

Session 14

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Strategies to add value to local breeds with particular reference to sheep and goats

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Why local breeds are important

- Unique genetic resources: valuable
- Local sheep breeds ~ 88,0% of total sheep breeds
- Local goat breeds ~ 92,0% of total goat breeds

Convention on Biological Diversity:

“Conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population”

The Interlaken Declaration (FAO 2007)

“We acknowledge that maintaining the diversity of animal genetic resources for food and agriculture is essential to enable farmers, pastoralists and animal breeders to meet current and future production challenges resulting from changes in the environment, including climate change; to enhance resistance to disease and parasites; and to respond to changes in consumer demand for animal products”

- Local breeds are usually neglected by the powerful players of the livestock production sector
- The value of animal genetic resources is poorly understood by the general public and, especially, by policy makers
- Every effort to add value to local breeds, will improve the prospects of their conservation through sustainable use
- Several strategies available to increase the value of local breeds, include:

Linking local breeds with:

Traditional quality products, Labels (PDO, PGI, TSG etc) – R,M

Tourism (food, non-food products, souvenirs, leisure) – R,M

Adaptive advantage to climate change – R

Promoting the use of local breeds in:

Organic farming (organic products, animal welfare) – R,M

Conservation grazing – R

Silvopastoral systems – R

Small low input farms – R

Hobby farms/Agritourism

Breeding schemes – R

Other strategies

Legislation

Raising public awareness - M

Organisation

R: RESEARCH, M: MARKETING

Traditional products-Labeling:

- add value to the product, producer, farm animal
- form of guarantee for the consumer

EU Labels

PDO: Protected Designation of Origin

PGI: Protected Geographical Indication

TSG: Traditional Speciality Guaranteed

National Appellation systems

France: *Appellation d'origine contrôlée*

Italy: *Denominazione di origine controllata*

Portugal: *Denominação de Origem Controlada*

Spain: *Denominación de Origen*

Usually, in EU countries the two systems work in parallel

*EC Regulation 510/2006: does not exclude unprocessed
wool products from EU labelling*

Tourism

Linking local breeds to:

- Food
- Non-food products
- Landscape
- Leisure
- Souvenirs

Elements of tradition and speciality



Adaptive advantage to climate change

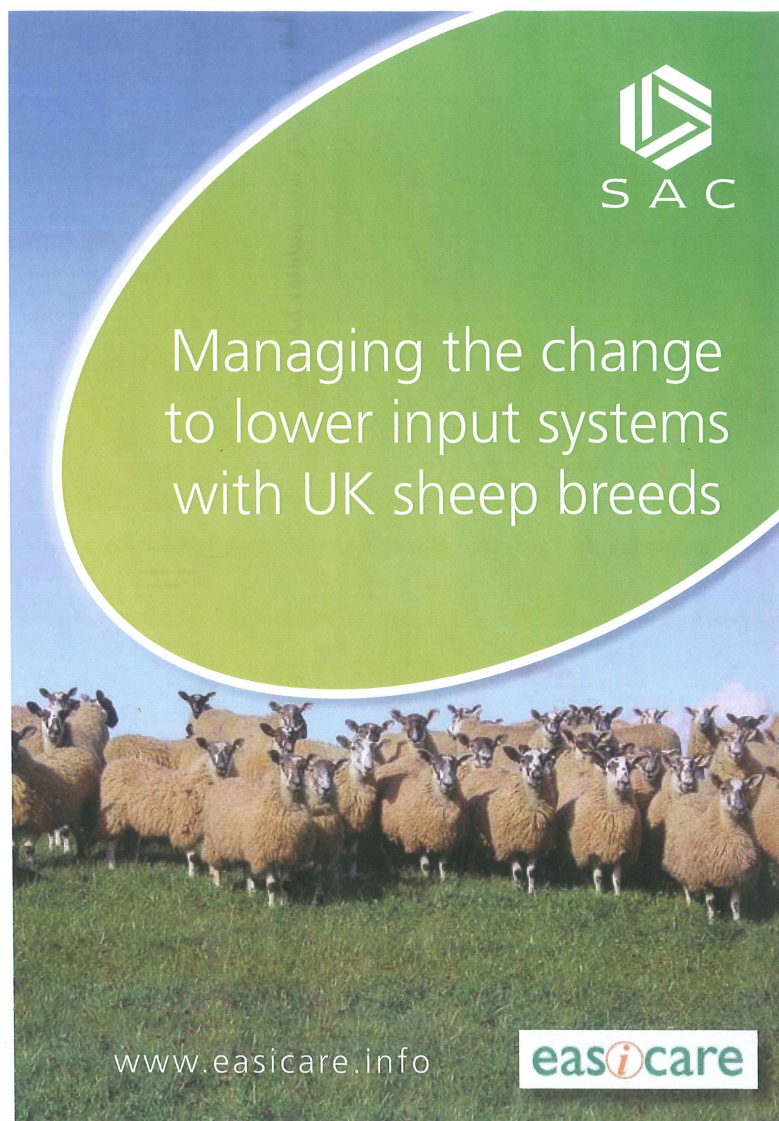
- Local breeds have an adaptive advantage over other breeds in their native environment
- In areas with hot climate, the well adapted local breeds is the best choice for use in animal production
Such breeds may prove useful to other presently cooler areas, as global warming continues
- Hair sheep usually tolerate heat better than woolled sheep
- Fat-tailed sheep in hot dry climates are better adapted than other types of sheep

