



Multifunctionality of local pig breeds – challenges in H2020 TREASURE

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Local pig breeds

- low productivity/not competitive
- a heritage of biodiversity
- preservation often assured via subsidies (public money)
- self-sustainability with agricultural use (multifunctionality)



a challenge of project TREASURE

Shortly about the project

call SFS-07a-2014 „Traditional resources for agricultural diversity and the food chain“ 11/12/2013



TREASURE "Diversity of local pig breeds and production systems for high quality traditional products and sustainable pork chains"



Start of the action: 01/04/2015

Duration: 48 months

Budget: 3.4 mio EUR

Coordinator:

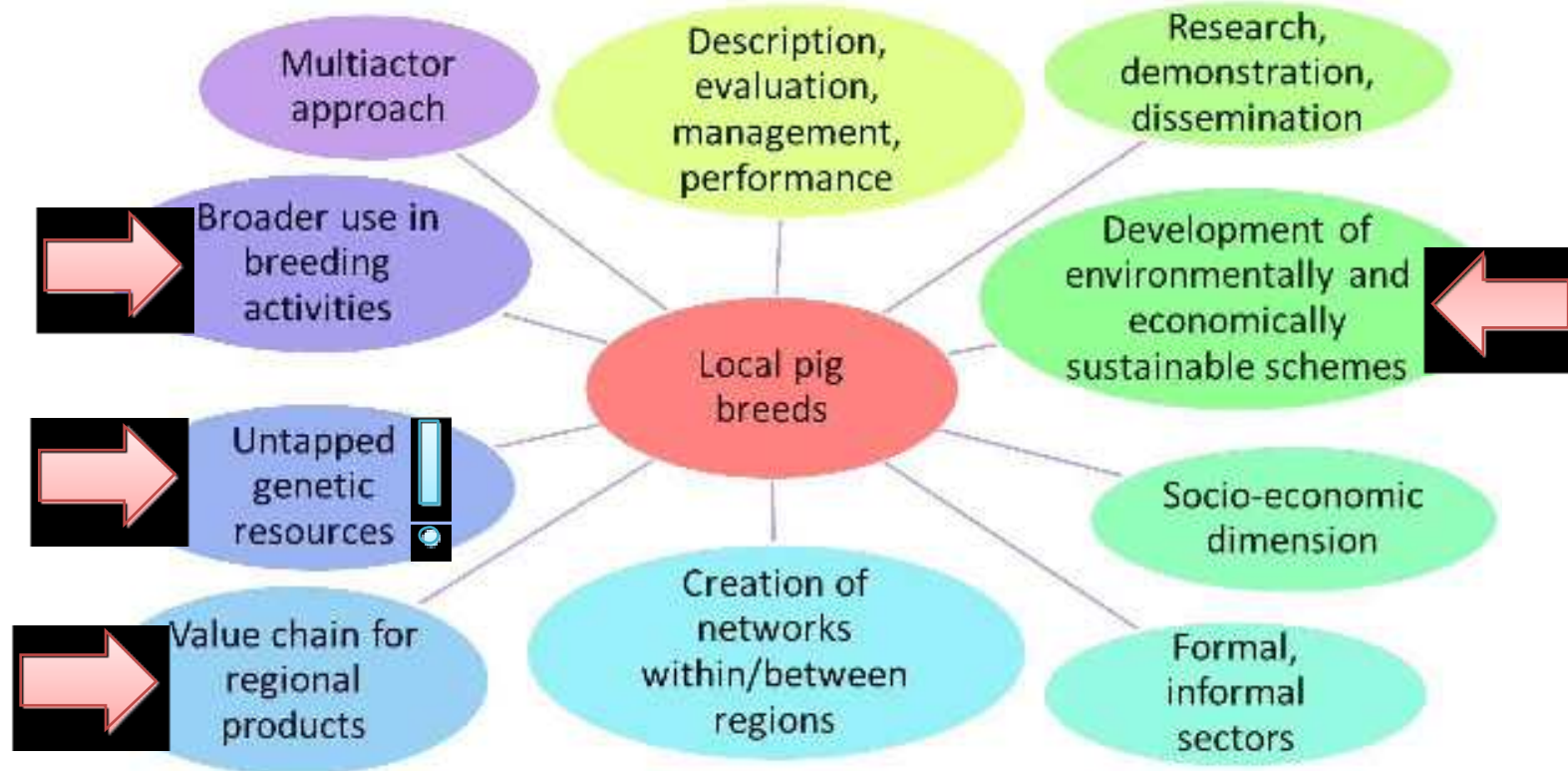
Marjeta Čandek-Potokar,
KIS-Agricultural Institute of Slovenia

25 partners from 9 countries



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Scope of the call => challenges of the project



Emphasis on untapped genetic resources, their broader use and development of value chain for products with regional identity... ~ on their multifunctionality

Challenge of TREASURE



„untapped“ genetic
resources

Local breeds in Europe (majority) are conserved thanks to the support of public money (**gene banks**).

