



**EAAP 2014**  
Copenhagen, Denmark  
25 - 29 August 2014

65<sup>th</sup> annual meeting of the European Federation of Animal Science



# Equine power in Mediterranean areas: Is there a place for it?

Santos, A.S.<sup>1,2</sup> Fradinho, M.J.<sup>3</sup>, Cervantes I.<sup>4</sup> And Miraglia, N.<sup>5</sup>

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<sup>3</sup>CIISA-FMV, ULisboa, Lisboa, Portugal

<sup>4</sup>UCM, Dep. Animal Production, Madrid, Spain

<sup>5</sup>Molise University, Dep. Agriculture, Environment and Feed Sciences, Campobasso, Italy

## **Discovery Session:**

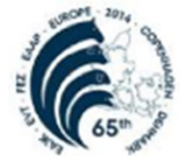
***The horse as key player of local development: looking to the future in the 3rd millennium***



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# Mediterranean region: land, people and equines...





# The Mediterranean region

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In the EU, the Mediterranean region occupies 7 member states either partially:  
France, Portugal, Spain, Italy  
Or completely: Greece, Malta, Cyprus

20.8% of EU territory.

(EU, 2010)





# The Mediterranean region

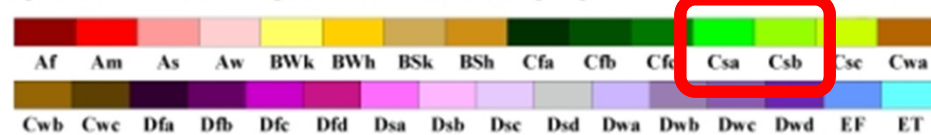
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Climate classification: Csa – Csb: Warm temperate, summer dry, Hot summer (a); warm summer (b)

## World Map of Köppen–Geiger Climate Classification

updated with CRU TS 2.1 temperature and VASCLimO v1.1 precipitation data 1951 to 2000



### Main climates

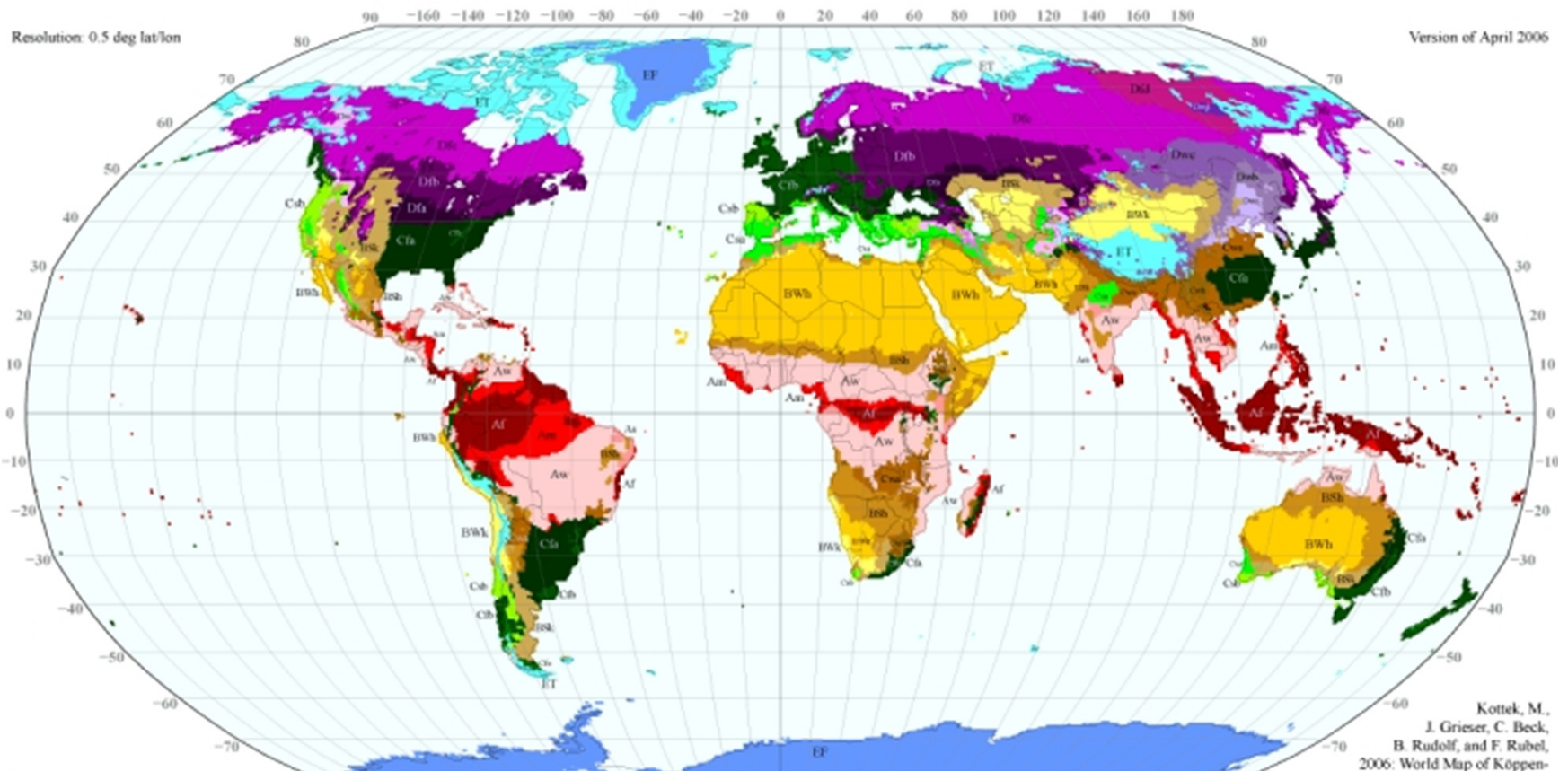
- A: equatorial
- B: arid
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### Precipitation

