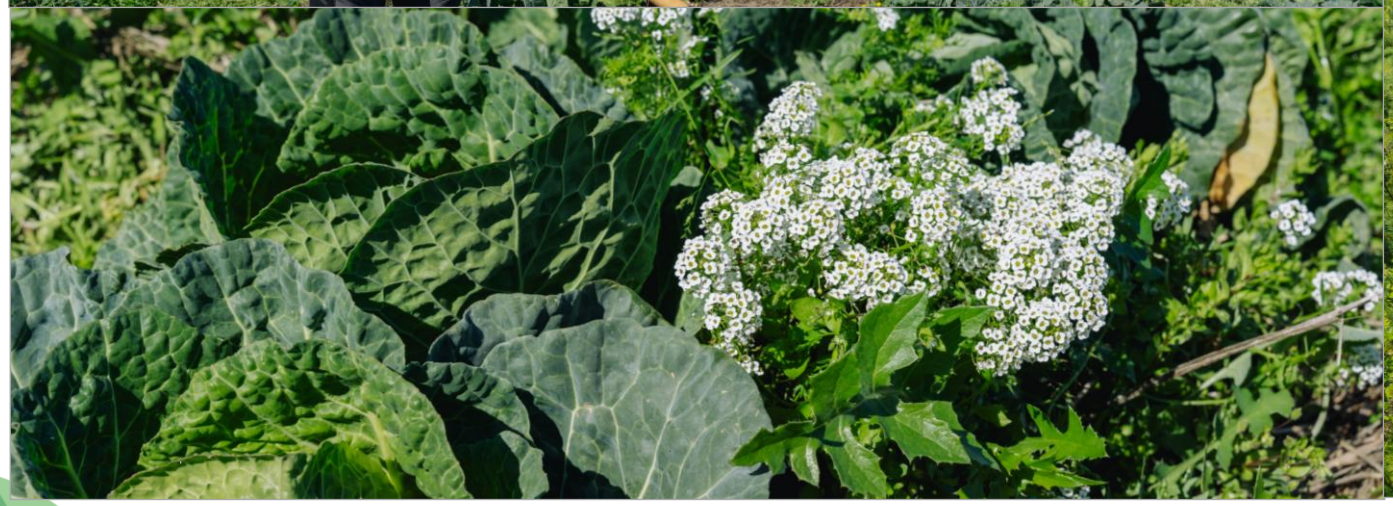


## Alfalfa field in Can Vinyals

- Alfalfa grows throughout the entire period and is cut when it reaches a sufficient size.
- Bales are made and transported to the stable for the animals to eat.
- At the end of the season, the entire field is fertilized.

# VerdCamp Fruits

## Regenerative horticulture in Cambrils (Tarragona)

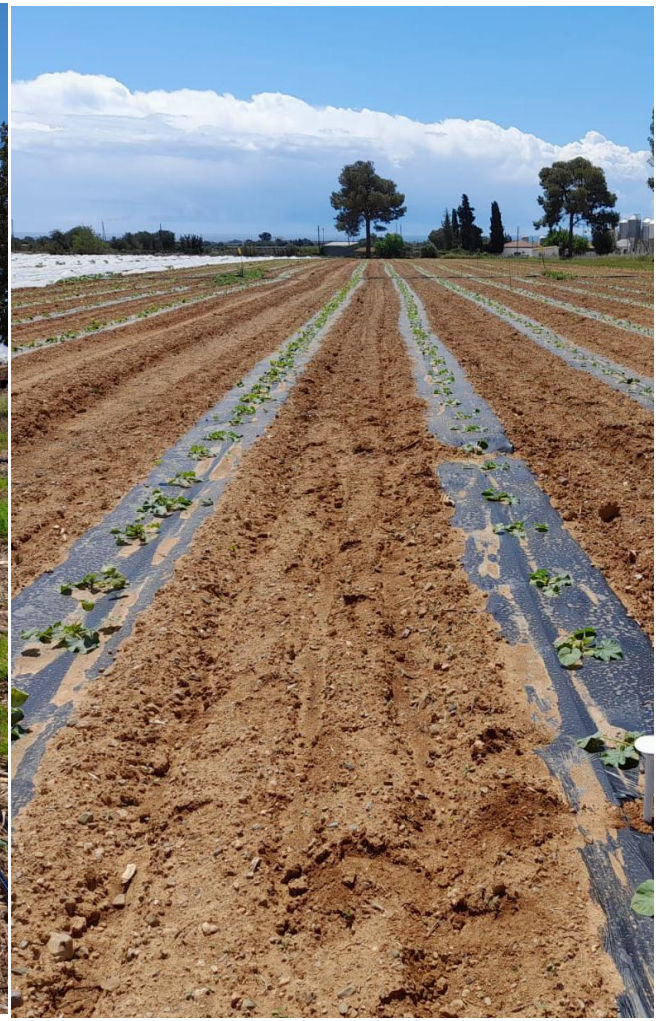


# VerdCamp Fruits

## Regenerative culture of zucchini

- They do not plow or remove the plant remains present.
- They use a rammer to trample the plant remains present.
- They apply ecological phytochemicals.
- They remove the weeds by hand.
- They apply drip irrigation.

## Conventional culture of zucchini



- They plow and apply fertilizer to the entire area before planting.
- They apply phytochemicals and traditional fertilizers.
- They place biodegradable plastics.
- They apply drip irrigation.