In order to be **sustainable** it is important to make them self-sufficient, **economically viable**

➤ **research** needed because there is a big void of scientifically proven evidence of their qualities (e.g. characterisation) and of their needs (e.g. nutrition)

➤ **interaction** of different actors needed to build up „pork chains“

improve **knowledge, skills and competences** necessary to develop existing and create new **sustainable pork chains** based on European **local pig genetic resources** (local pig breeds).

- Scientific challenges
- Exchange of knowledge/experience btw partners
- Joint ventures („trade mark“)

Table 2: List of local pig breeds involved in the project

Country	Native name for pig/breed	Alternative name (found in the literature)
DE	Schwäbisch-Hällisches	Schwäbisch-Hällisches
ES	Ibérico	Iberian
ES	Negre Mallorquí	Black Majorcan
FR	Gascon	Gascon
FR	Basque	Basque
HR	Crna slavonska	Black Slavonian
HR	Turopoljska	Turopolje
IT	Cinta Senese	Cinta Senese
IT	Mora Romagnola	Mora Romagnola
IT	Sarda	Sarda
IT	Apulo Calabrese	Apulo Calabrese
IT	Casertana	Casertana
IT	Nero Siciliano	Nero Siciliano
LT	Lietuvos vietinės	Lithuanian indigenous wattle
LT	Senoji tipo Lietuvos baltosios	Old type Lithuanian White
PT	Bisaro/Bisara	Bisaro
PT	Alentejano/Alentejana	Alentejano
RS	Mangulica	Mangalitsa
RS	Moravka	Moravka
SI	Krškopoljski/Krškopoljska	Krškopolje



How does the project address multifunctionality



Multifunctionality

- (genetic) Biodiversity
- Landscape/paysage
- Agricultural activity
- Tradition
- Diversity of production systems
- Products with regional identity

Project addresses

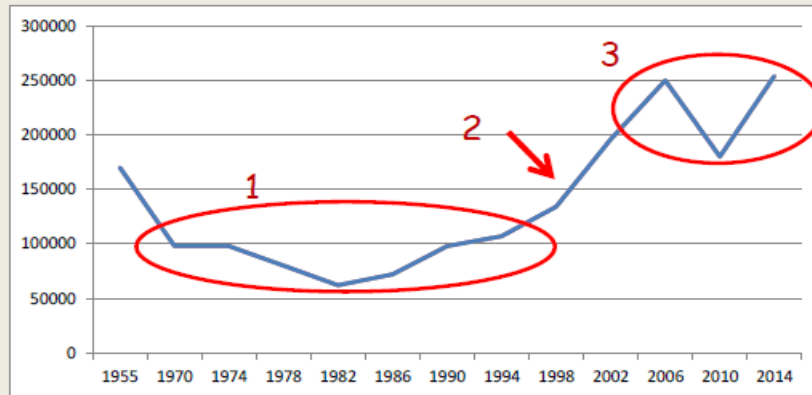
- Genetic characterisation
- Performance and product quality
- Use of local feeding resources
- Production systems
- Socio-economic impact
- Value chain – „umbrella“ trademark

Conservation through utilisation - Ibérico as a role model for TREASURE



✓ The breed: origin, history and features

Evolution of breeding females 1955-2014



1. Population crisis of the 60s

- Reducing consumption (demand nonfat products)
- Crosses with foreign breeds
- Loss of profitability
- Mechanization of agriculture
- African swine fever

2. Demographic explosion at the end of 90s

3. Current economic crisis

250-300000 sows



N.B. also crossing
with Duroc for
fattening pigs

Source: J. Garcia Casco 2015. *The Iberian Pig breed: population, production system and breeding programmes. Presented at 4th Int Cong New Perspectives and Challenges of Sustainable Livestock Production, Belgrade, Serbia, 7-9 Oct 2015.*