- W: desert
- S: steppe
- f: fully humid
- s: summer dry
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### Temperature

- h: hot arid
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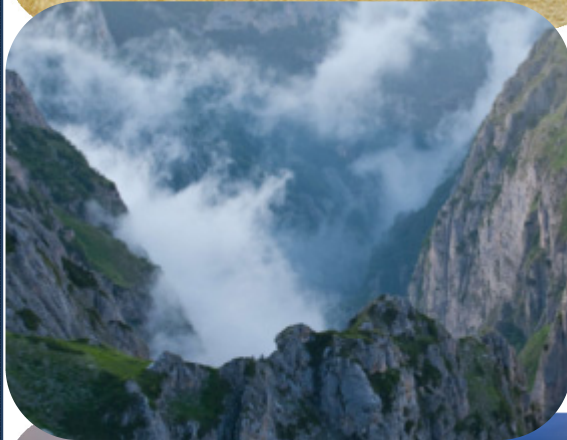




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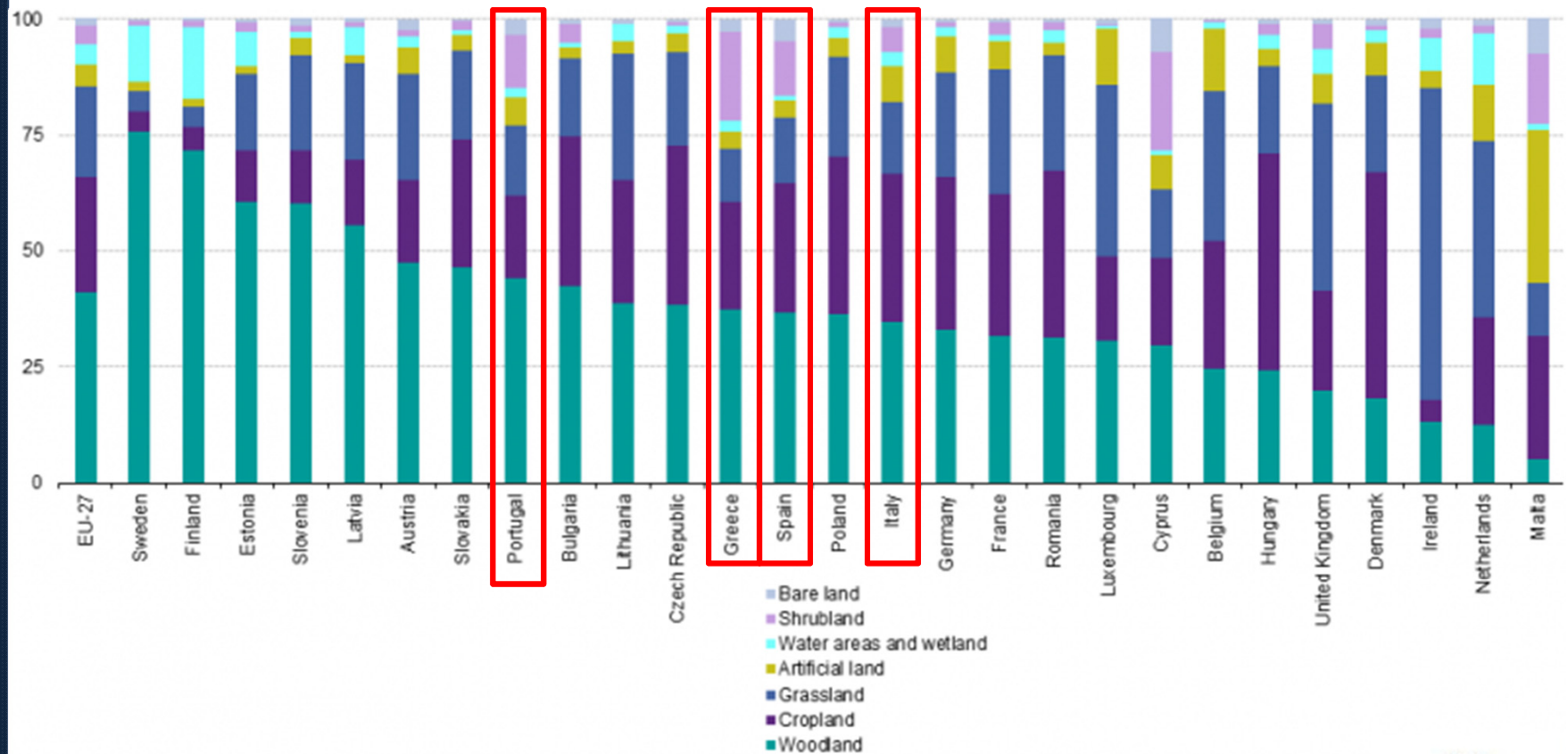
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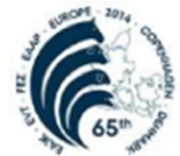
Main land cover by land cover type, 2012 (1)(% of total area)

Source: Eurostat



(<sup>1</sup>) Croatia: not available.