# Pomona Fruits

## Regenerative fruit production in Ivars d'Urgell (Lleida)

# Pomona Fruits

## Regenerative culture of pears

- They do not plow in the areas between trees.
- They cut the grass or bring a flock of sheep.
- They put boxes to pollinate the pear trees.
- They add different organic products.
- They use machinery in different tasks.

## Conventional culture of pears

- They plow in the areas between trees.
- They add herbicides and other phytosanitary products.
- They use machinery in different tasks.

# Main aspects analyzed between the conventional and regenerative farms



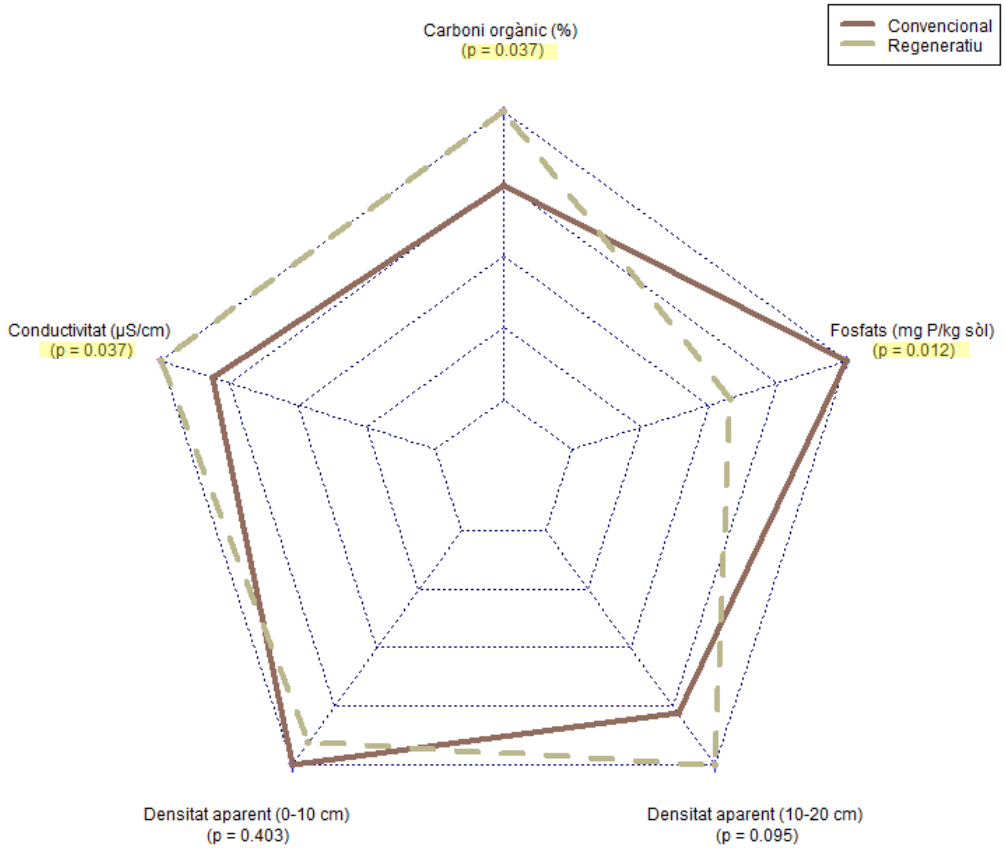





# Some results obtained until now

## Soil characteristics and fertility

Pomona Fruits (poirs)