Conservation through utilisation - Ibérico as a role model for TREASURE



Lower productivity of the breed – but – better adaptation to harsh environment & better quality of products

Features: Adaptation of morphology and metabolism

- Resistant to sun exposure and high temperatures
- Ability to travel long distances for food
- Dark skin and hair color
- Pointed snout and long, strong legs



- Resistance to long periods of hunger
 - Low basal metabolism
 - Early formation of fatty tissues
- Thick layer of subcutaneous fat and high level of intramuscular fat ⇒ meat suitable for cured processes

General truth for local pig breeds



Source: J. Garcia Casco 2015. *The Iberian Pig breed: population, production system and breeding programmes. Presented at 4th Int Cong New Perspectives and Challenges of Sustainable Livestock Production, Belgrade, Serbia, 7-9 Oct 2015.*



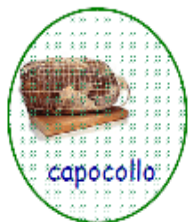
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Conservation through utilisation

Example II – Cinta Senese



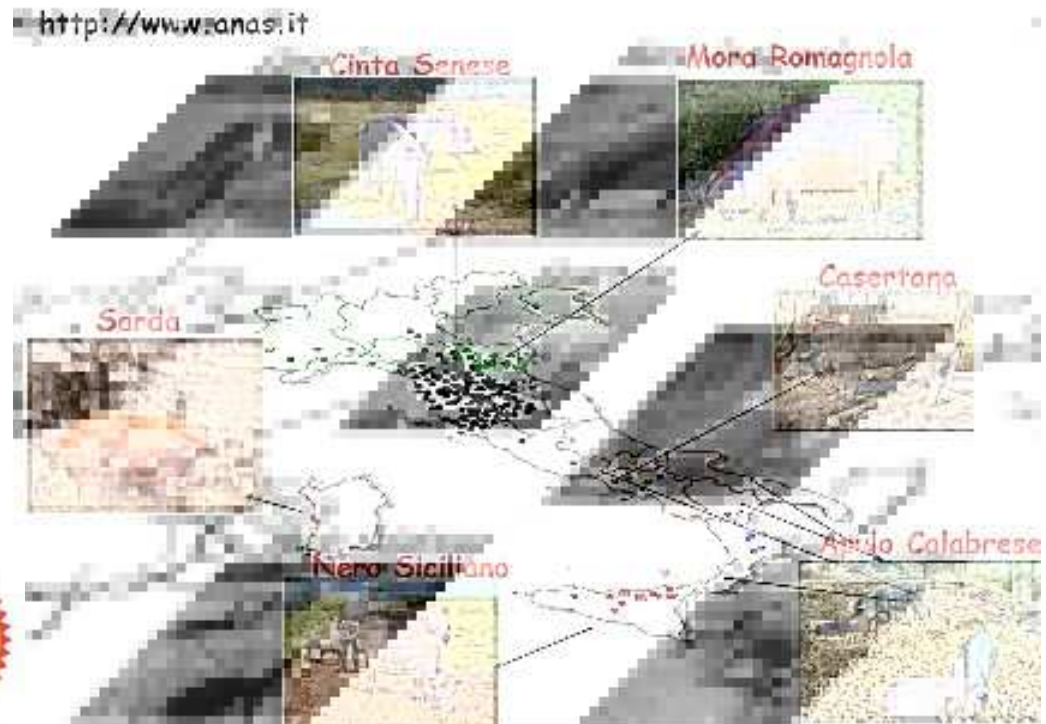
Products from Cinta Senese



None, among these, have the PDO label!