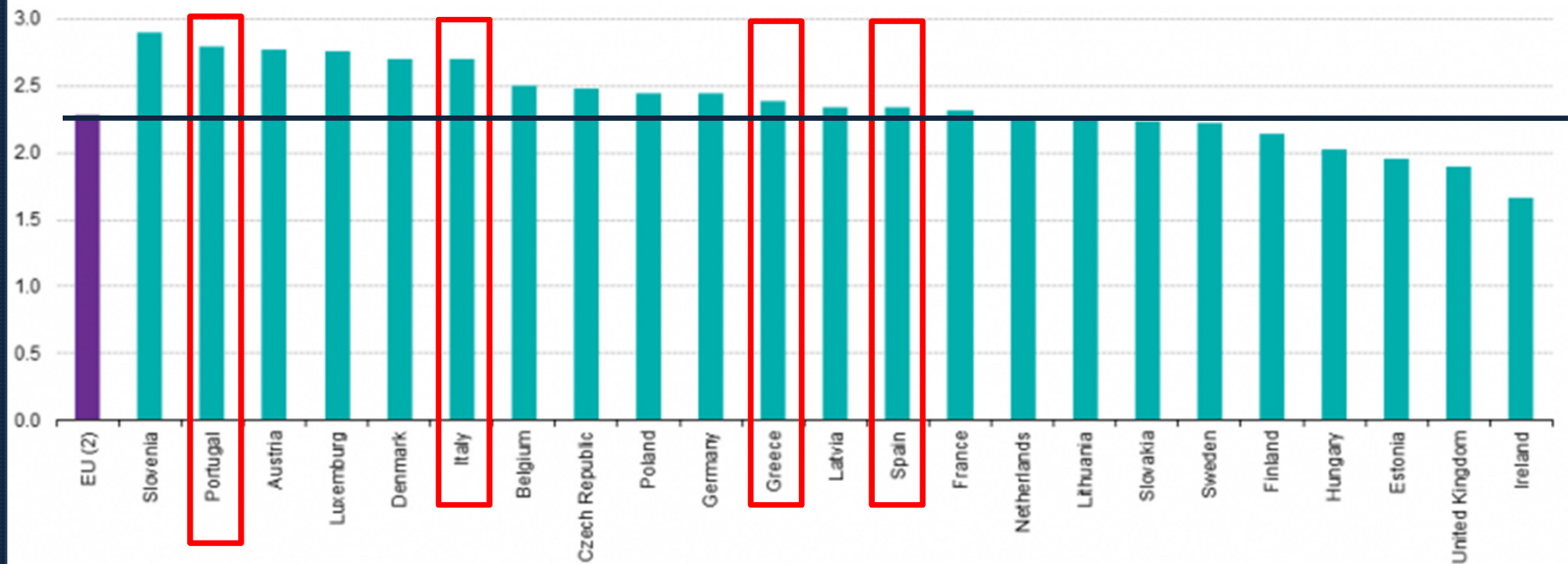
Source: Eurostat (online data code: lan\_lcv\_oww)





# The Mediterranean region

Land cover richness indicator - average number of different land cover types in a 250m transect, 2009 (1)(number) - Source: Eurostat



(1) Data derived from further analysis and computation of elementary data.

(2) EU-27 average excluding Bulgaria, Cyprus, Malta and Romania.

Source: Eurostat (online data code: lan\_lcs\_ric)



# The Mediterranean region

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Witnessed some of the earliest finds of human settlement in Europe!

22,000 years ago, early mankind left behind a strong legacy in this area, through an amazing series of rock carvings depicting the local wildlife. A heritage written in stone.



Horses have always been there with Humans...



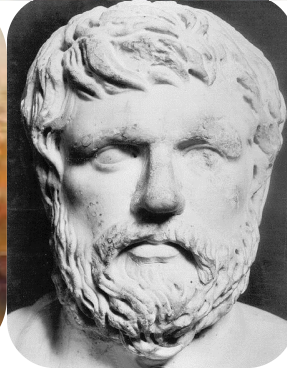




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# Traditional socio-cultural life: Italy

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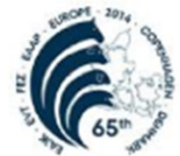
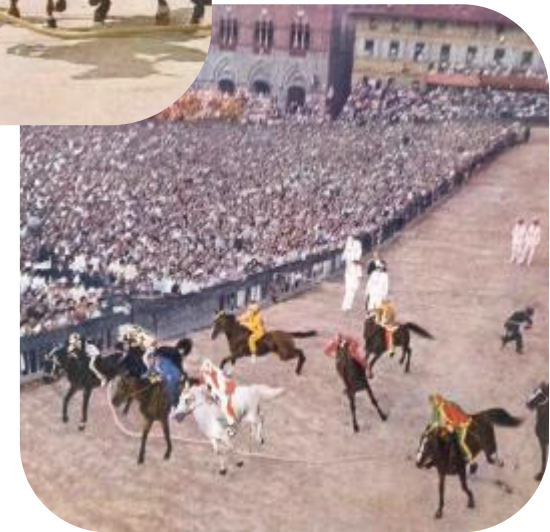
Sardinia: Giara Pony Show