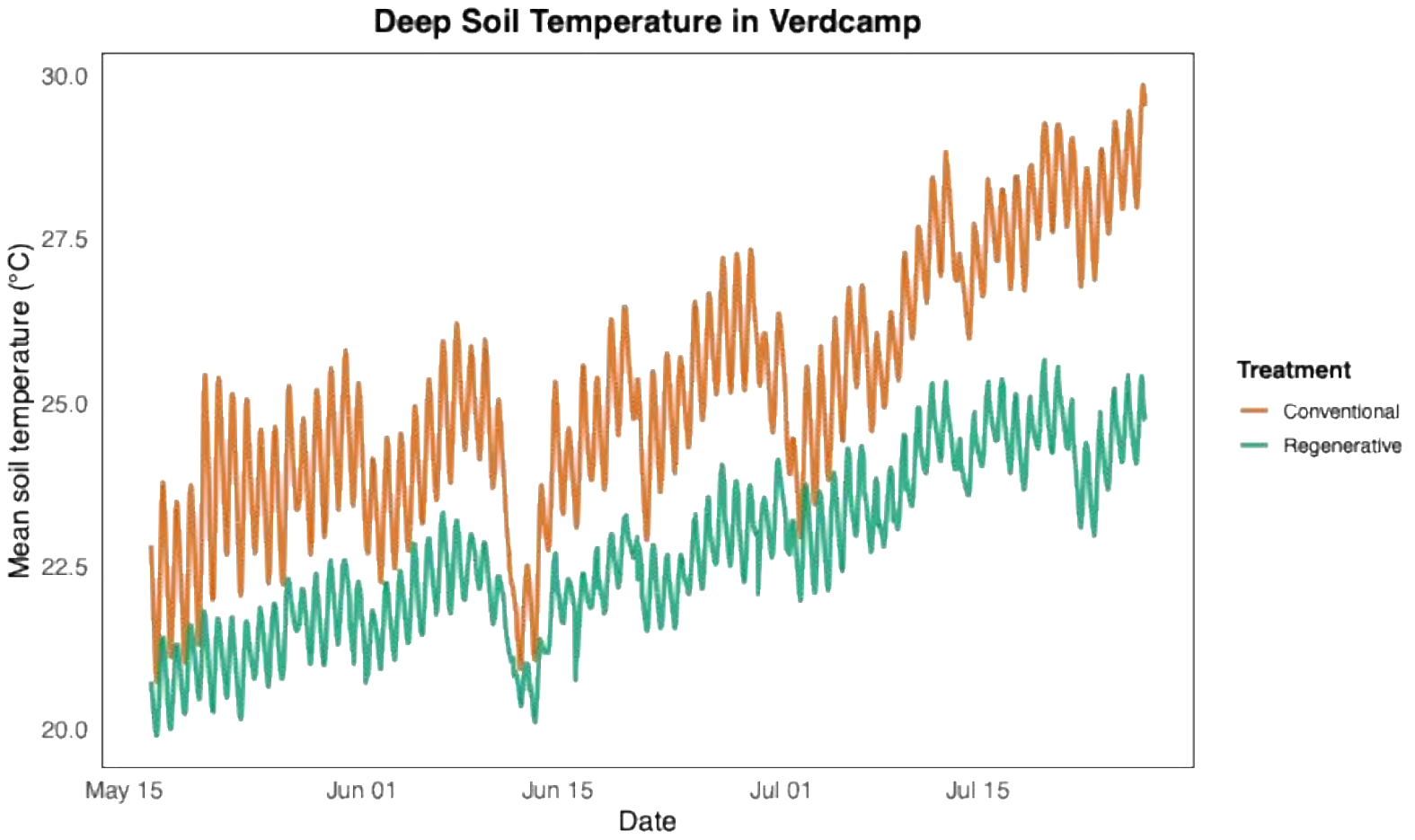



Pairwise Mann-Whitney test

# Some results obtained until now

## Meteorological variations in the soils – deep temperature

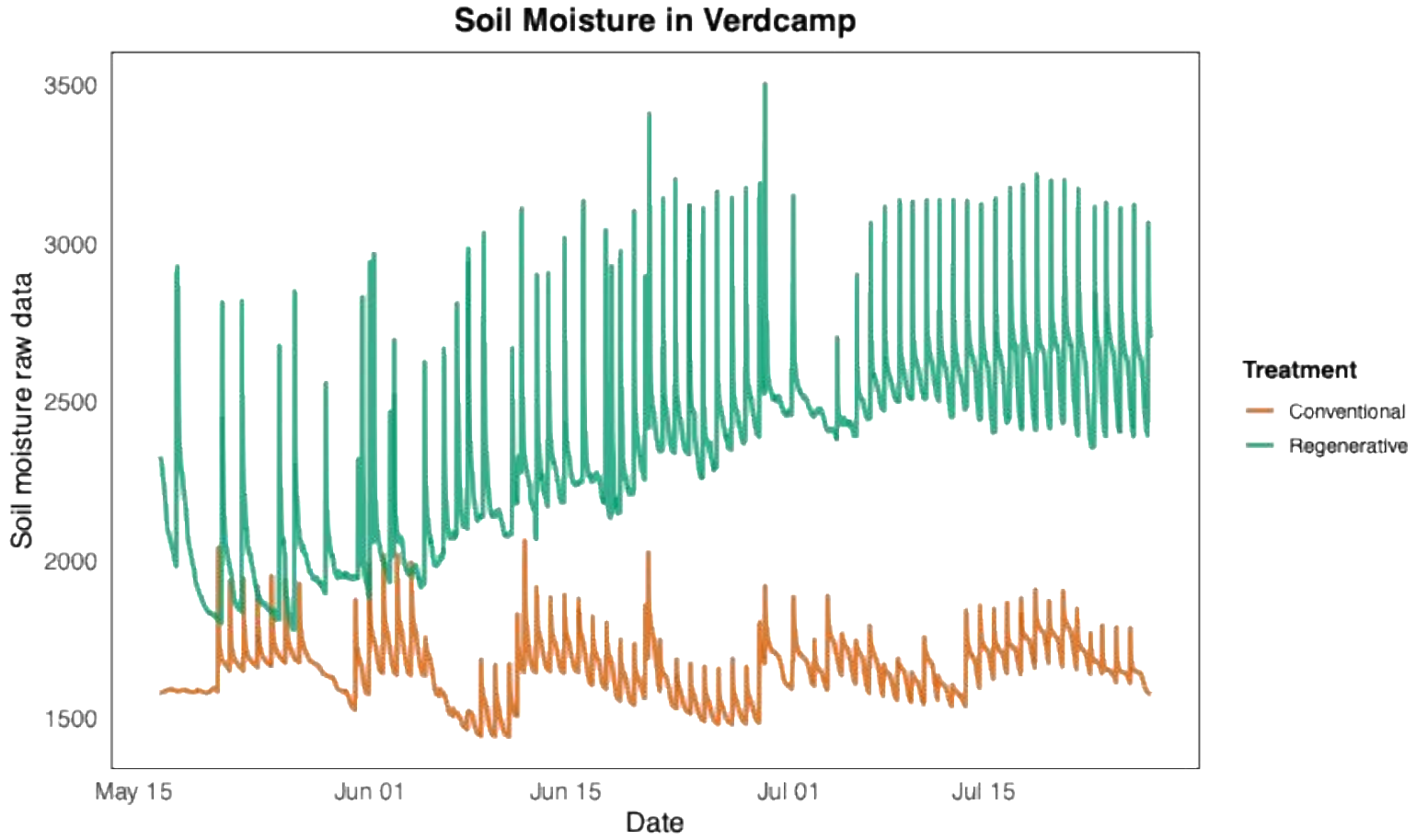
Verdcamp Fruits (orchard)




