

# Amazing grazing in periods of drought

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Introduction

Agroforestry

Kioto Protocol and LULUCF in EU

LULUCF practices within the EU

P3 Conversion

P4 Management

# **Introduction**

Agroforestry

Kioto Protocol and LULUCF in EU

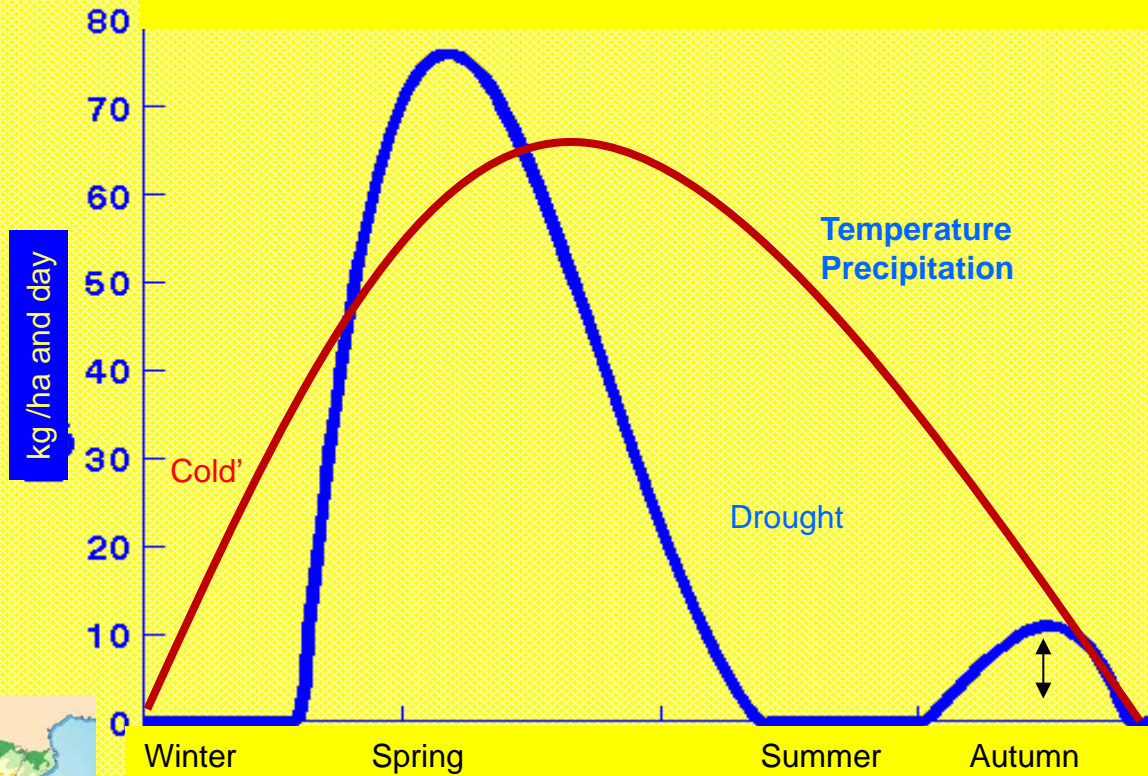
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# Pasture Growth curve



# OVERCOMING SHORTAGE PERIODS

Transhumance  
Forest grazing

Forage trees:

Leaves and branches (ramón):

- Morus alba
- Robinia pseudoacacia
- Fraxinus excelsior
- Betula alba

Fruit:

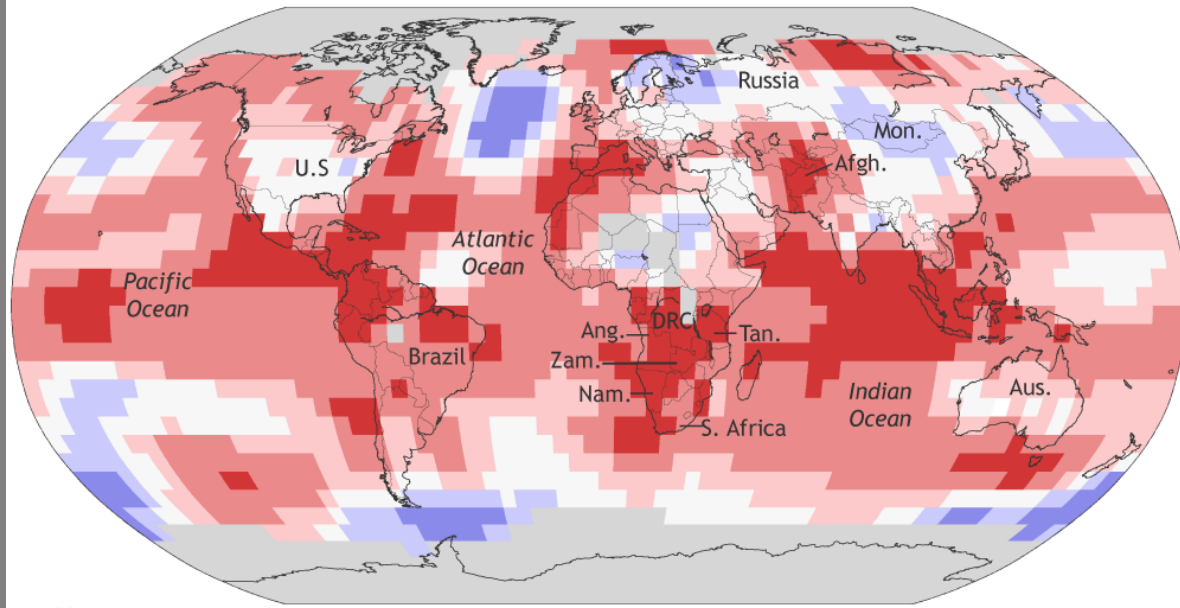
- Acorns
- Chestnut



## Regulation 1307/2013

*Permanent grassland and permanent pasture means land used to grow grasses or other herbaceous forage naturally (**self-seeded**) or through cultivation (sown) and that has not been included in the crop rotation of the holding for five years or more; it **may** include other species such as **shrubs** and/or **trees** which can be **grazed** provided that the grasses and other herbaceous forage remain predominant as well as, **where Member States so decide**, land which can be grazed and which forms part of **established local practices (ELP)** where **grasses** and other **herbaceous forage** are traditionally **NOT PREDOMINANT** in grazing areas.*