Tuscany: Siena Palio



Piemonte: Ivrea Carnival





# Traditional socio-cultural life: Spain

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Romeria del Rocio - Huelva

Doma vaquera



<http://www.domavaquerainstruction.com/about.htm>



<http://www.sicab.org>

Jaleo Menorquin



<http://menorca-live.com/top-ten-things-to-do-in-menorca/>

Rapa das bestas



<http://www.berenguela.com/rapa-das-bestas-de-sabucedo-pontevedra/2010-06-29>





# Traditional socio-cultural life: Portugal

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© PSML

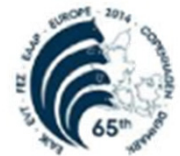




# Sports and leisure

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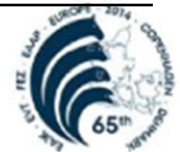




# Some numbers...

	Italy	Spain	Portugal
Surface area (km <sup>2</sup> )	301,263	504,782	92,072
Population (millions)	60,000	45,800	10,600
Equines	300,000	723,500	56,000
Equines/1000 hab	5	16	5
Autochthones breeds	18	26	5
Breeders	65,000 (owners)	33,000	3,050
Riding Schools	-	685	530
Number of hectares used by equines	-	500,000	91,749
Jobs	50,000	15,000	11,000
Total turnover (horse industry) (M €)	10,000	5,300	-

(EU, 2014, local statistics, Breeders associations, ...)



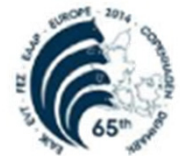


# Horse use in the Mediterranean

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- Horses represent an important **cultural heritage** in Mediterranean countries.
- Equine traditions are highly embebed in present times and are a part of the image of these countries.
- This image is easily “sold” for touristic purposes

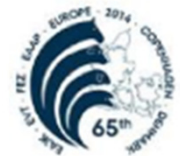




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**So... What's next?**







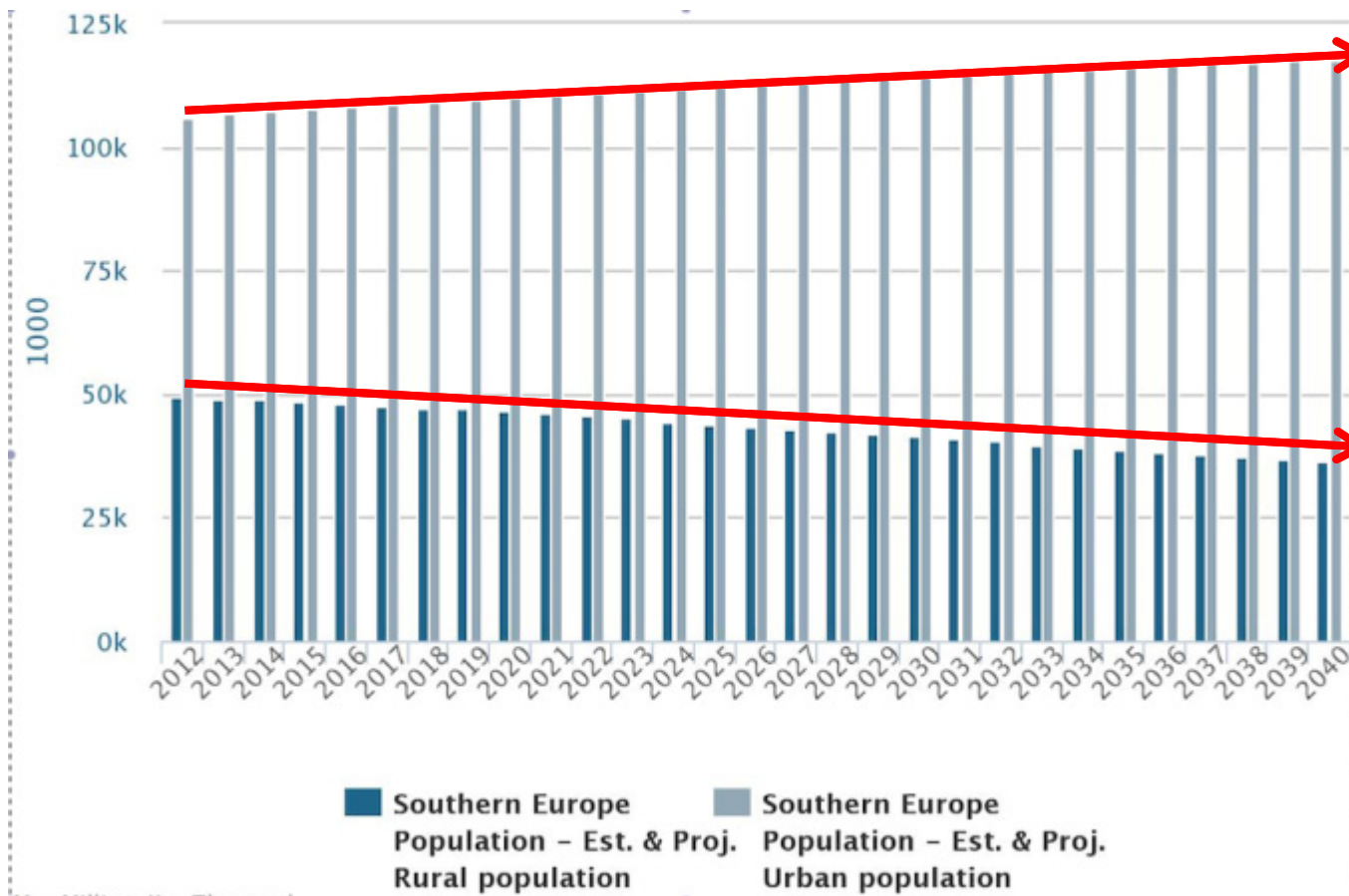
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## EU: REGIONS 2020 - DEMOGRAPHIC CHALLENGES FOR EUROPEAN REGIONS