# Some results obtained until now

## Meteorological variations in the soils – soil moisture

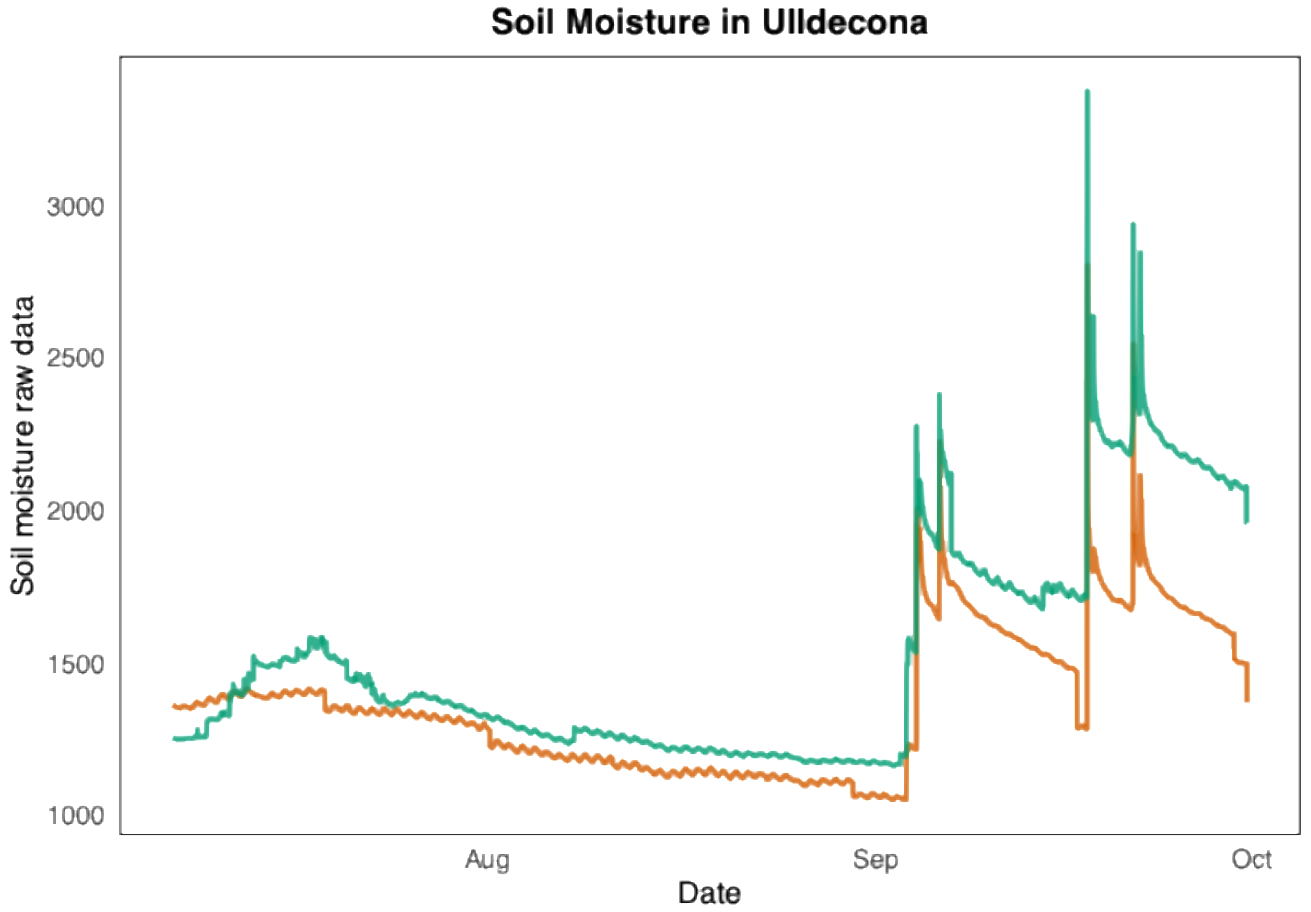
Verdcamp Fruits (orchard)




# Some results obtained until now

## Meteorological variations in the soils – soil moisture

Ulldecona
(olive trees)