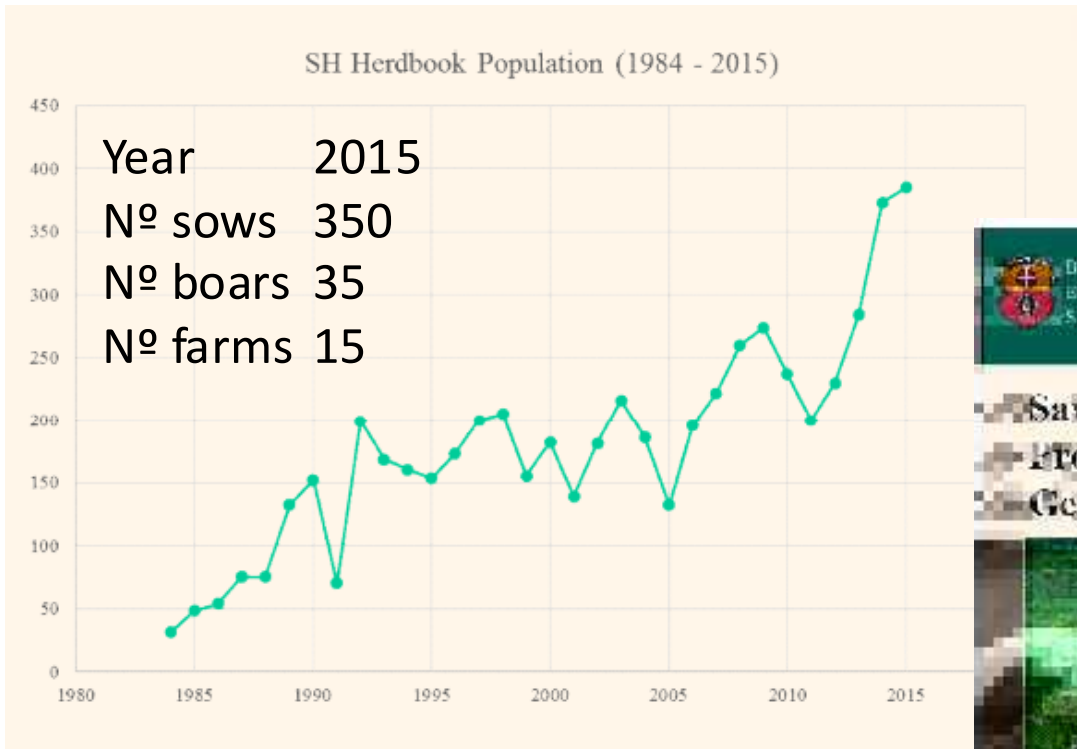
PDO label only for fresh meat



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Conservation through utilisation

Example III – Schwäbisch-Hällisches



BÄUERLICHE ERZEUGERGENEINSCHAFT SCHWÄBISCH-HALL

www.besh.de

Save the Product Quality and Investment of the Producers by Registered Brands and Registered Geographical Indications

Schwäbisch-Hällisches Qualitätsschweinefleisch g.g.A.



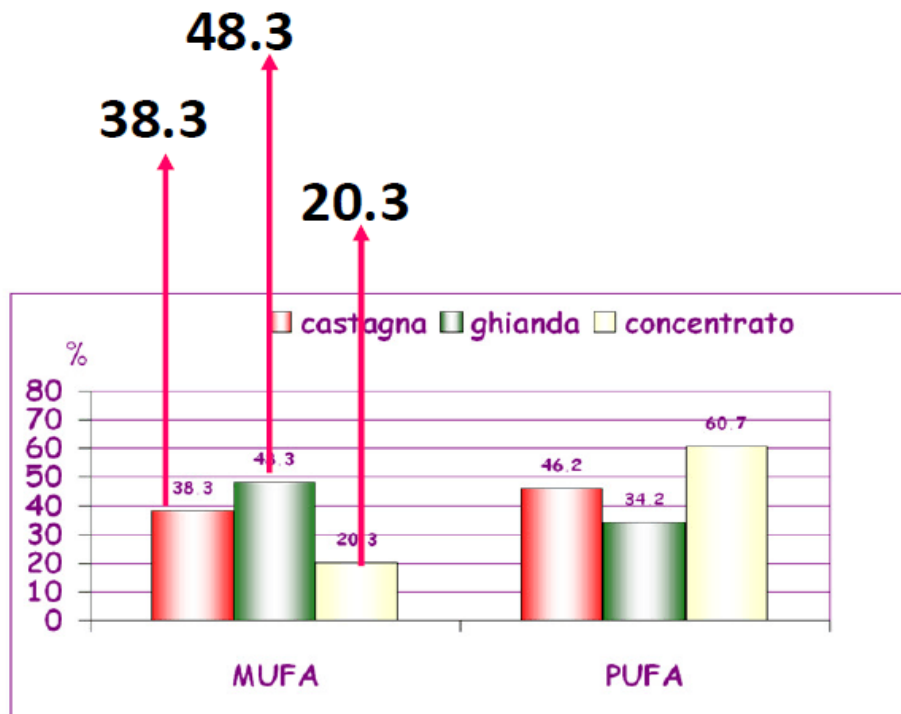
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What characterises the products?