“...Southern Europe shows a heterogeneous picture comprising of both regions with high population growth (Southern Spain, Southern France, Cyprus, Malta) and regions with declining populations (Southern Italy, some regions in Greece).”





# The Mediterranean region

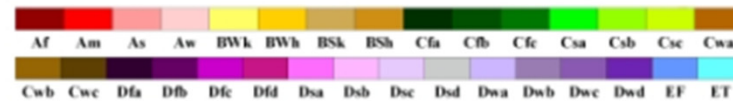
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In southern Europe, climate change is projected to **worsen conditions** (high temperatures and drought) in a region already vulnerable to climate variability, and to reduce water availability, hydropower potential, summer tourism and, in general, crop productivity. (IGCC,2007)

## World Map of Köppen–Geiger Climate Classification

updated with CRU TS 2.1 temperature and VASCLimO v1.1 precipitation data 1951 to 2000



### Main climates

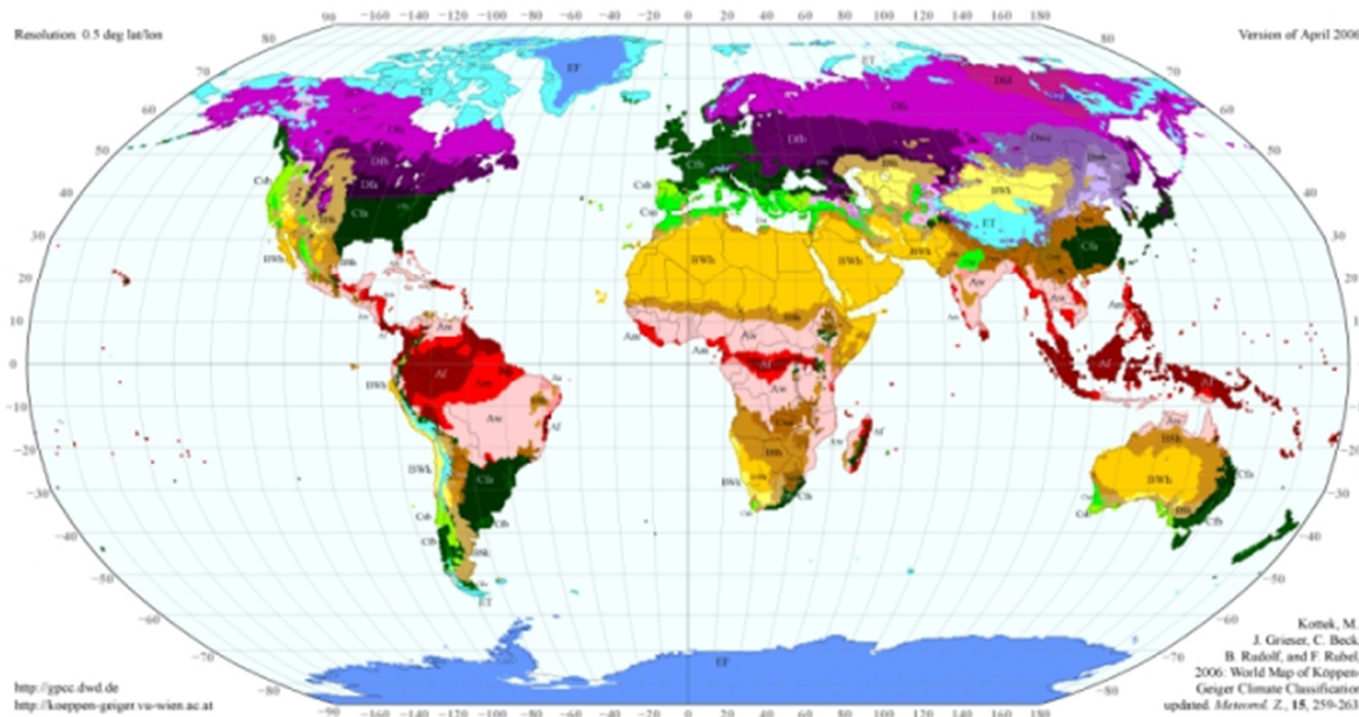
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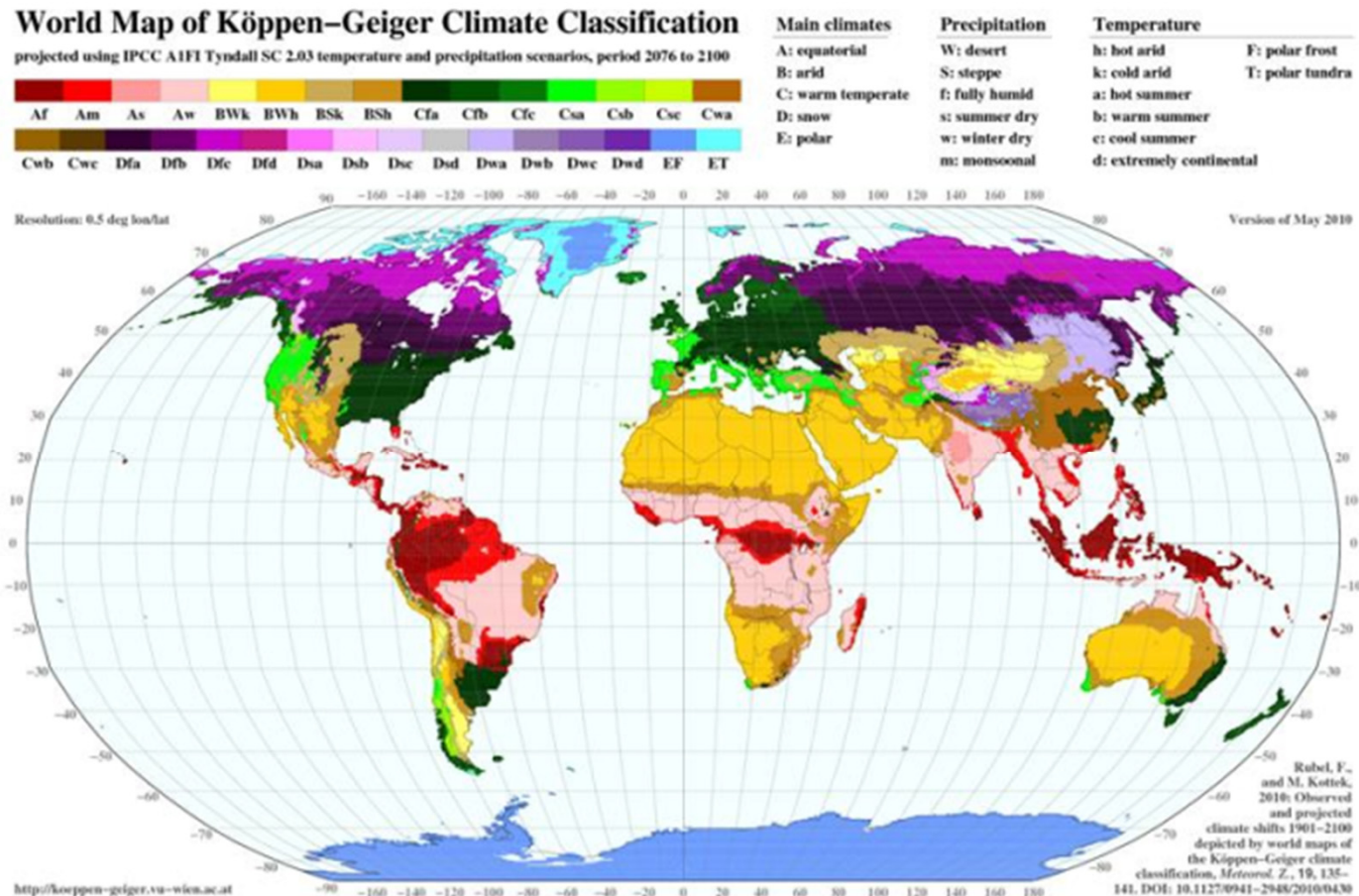
Kottek, M., J. Grieser, C. Beck, B. Rudolf, and F. Rubel, 2006: World Map of Köppen–Geiger Climate Classification updated. *Meteorol. Z.*, 15, 259-263.





# The Mediterranean region

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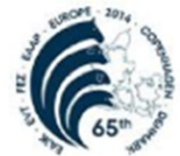