# January 2016 temperatures compared to historical record

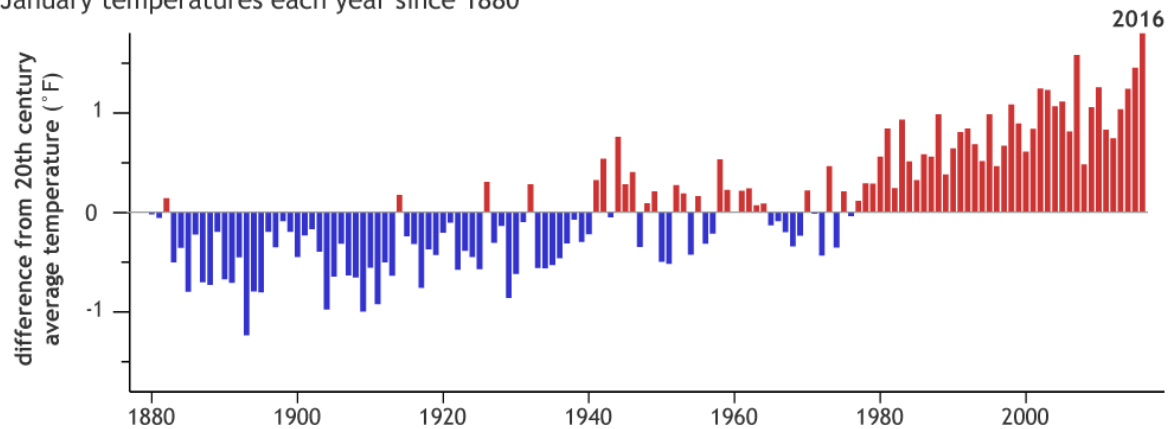


Jan 2016



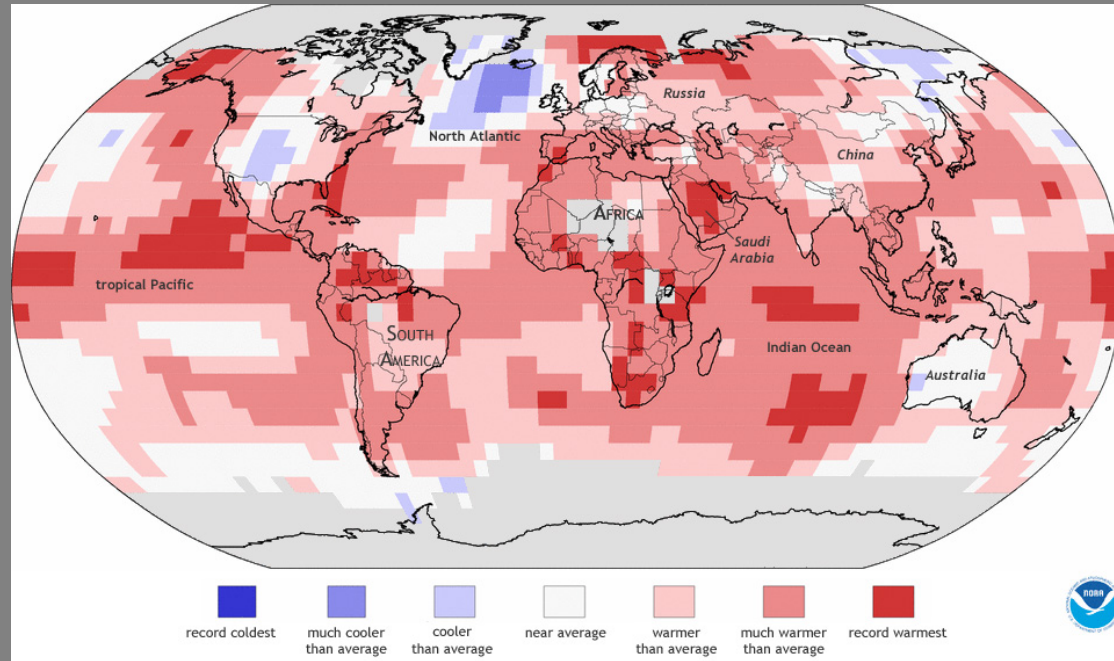
NOAA NCEI

# January temperatures each year since 1880

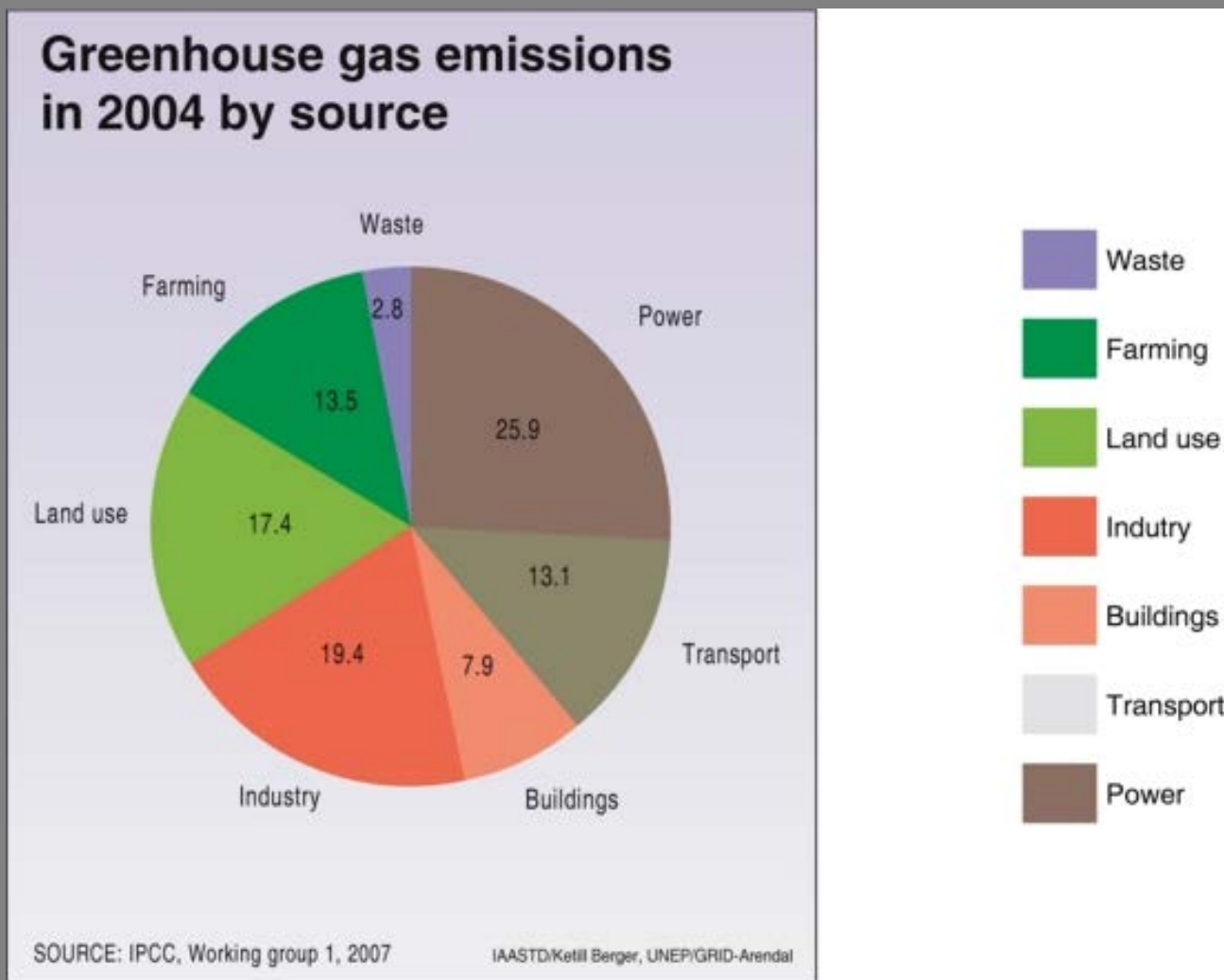




May 2015



# Farming: Cropping + Livestock



## Intergovernmental Panel Climate change assessment :

“**Mitigation** measures linked to increase food production (e. g., **agroforestry** or integrated systems) can increase **food availability** and **access** especially at the local level”.