# Production data

**ZUCCHINI**

**PEAR**

**MILK**

Selection of several replicas per product

Measures of production

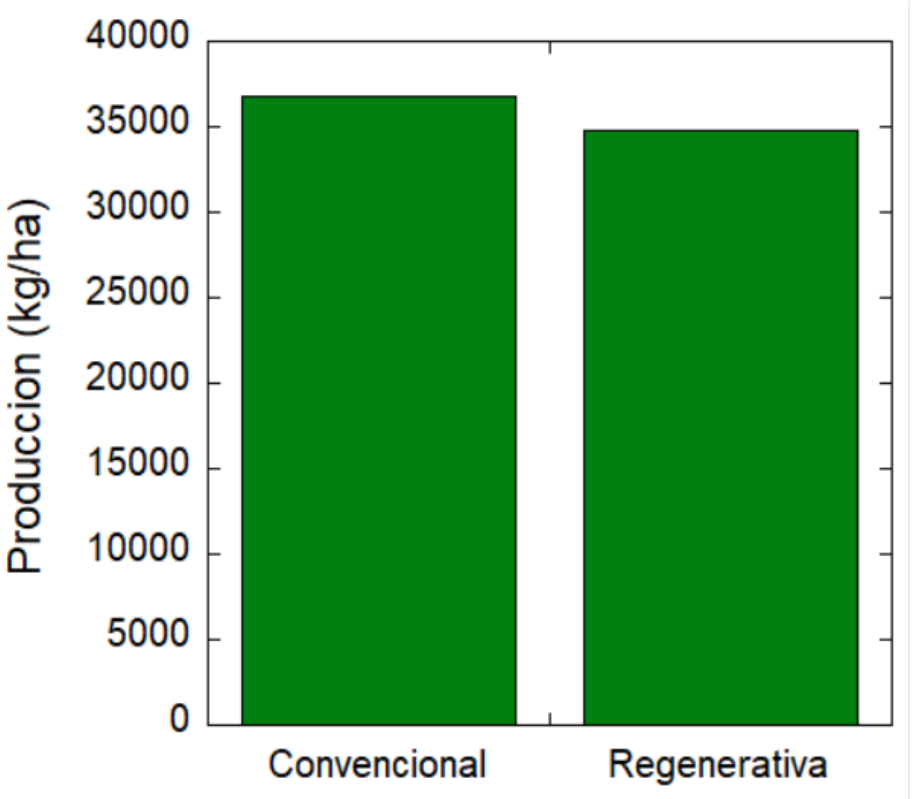
# Production data

2024

Conventional

Zucchini
(Verdcamp Fruits)

Similar production in the two farms




Regenerative

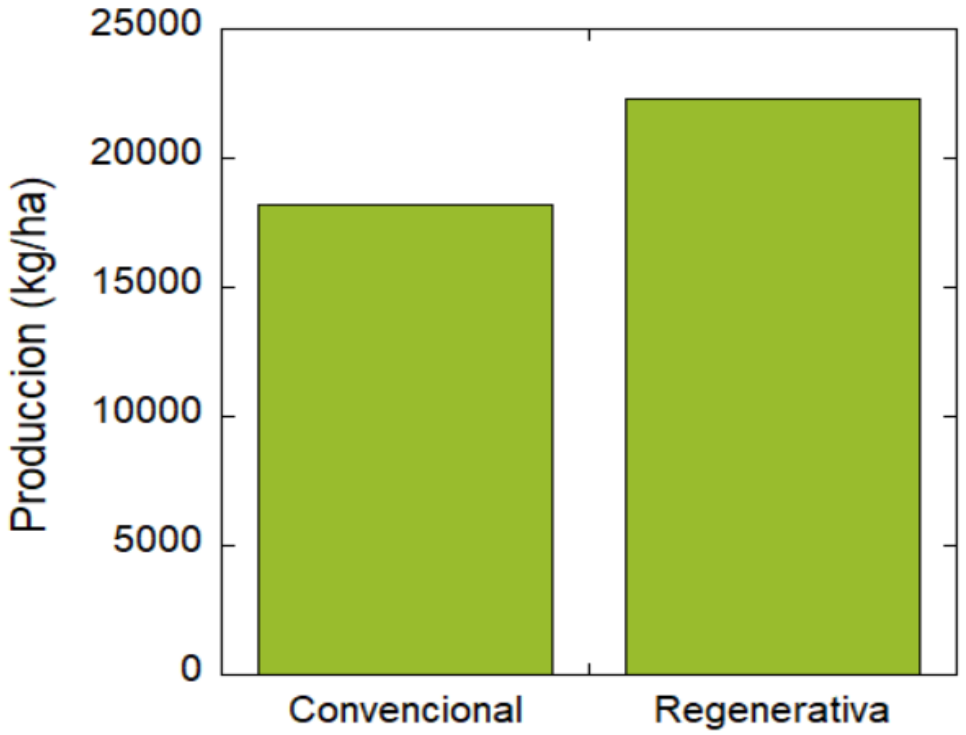
# Production data

2024

Conventional

Pears
(Pomona Fruits)