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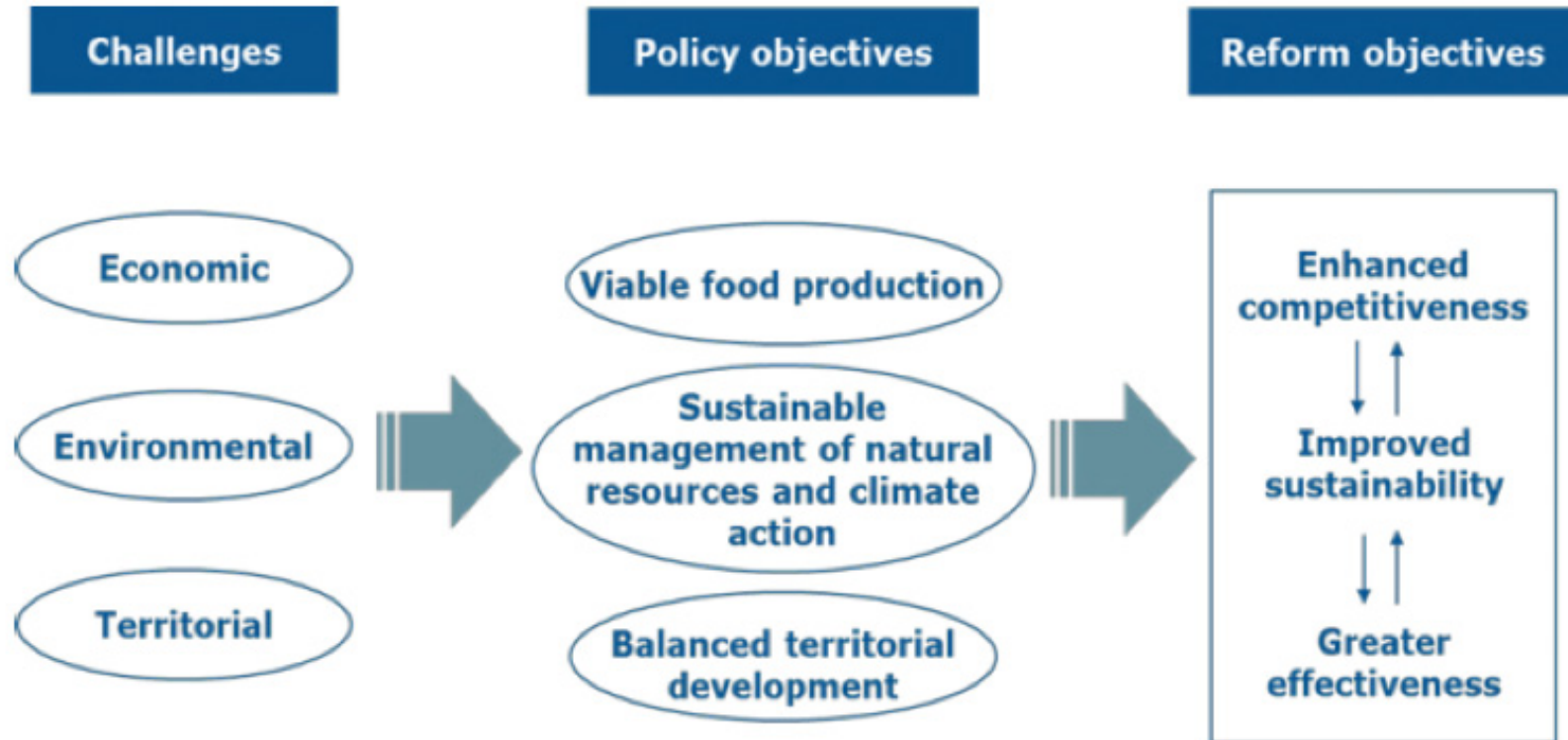




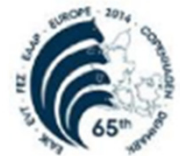
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EU, 2013 (CAP 2013-2020)





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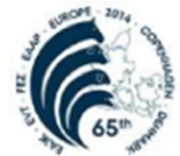
Are equine farm animals???

In Portugal, Spain and Italy, equines are farm animals!

Breeders associations, breeders and horse owners can benefit from financial aids;

It is recommendable to make an analysis of the breed before implementing a breeding system in order to maximize the economic output of a breed in a sustainable and conservation view:

1. Definition of the local production system.
2. Identification of driving factors of the system: strengths, weaknesses, opportunities and threats, identifying between internal and external factors.
3. Identification and prioritisation of strategies for breed development and conservation. (Martín-Collado et al., 2010)

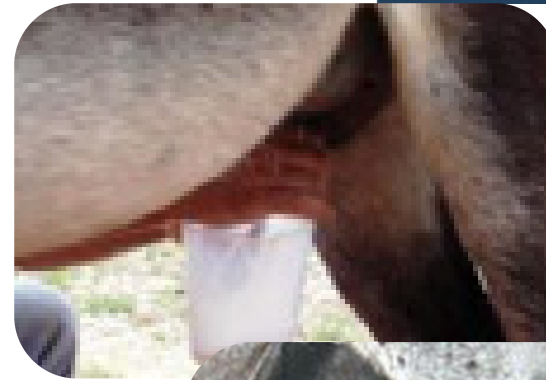
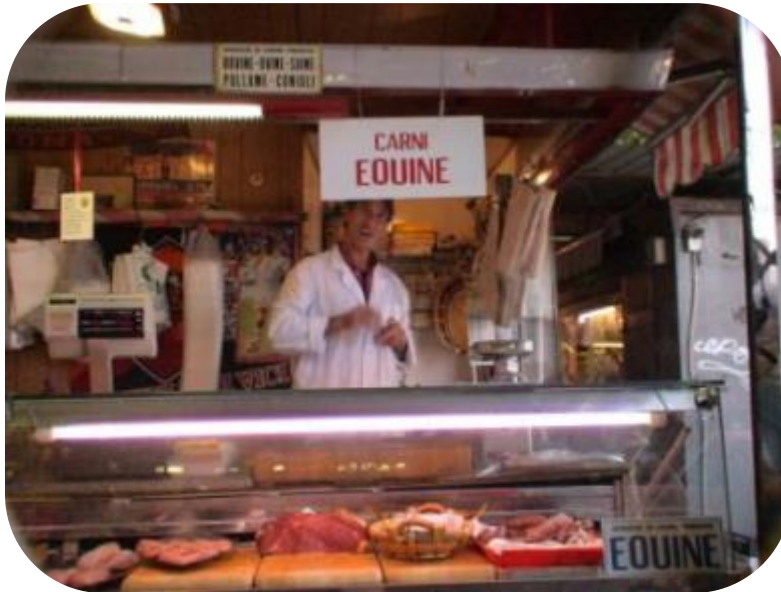




# Equine food products

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# Working equines...