Introduction

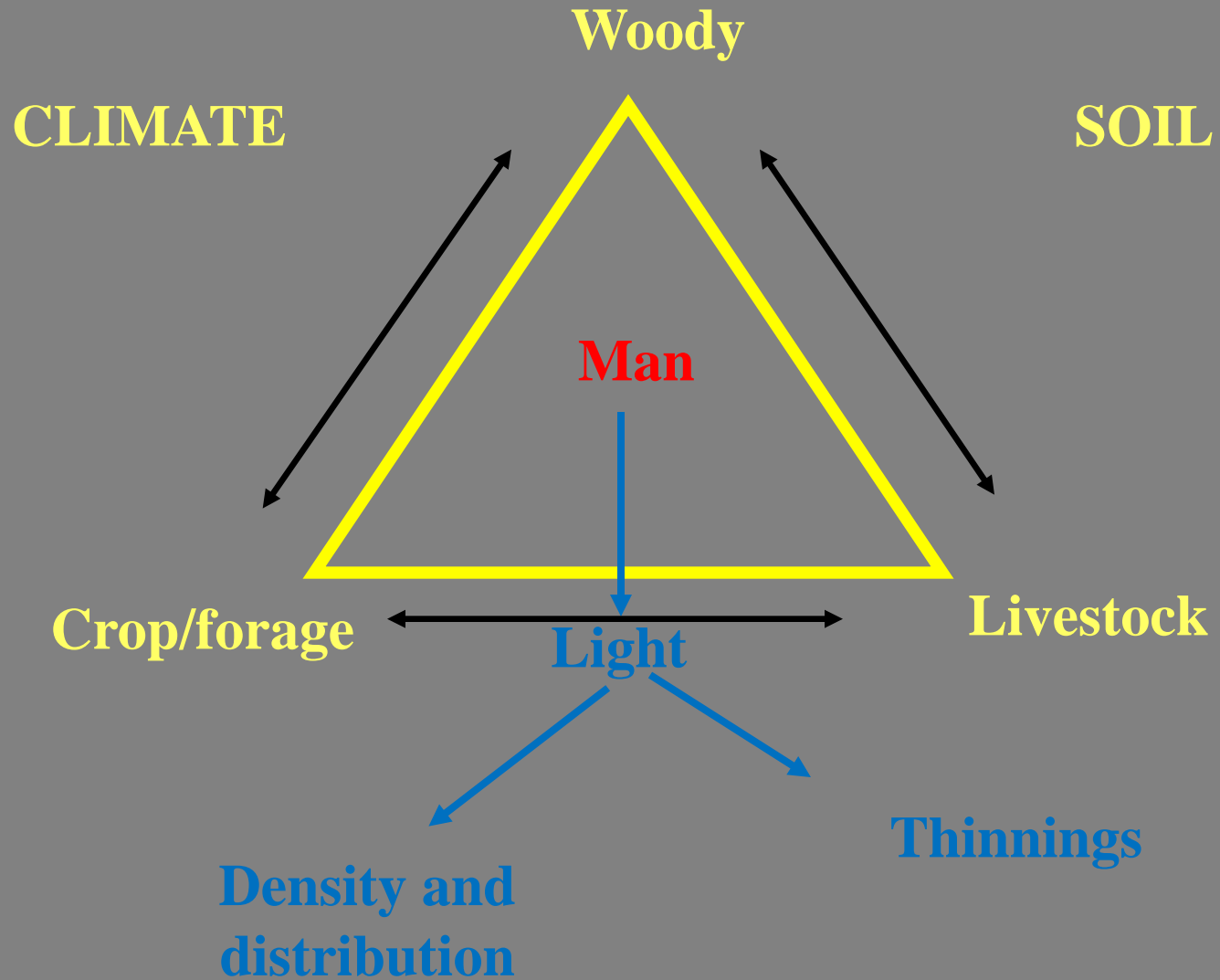
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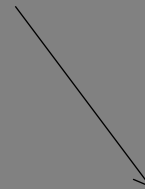
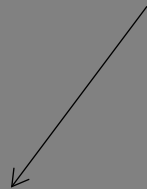
P4 Management