Major production in the Regenerative



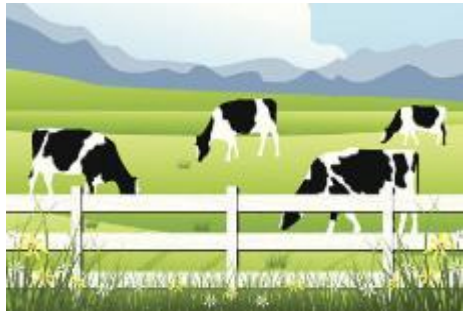

Regenerative

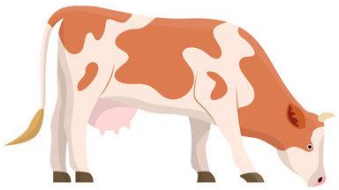
# Production data

2024

## Planeses - pastures

Regenerative farm





Milk production

Conventional farm

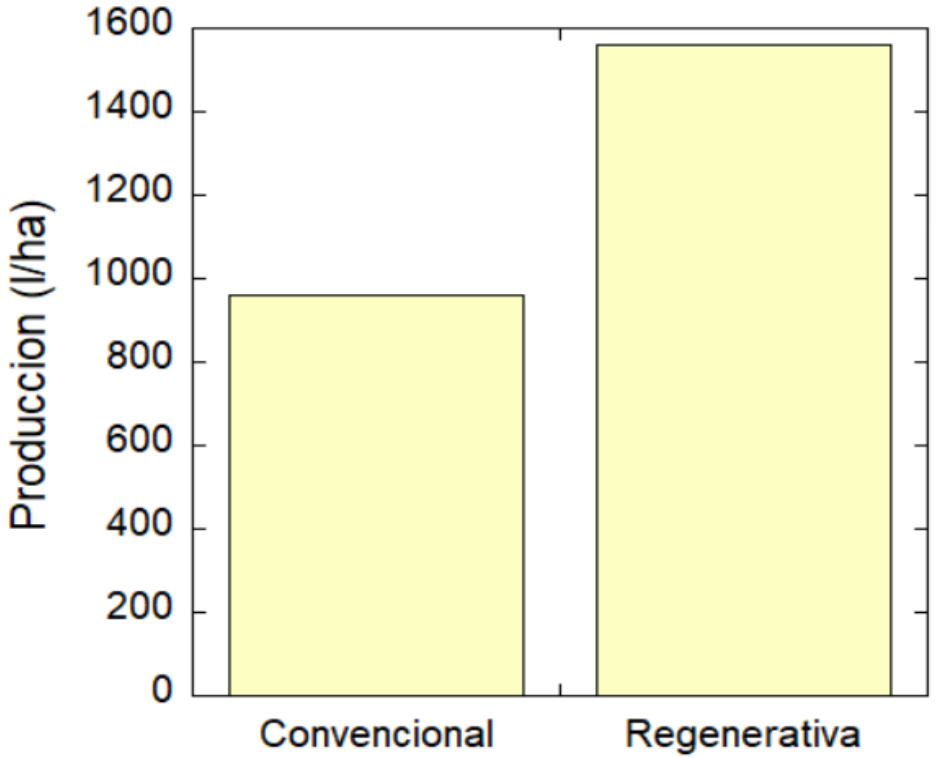
# Production data

2024

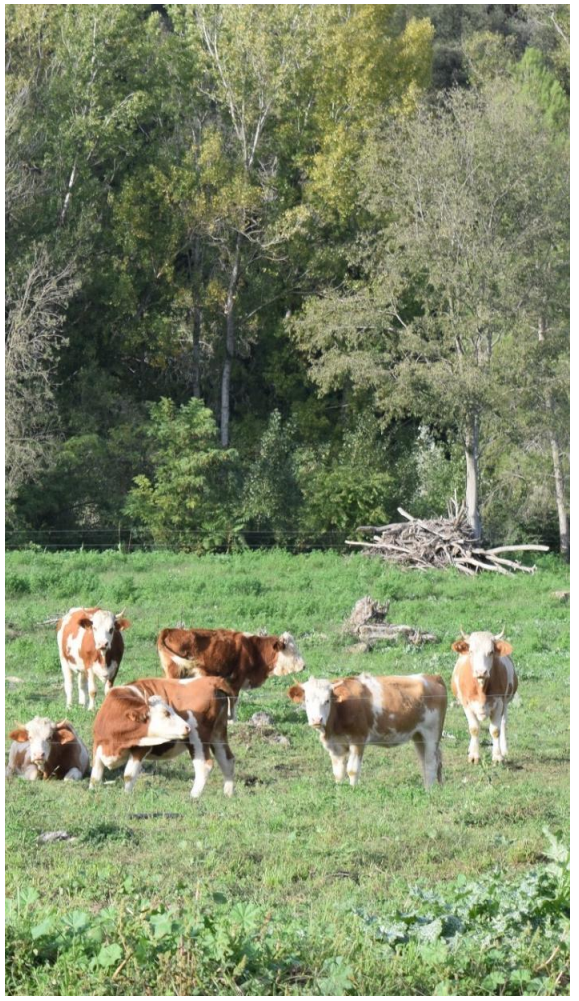
Conventional

Milk
(Planeses)