- Breed + Specific production system**
e.g.(montanera) + feeding (acorns)



FATTY ACIDS COMPOSITION



Bellota (acorns + pasture)

Recebo (acorns + pasture + concentrate)

Cebo (concentrate)

Source: C. Pugliese, 2015.

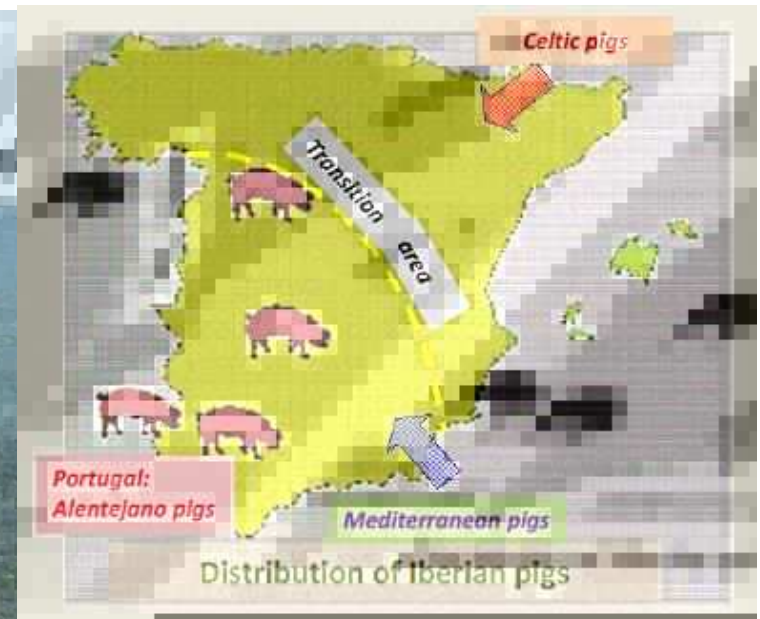


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Preservation of agricultural activity, typical paysage...and tradition



Dehesa: Mediterranean Forest modified by human action, with Quercus (oaks) and shrub layer disappearance



southwestern Spain (regions of Andalusia, Extremadura and Salamanca) and southern Portugal (Algarve and Alentejo)

10 kg acorn for 1 kg gain;
~40-70 trees and 1 pig/ha

Source: J. Garcia Casco 2015. *The Iberian Pig breed: population, production system and breeding programmes. Presented at 4th Int Cong New Perspectives and Challenges of Sustainable Livestock Production, Belgrade, Serbia, 7-9 Oct 2015.*



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Or?

- Pigs are grubbing around



Krskopolje pig



Krskopolje pig



Black Slavonian pig



Variety of production systems adapted to geo-agro-climatic conditions (indoor, outdoor)



Development
Evaluation



Hoop barn with open-air access



Portuguese breed
Bisara

For testing the
breed in
indoor/outdoor
conditions



Local feeding resources and agricultural by-products

- Availability of arable land/cereals is scarce (esp. in some regions)
- Pigs are omnivores (and direct concurrent to humans)
- Better use of local feeding resources and agricultural by-products



Pasture/wood



Alpha-alpha hay



Rice husk



potatoes



Acorns/
pasture



Alperujo –
olive oil rests

Thank you for your attention



TREASURE - Diversity of local pig breeds and production systems for high quality traditional products and sustainable pork chains is a Research & Innovation Action financed by European Commission under the Horizon 2020 - grant agreement no. 634476.

Start of the action: 01/04/2015 - Duration: 48 months (31/03/2019)

Budget: 3,395,966.75 EUR

The project is coordinated by Kmetijski institut Slovenije = Agricultural Institute of Slovenia (KIS)

and involves a Consortium of 25 partners from 9 countries.

The aim of the project is to improve knowledge, skills and competences necessary to develop existing and create new sustainable pork chains based on European local pig genetic resources (local breeds). The project will address:

- Description and evaluation of local pig breeds, with an emphasis on untapped ones using novel genomic tools.
- Performance of local pig breeds in contrasted agro-geo-climatic conditions and production systems (indoor, outdoor, organic). Focus will be on pig feeding and management strategies and on the use of locally available feeding resources.
- Intrinsic quality of traditional and new regional high quality pork products and attitudes of consumers from various market areas; in particular the motives for the choice and willingness to pay such products.

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