# AGROFORESTRY

Best tool to

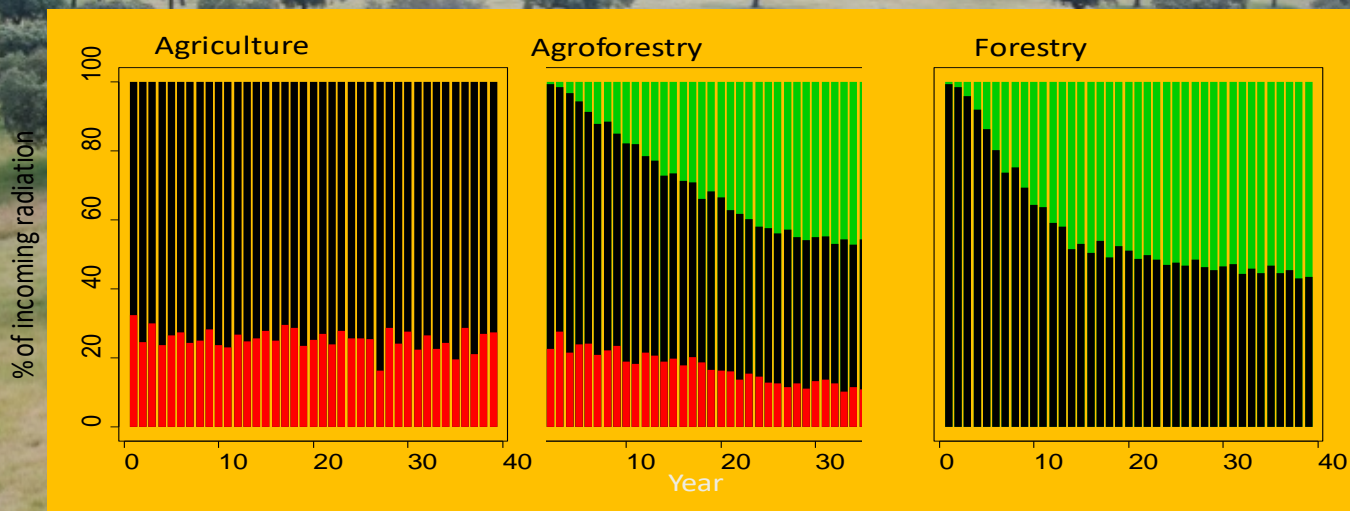
# ECOINTENSIFICATE



**Aboveground**

**Belowground**

# Aboveground level

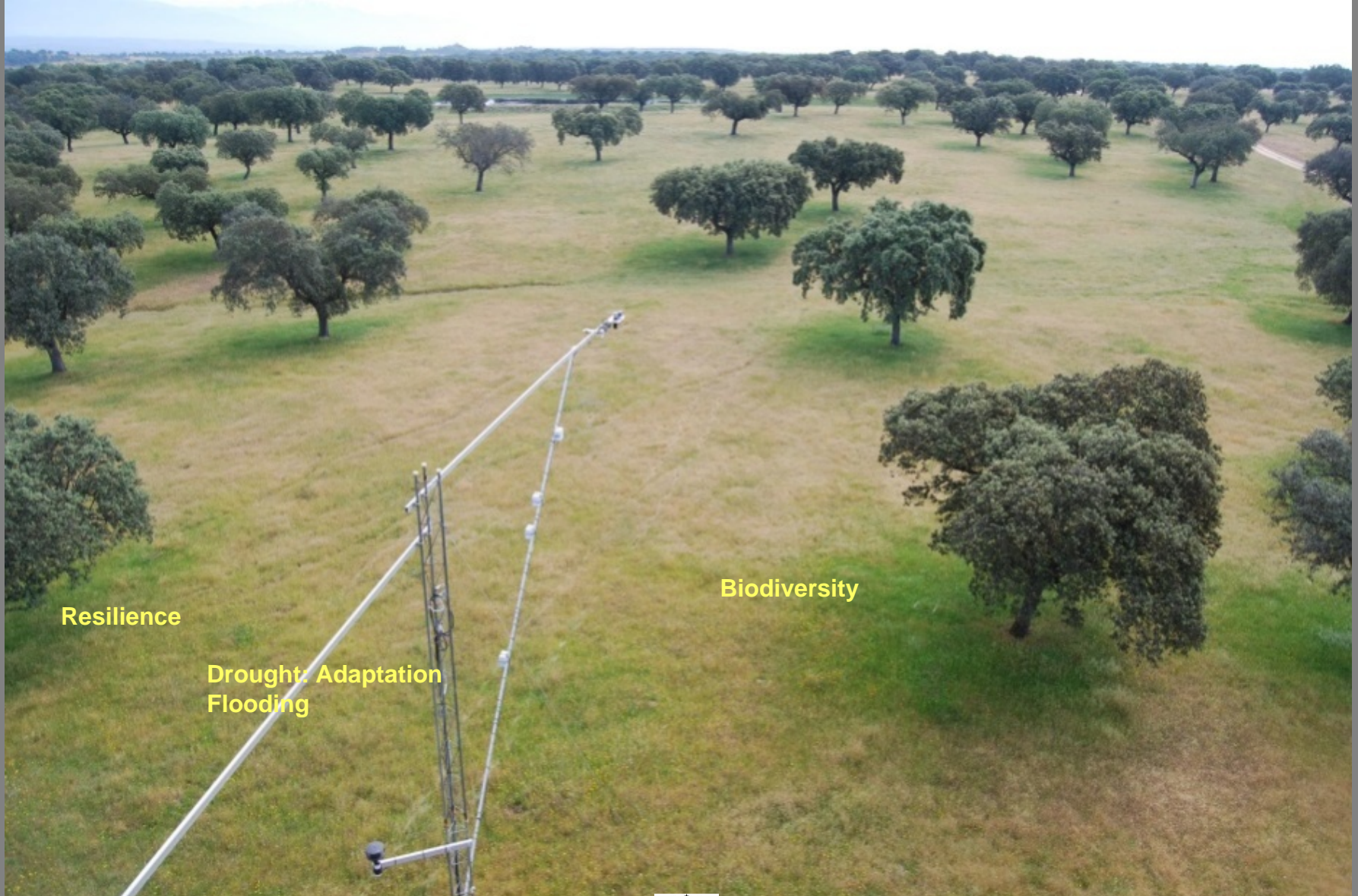


— Walnut  
— Wheat  
— Not used

Dupraz and Liagre 2014

40% increase  
(20-80%)

# Aboveground level



Resilience

Drought: Adaptation  
Flooding

Biodiversity





## Tree lines

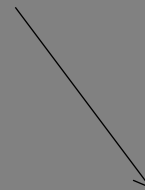
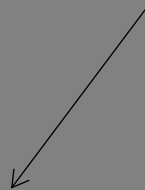


20% increasing crop production

# AGROFORESTRY

Best tool to

# ECOINTENSIFICATE



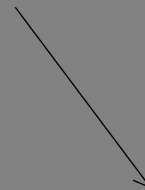
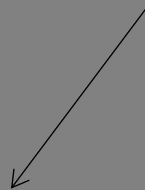
**Aboveground**