Major production in the Regenerative




Regenerative

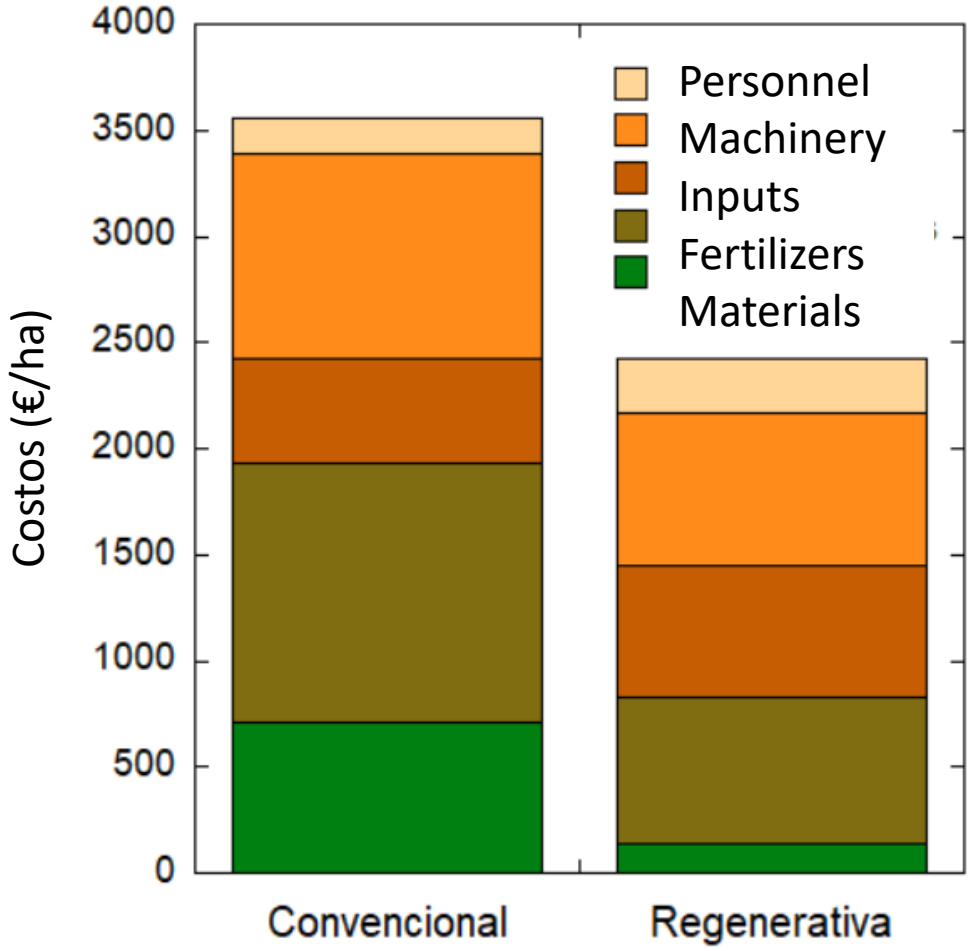


# The cost data are revealing

2024

Conventional

Zucchini
(Verdcamp Fruits)



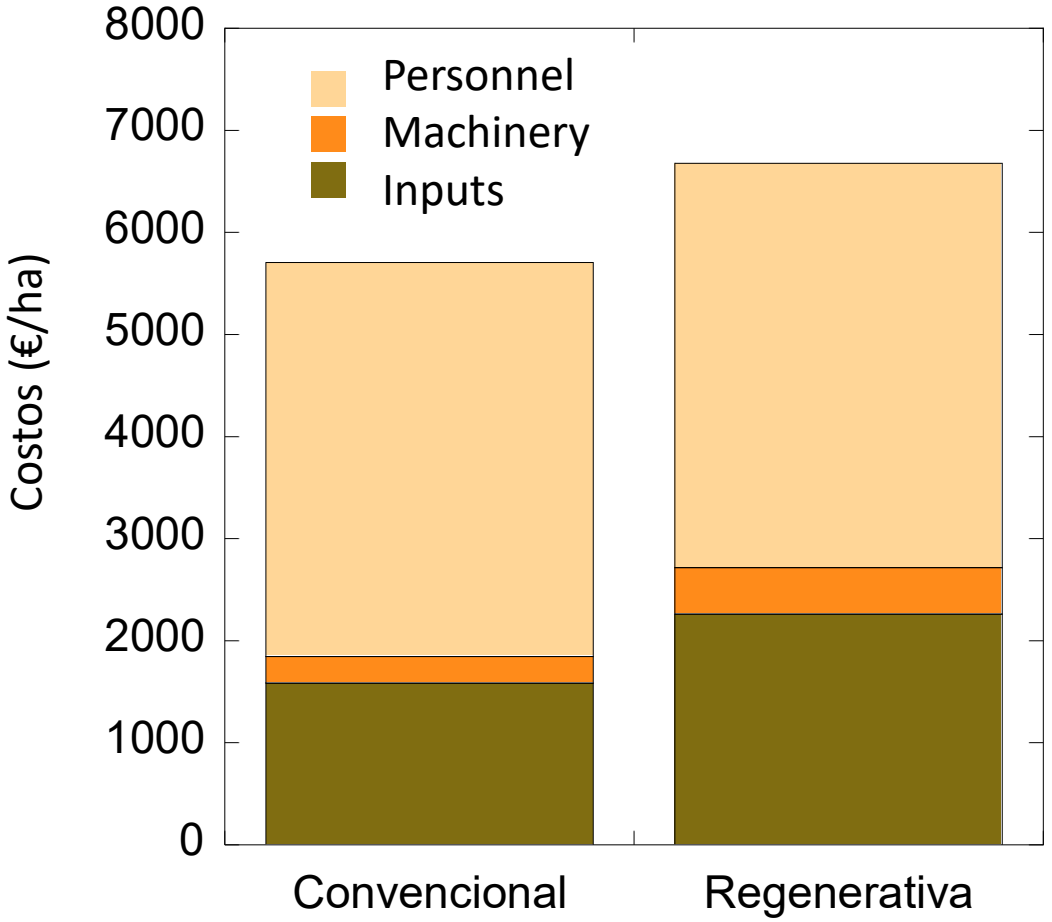

Regenerative

# The cost data are revealing

2024

Convencional

Pears
(Pomona Fruits)