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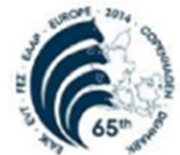
How? Where?

- Organically managed and family farms
- Small and/or sloping farm areas (vineyards, mountain,...)
- Forestry practices which mimics natural systems.



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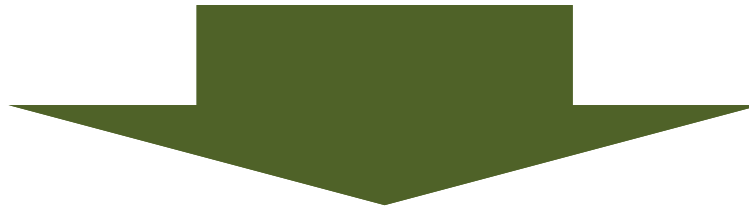
# Working equines...

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Three scenarios for tractive power were selected:

- draught horse power
- diesel tractor
- combination of draught horse power and rapeseed oil fueled tractor.



The most reasonable scenario for self-sufficiency for this farm is when **draught horse power is combined with tractor** (and combine harvester) driven on locally produced rapeseed oil.

Johanson et al., 2013





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# Working equines...

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# Leisure / tourism

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Equestrian tourism is professionally organised and is linked to many equestrian events that highlight the rural scene, natural landscapes and traditions.



<http://guiastecnicos.turismodeportugal.pt/pt/equestre>

<http://www.turismo-ecuestre.es/idioma.html>

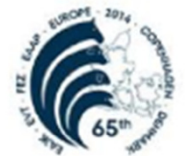




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# Equine-assisted therapies

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## Equine-assisted psychotherapy: a mental health promotion/intervention modality for children who have experienced intra-family violence

### Empowering Abused Women Through Equine Assisted Career



<http://www.frdi.net>

### Equine-assisted psychotherapy for children and horses: a pilot study and meta-analysis

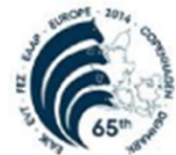
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Early Child Development and Care

DOI:  
10.1080/03004430.2012.693486

Volume 183, Issue 7, 2013

Jan Yorke<sup>a\*</sup>, William Nugent<sup>b</sup>, Elizabeth Strand<sup>bc</sup>, Rebecca Bolen<sup>b</sup>, John New<sup>c</sup> & Cindy Davis<sup>b</sup>





# Biological tool equines...

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- Selective eaters
- Volatile feeding behaviour (grazer, browser);
  - Biodiversity maintenance;
  - Control shrub encroachment in mountain (and other) areas; (Ferreira et al., 2007, 2009; Couto et al. 2013)
  - Beautiful to look at!

**Vienna Introduces the World's Most Elegant  
Lawnmowers to City Parks**  
Grazing Lipizzaner mares and foals mow the grass, fertilize the earth, and draw crowds



<http://equusmagazine.com/blog/vienna-spanish-riding-school-mares-foals-worlds-elegant-lawnmowers-parks-23772>



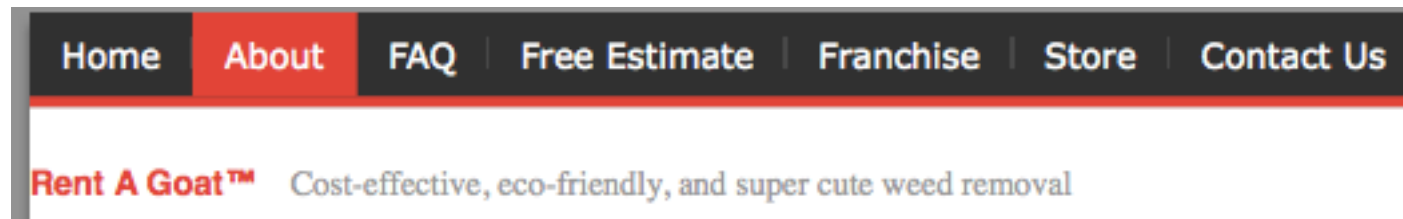


# Biological tool equines...

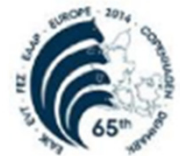
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- Establishing ways to preserve and control the horse herd long term to **eliminate the negative and retain the positive values they have!**



**Rent a horse?**







# Other interesting things going on

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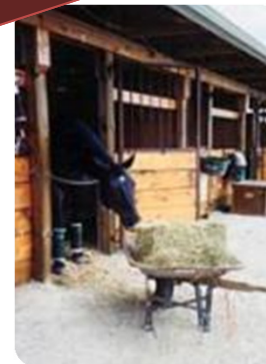
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## RESEARCH

- **Production diseases in horses** (EGUS, EMS, Laminitis, OCD's);
- **Manure management;**
- **Stereotype behaviors in stalled horses;**
- ...



**RESEARCH**





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**“Big changes are coming on the “horse” world...”**

**Equine Power in Mediterranean areas: Is there a place for it?**





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<http://equineink.com/tag/horse-cartoon/>

Yes! In the Mediterranean and all over!

Thank you for your  
attention!