**Belowground**

# AGROFORESTRY

Best tool to

# ECOINTENSIFICATE



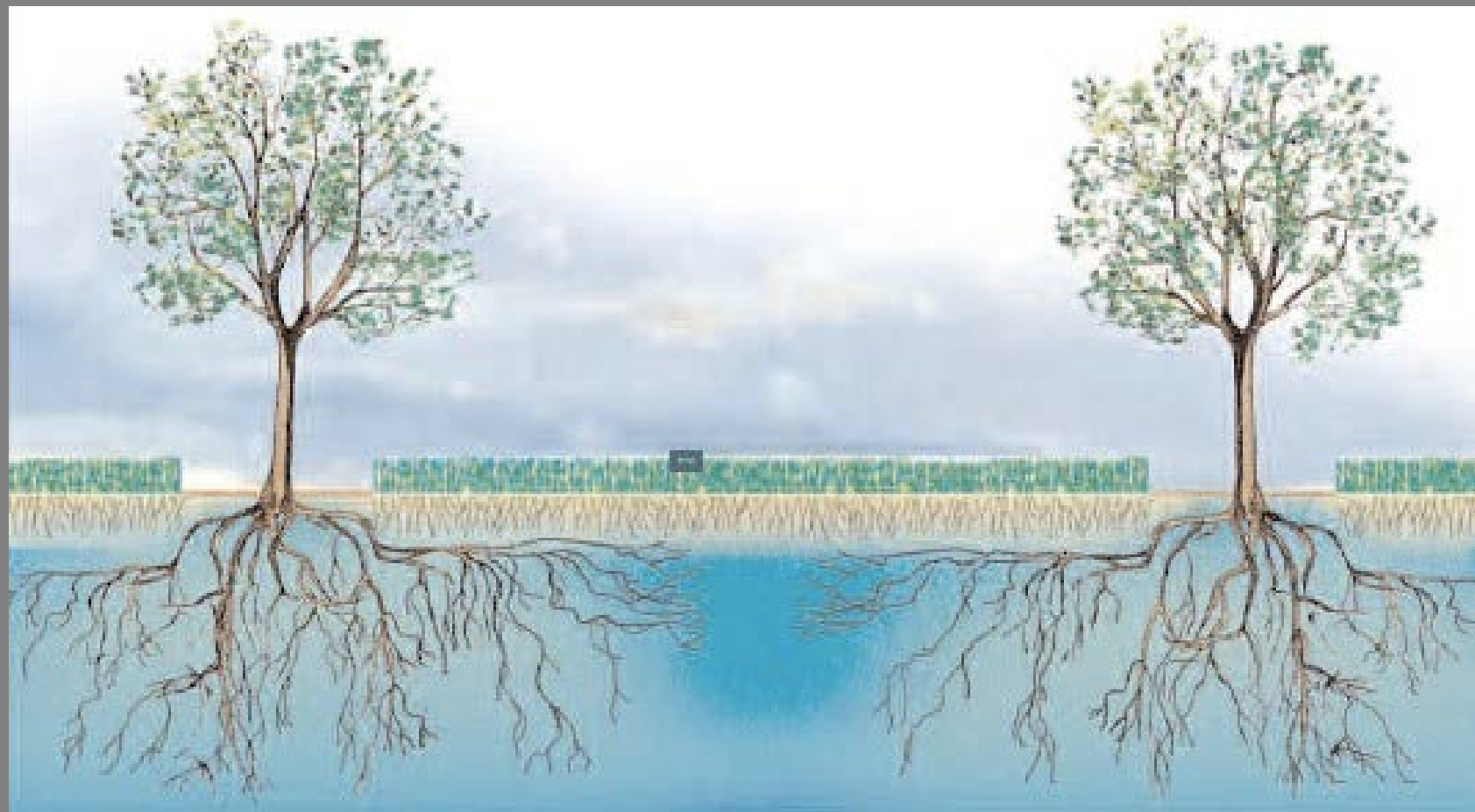
**Aboveground**

**Belowground**

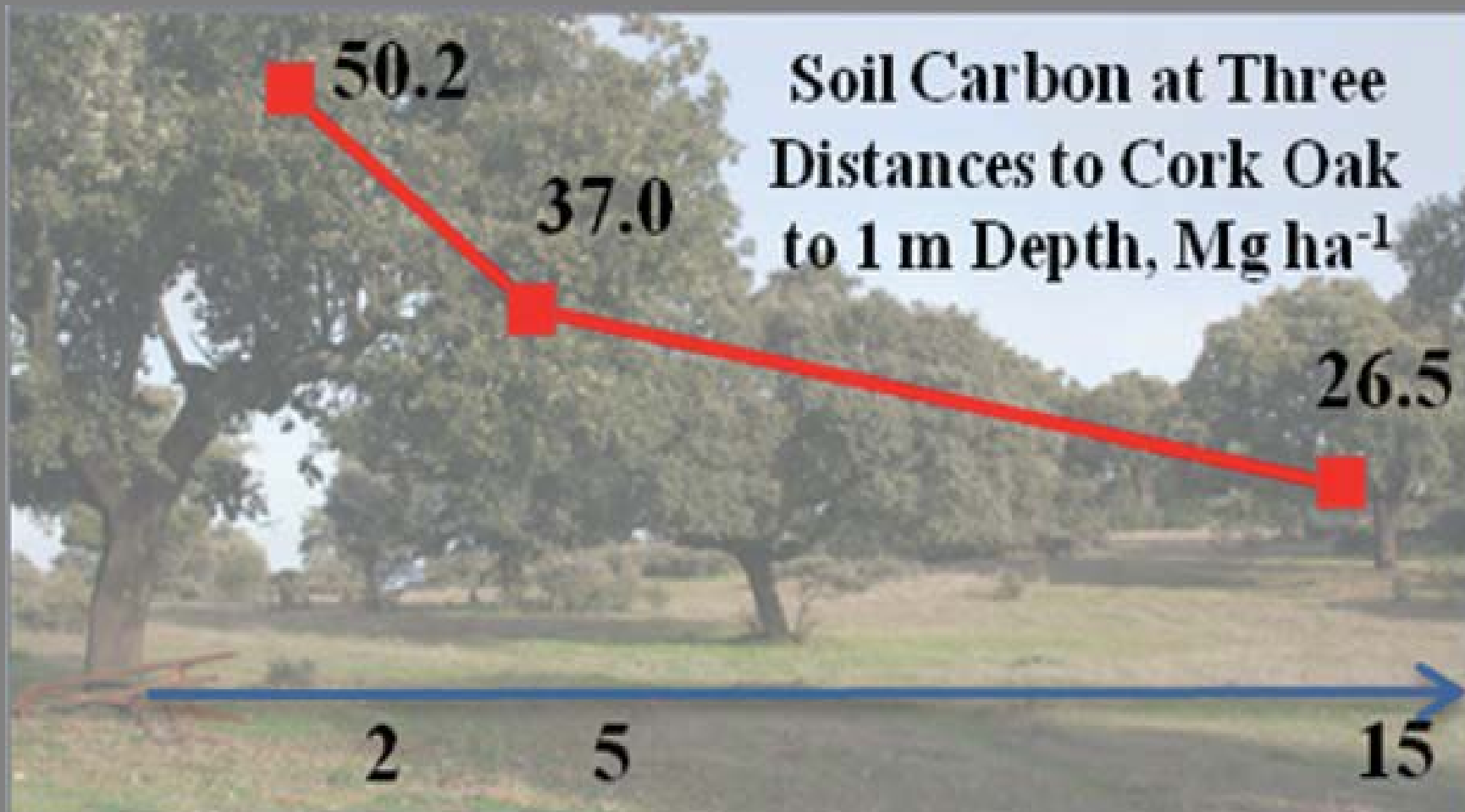
# Belowground level



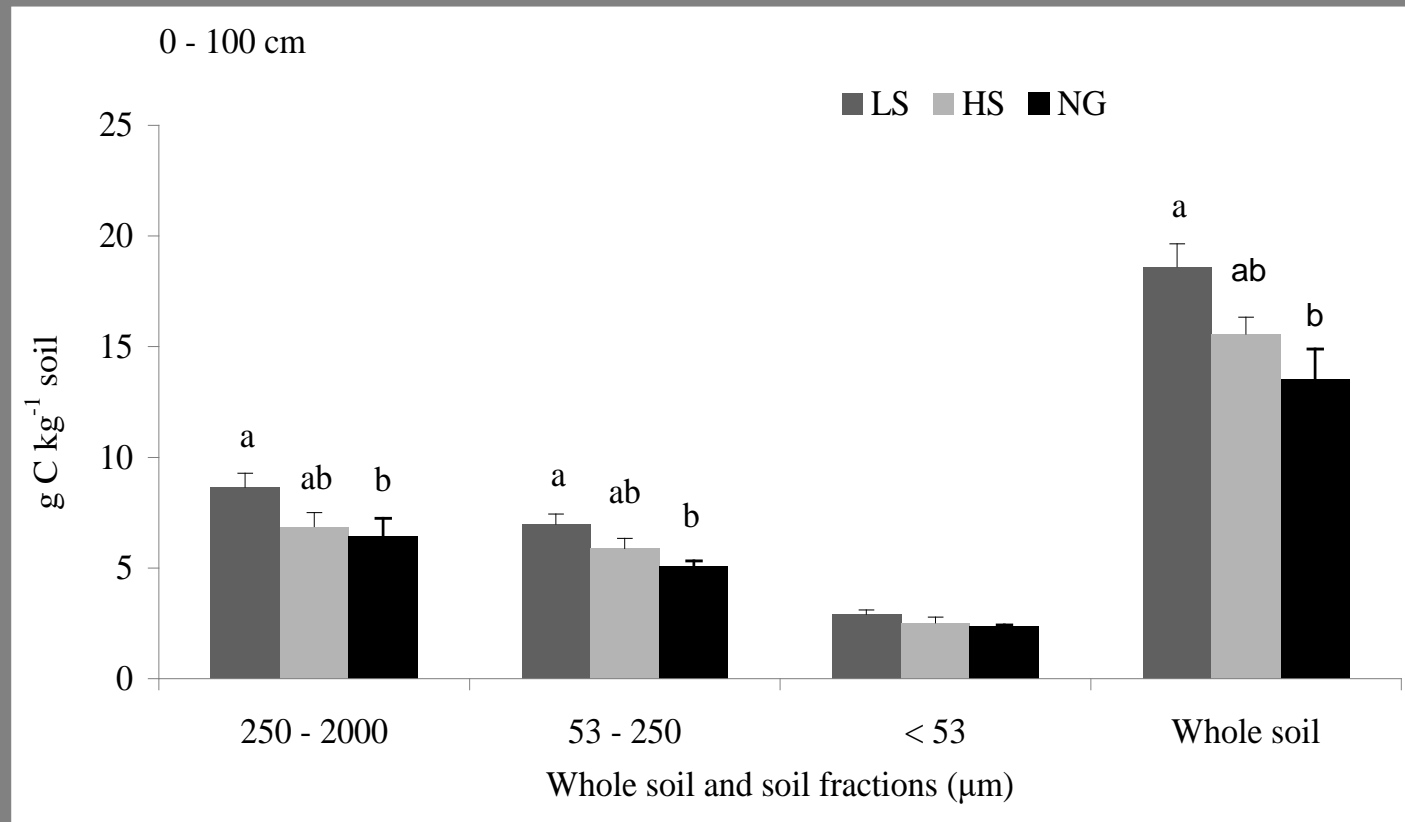
Rivers



4 x 1000

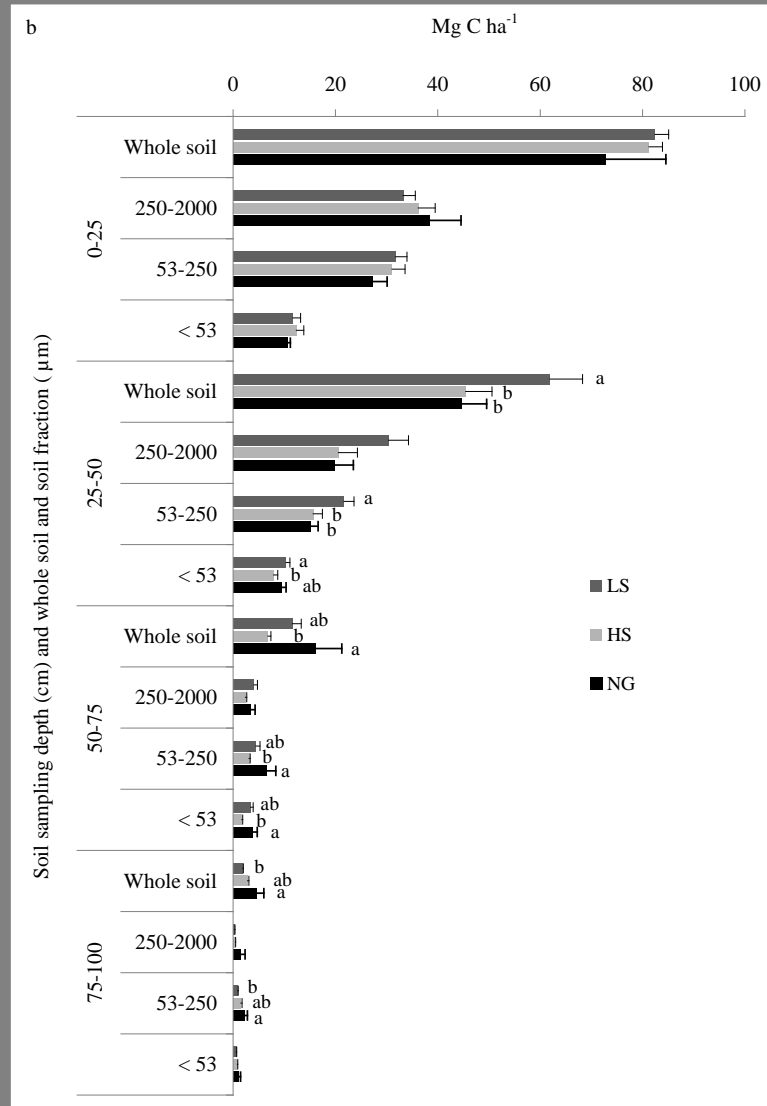
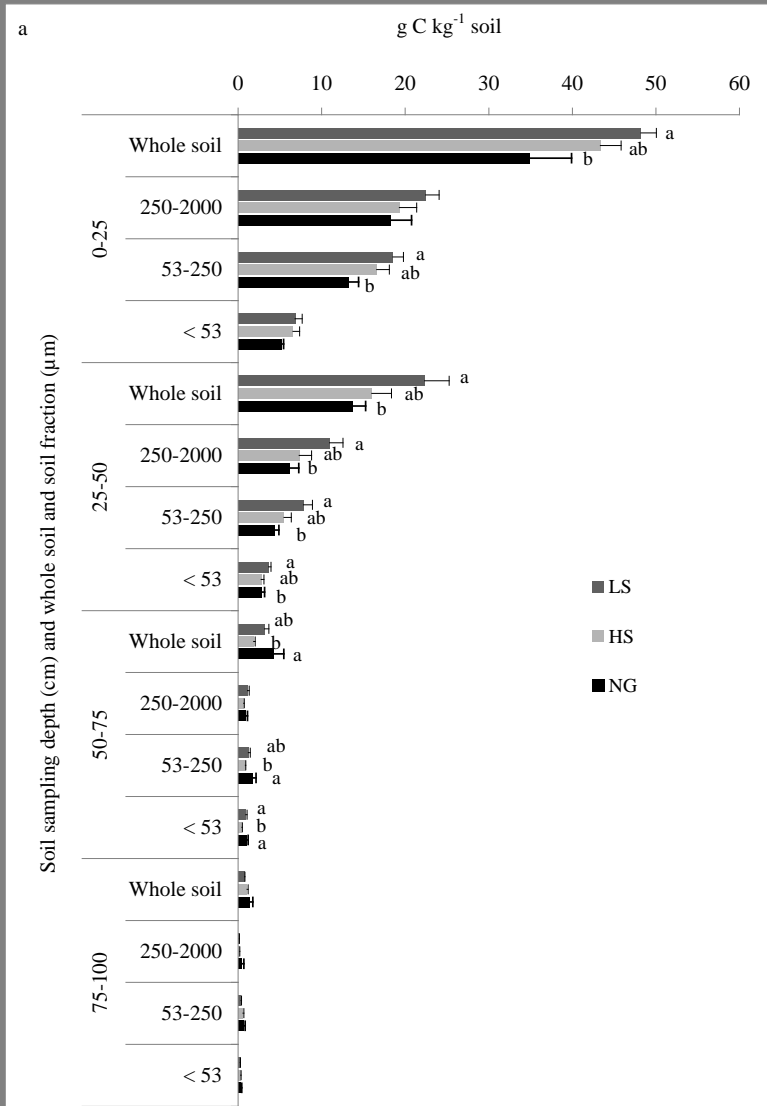


**Ferreiro-Domínguez N, Rigueiro-Rodríguez A, Rial-Lovera KE, Romero-Franco R, Mosquera-Losada MR (2016) Effect of grazing on carbon sequestration and tree growth that is developed in a silvopastoral system under wild cherry (*Prunus avium* L.). *Catena* 142, 11–20**

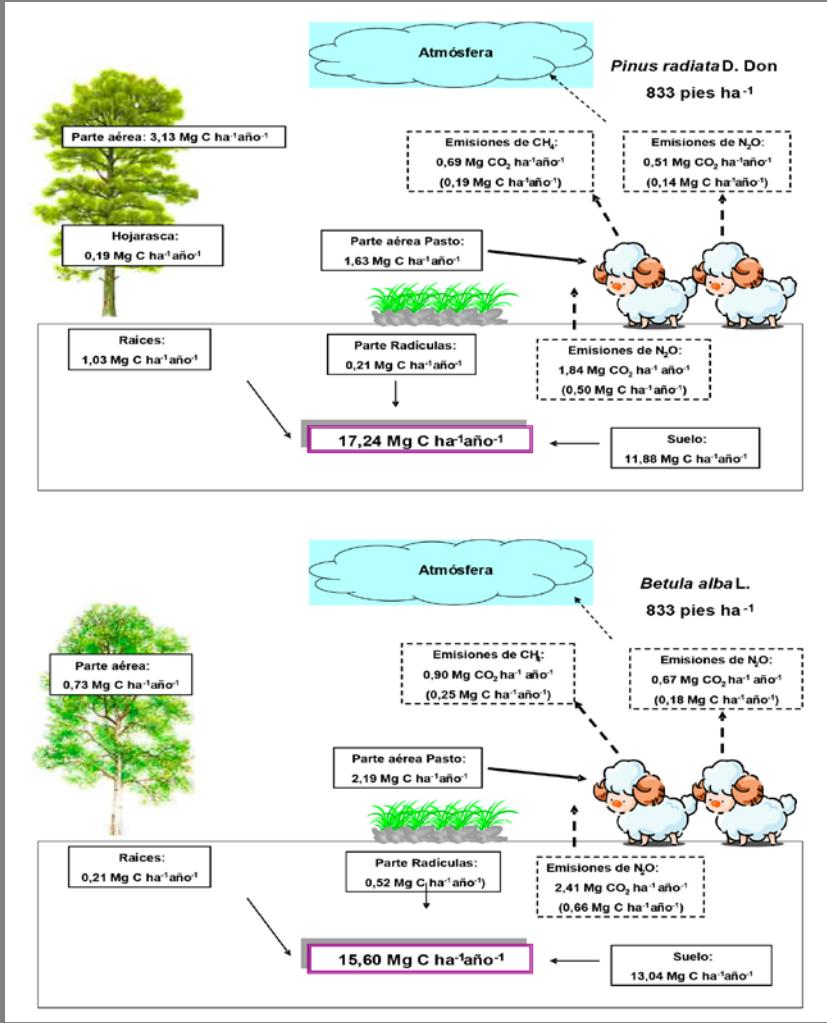




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# KIOTO PROTOCOL

**Stabilize and Reduce GHG** emissions through accountability of emissions and removals from LULUCF (Annex 1)

## Article 3

Paragraph 3: conversion

Paragraph 4: land management

**EU reduced by 24% GHG emissions between 1990 and 2012**

**NEW GOAL: 40% by 2030**

**LULUCF (FOREST AND AGRICULTURAL) WILL BE TAKEN INTO ACCOUNT IN THE KIOTO PROTOCOL ACCOUNTANCY**

# EU STEPS

**Harmonize accounting rules for these emissions and removals across the EU in order to incorporate Agriculture and forestry into the EU's emission reduction efforts**