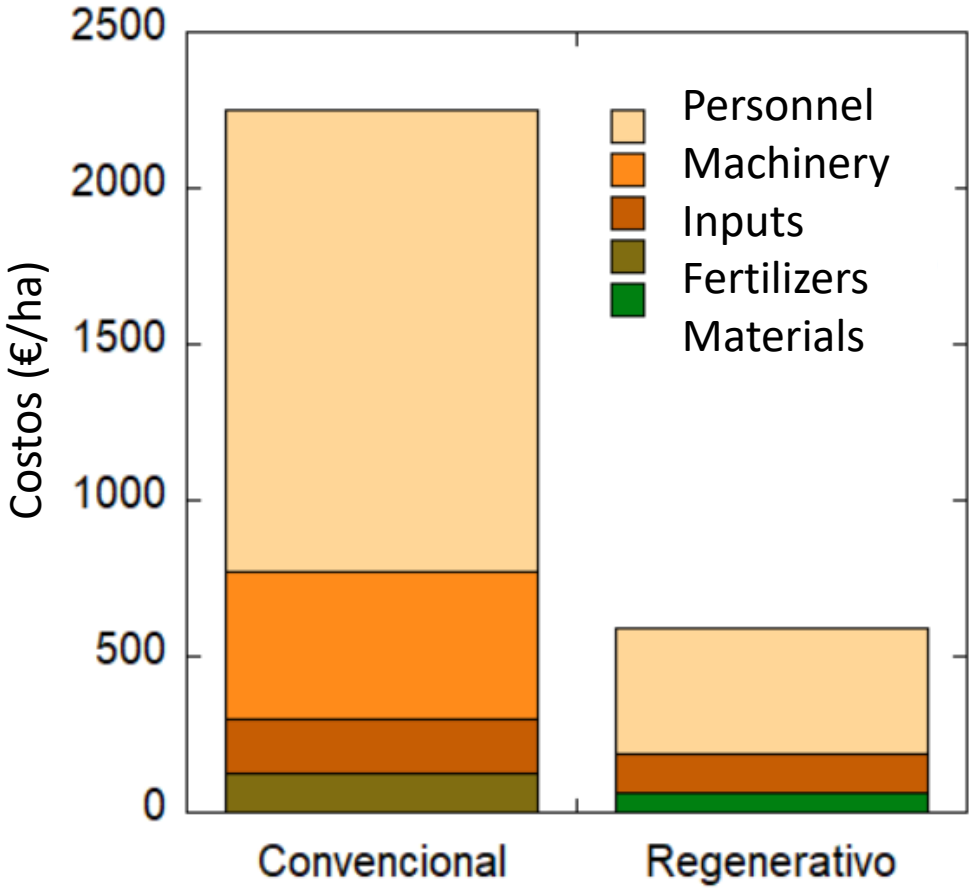

Regenerativa

# The cost data are revealing

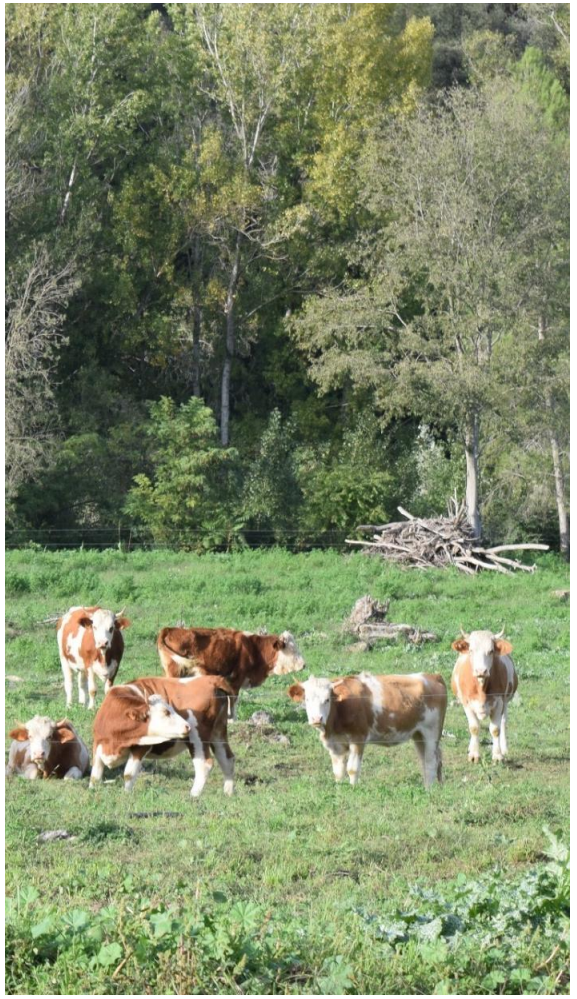
2024

Conventional

Milk
(Planeses)




Regenerative



# Some conclusions we can draw so far

- **Regenerative soils have a higher organic matter content,** which allows it to buffer temperature changes and maintains soil water content.
- Contrary to what it had been said, **regenerative production is similar** or even higher in some crops.
- **The costs, in general, are lower in regenerative farms** because, although there may be more labor, external products are not purchased and the machinery is smaller and has less diesel consumption.
- We further confirm our initial idea that **regenerative agriculture may be a potential alternative** for future, at least for Mediterranean conditions.


CREAF
EXCEL·LÈNCIA
SEVERO
OCHOA
THANK YOU FOR
YOUR ATTENTION!