**\* preserve and capture CO<sub>2</sub> recognizing farmers good practices**

**\* Grassland and cropland management will be included in the accounting (CAP payments)**

**INCLUDING LULUCF INTO THE GHG MITIGATION FRAMEWORK  
(Payments: CAP)**

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# PARAGRAPH 3: CONVERSION

**\* AF play a role avoiding deforestation and increasing resilience:**

**forest risks: fires!  
wind**



Grazing is 10 times cheaper than mechanical clearing

Unwanted vegetation grows worse after grazing



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## **PARAGRAPH 4: NO CONVERSION SINCE 1990**

Cropland management

Grazing land management

Forest management

Revegetation

# **Decision 529/2013/EU**

**Table 1. EU indicative measures that may be included in the information on LULUCF actions submitted pursuant to article 10(2)(d) (**Decision 529/2013/EU**) and may relate to Agroforestry**

Measures related to	Examples
Cropland management	<ul style="list-style-type: none"> <li>● Agroforestry</li> </ul>
Grazing management and pasture improvement	<ul style="list-style-type: none"> <li>● Preventing Grassland to Cropland conversion to native vegetation</li> <li>● Increasing productivity</li> <li>● Improving nutrient management</li> <li>● Introducing more appropriate species, in particular deep rooted species</li> </ul>
Forest activities	<ul style="list-style-type: none"> <li>● Afforestation and reforestation</li> <li>● Conservation of C in existing forest</li> <li>● Enhancing production in existing forests</li> <li>● Increasing harvested wood products</li> <li>● Enhancing forest management (optimize species composition, tending, thinning and soil conservation)</li> </ul>
Preventing deforestation	
Strengthening protection against natural disturbances such as fire, pest and storms	
Substitution GHG intensive energy feedstock and materials with harvested wood products	

# Agroforestry practices

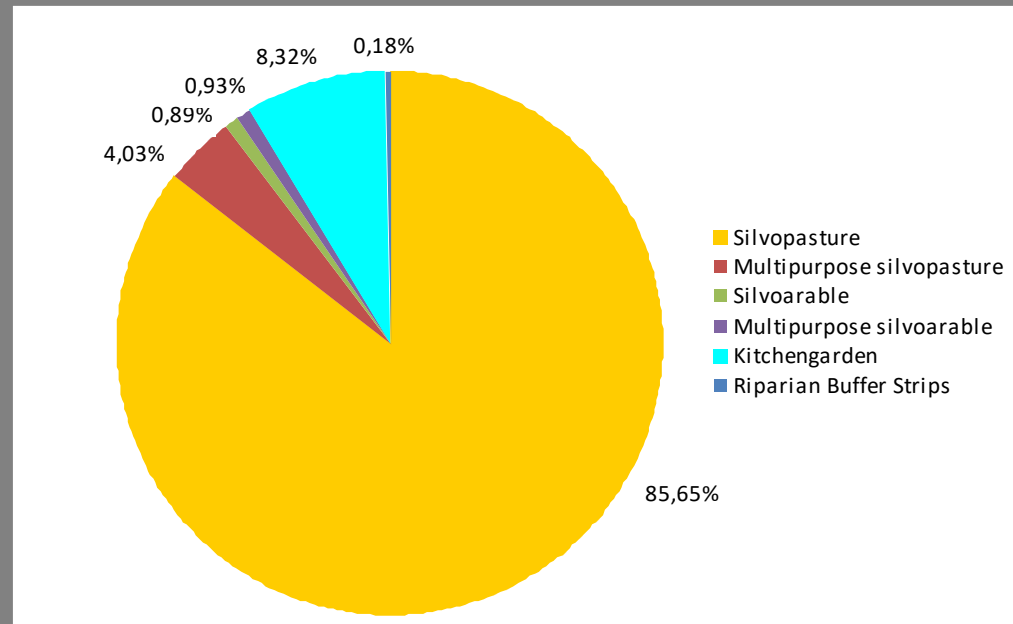
Silvopasture

Silvoarable

Kitchen gardens

Forest Farming

Riparian buffer strips



## Silvopasture

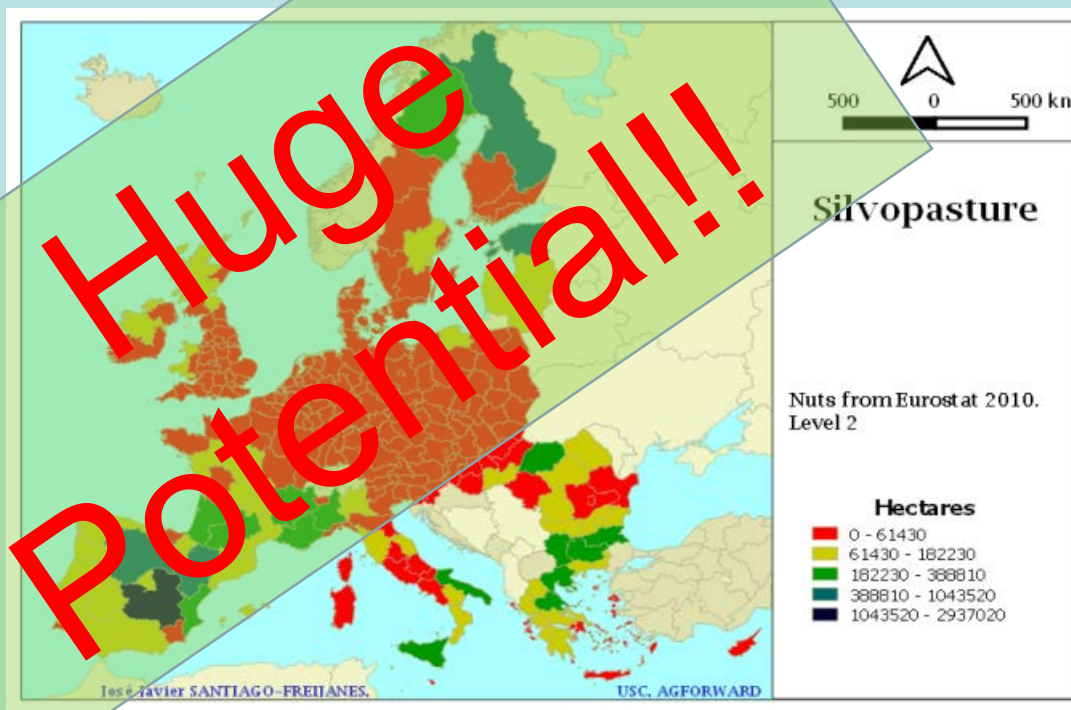
## Brief description



Woody + forage and animal production

19.5 Million ha

10% EU potential area





## Advancing Agroforestry on the Policy Agenda

A guide for decision-makers



## French National Agroforestry Strategy

USDA

United States  
Department of  
Agriculture  
June 2011

## USDA Agroforestry Strategic Framework, Fiscal Year 2011–2016



*Enriching Our Lives With Trees That Work*

## NATIONAL AGROFORESTRY POLICY

2014

GOVERNMENT OF INDIA  
DEPARTMENT OF AGRICULTURE & COOPERATION  
MINISTRY OF AGRICULTURE  
NEW DELHI



## Eligibility limited by Regulation 1305/2013

\* *Permanent grassland and permanent pasture means land used to grow grasses or other herbaceous forage naturally (**self-seeded**) or through cultivation (sown) and that has not been included in the crop rotation of the holding for five years or more; it **may** include other species such as **shrubs** and/or **trees** which can be **grazed** provided that the grasses and other herbaceous forage remain predominant as well as, **where Member States so decide**, land which can be grazed and which forms part of **established local practices (ELP)** where **grasses** and other **herbaceous forage** are traditionally **NOT PREDOMINANT** in grazing areas.*

Where MS not decide so Eligibility :

Same rules than arable lands (**Delegate act 640/2014: 100 trees ha<sup>-1</sup>**)

Prorata System (LPIS)

# *Conclusions*

- **Agroforestry is an excellent tool to combat climate change**
- **There is a good opportunity to preserve and mitigate climate change and make agricultural systems more resilient through adaptation to climate change**

# *Conclusions*

- **Adequate design of policies should be delivered in order to take advantage of Agroforestry practices to combat climate change (C increase, storage and stability).**

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Tony Simons: "Agroforestry is a  
'win-win' for developing nations"

### 3rd European Agroforestry Conference

23-25 May 2016

Celebrating 20 years of Agroforestry research in Europe



Presentations of the Sessions and Book of  
Abstracts are Available [here](#)

Agroforestry has been included  
in the European Parliament reports on  
"Technological solutions for  
sustainable agriculture in the EU" and  
"Enhancing innovation and economic  
development in future European farm  
management"

Agroforestry has been included in the  
European Commission final paper on  
"A strategic approach regarding  
the European agricultural research  
and innovation"



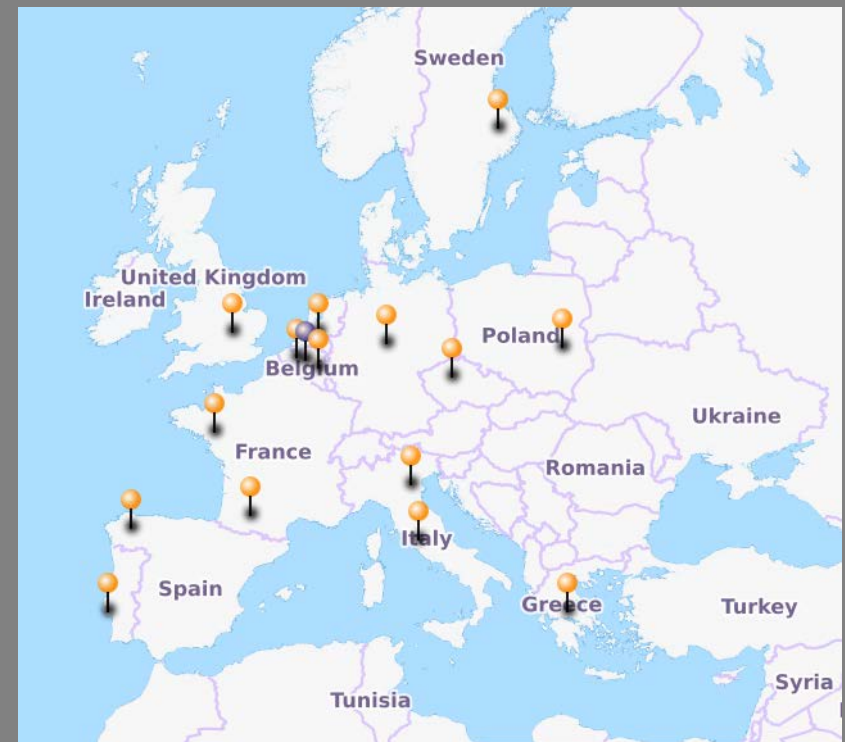


EURAF European Agroforestry Federation

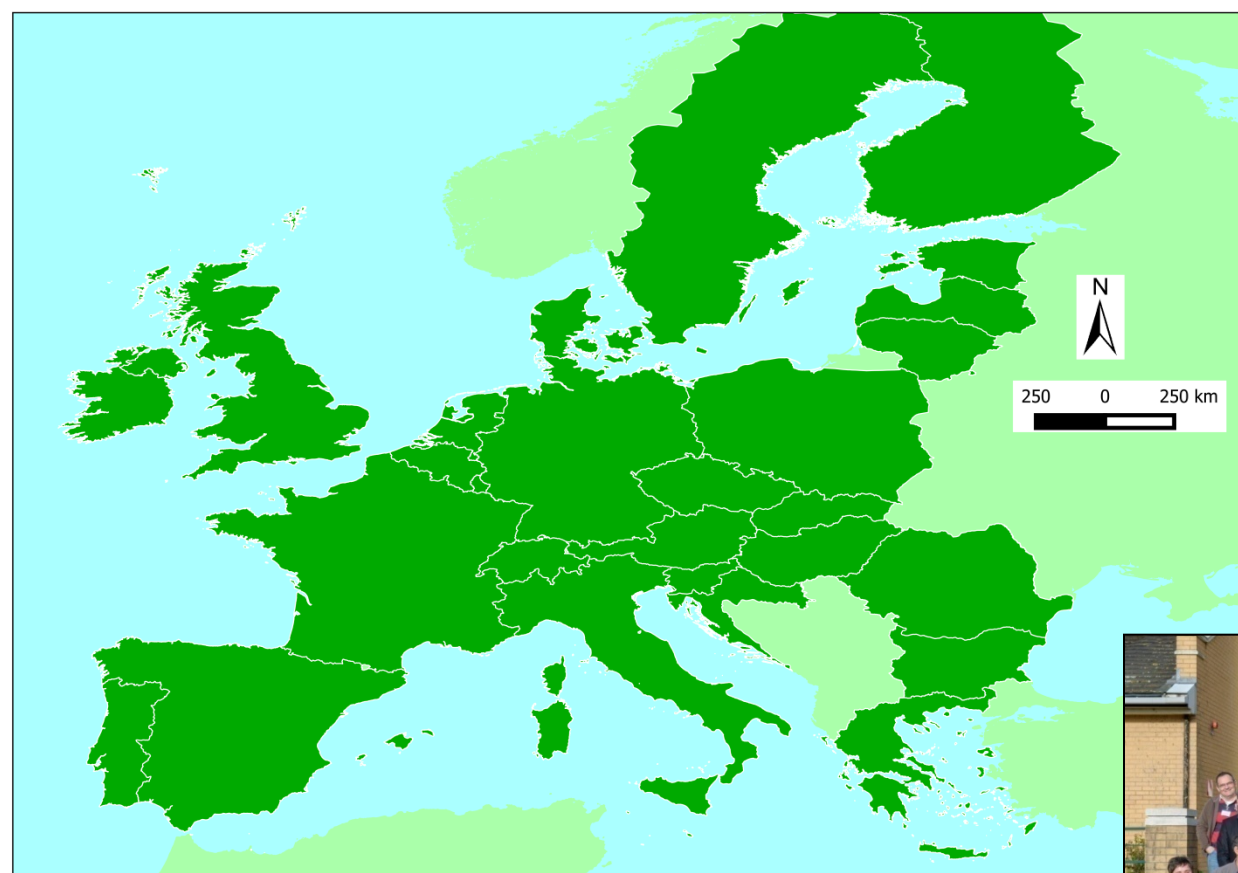
## Newsletter N°16, March 2016

1. EURAF ACTIVITIES
2. REGIONAL AGROFORESTRY NEWS
  - 2.1 Agroforestry Association in Sweden (Agroforestry Sverige)
  - 2.2 Pastoralism and Fire Prevention in Spain
3. FEATURED FARM: "Red Tractor Farm", Kea, Greece
4. FOCUS GROUP ON AGROFORESTRY
5. ASPEN AGROFORESTRY
6. EU CONSULTATION ON GREENING
7. MISCELLANEOUS

Countries with national associations members of EURAF



*AGFORWARD (www.awforward.eu)  
Agroforestry for Rural Development Promotion*



*AFINET (2017-2019)  
H2020 THEMATIC NETWORK: Agroforestry Innovation Network*





FRANCE



GREECE



Thanks!!

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