Local breeds are genetically adapted to their environment and have special characteristics that differentiate them from commercial breeds

- they display better grazing behaviour, utilise lower quality feed, are more resistant to diseases, local parasites, stress and climatic change

Best choice for use in :

- **Organic farming, Conservation grazing, Silvopastoral systems**
- **Low input farms, Small farms, Agritourism farms, Hobby farms**



Booklet
for UK farmers
prepared by the

Scottish
Agricultural
College

Breeding schemes

- Establishment of breeding schemes for improving production and fitness traits within local breeds
- Systematic crossbreeding for meat production in sheep, implies the continuous availability and supply of purebred animals
- Local breeds are the cornerstone of systematic crossing (two- and three-way crosses) because they provide the purebred females for crossing
- Usually, local breeds play their vital role under difficult conditions by utilising low productivity marginal areas, otherwise unexploitable

Research

- **Local breeds benefit from research and research benefits from the large number of local breeds**
- **Identification, study and utilisation of special biological characteristics of local breeds such as:**
 - **disease resistance**
 - **prolificacy**
 - **longevity**
 - **ability to utilise poor quality feed**
 - **adaptation to climate change**
 - **product quality etc**

**Examples
of
Traditional Quality Products**

Manx Loaghtan lamb (PDO)

Primitive local sheep breed on the Isle of Man (UK)
Meat from Manx Loaghtan lambs is less fatty,
darker and with better taste and flavour than meat
from commercial breeds





Queijo de Cabra Transmontano Cheese (PDO)

**Milk of the
Serrana Negra
goat breed**

Portugal



Ekte Gjetost (Geitost)
cheese
Norwegian goat milk



Wool products from the local sheep breed, Corsica, France



Corsican sheep

Examples

of

Silvopastoral systems

Conservation grazing

Organic farming



Local Cyprus Machaeras goats grazing in a pine forest



Anatolian Black goats in the Taurus mountain forests, Turkey

Andalusian Network of Grazed Fuelbreaks (RAPCA)

- 19 farmers, 7500 sheep and goats grazed 910 ha of fuelbreaks
- Payment*: 34 -70 €/ha/year → 1050 - 4720 €/farmer/year
- 23% of estimated cost for alternative methods of clearing fuelbreaks
- Local sheep and goat breeds

**Government of Andalusia, Environment Department*



La Raza Segureña



La Cabra Malagueña

Organic farming

Wales (UK): Good production and income (farm + subsidies) with

Welsh Speckled Face sheep in hill and upland farms

“Traditional breeds may be best suited to forage-based diets in the organic hill situation”

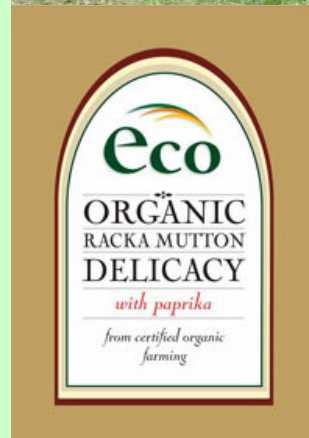


Canolfan Organig Cymru
Organic Centre Wales

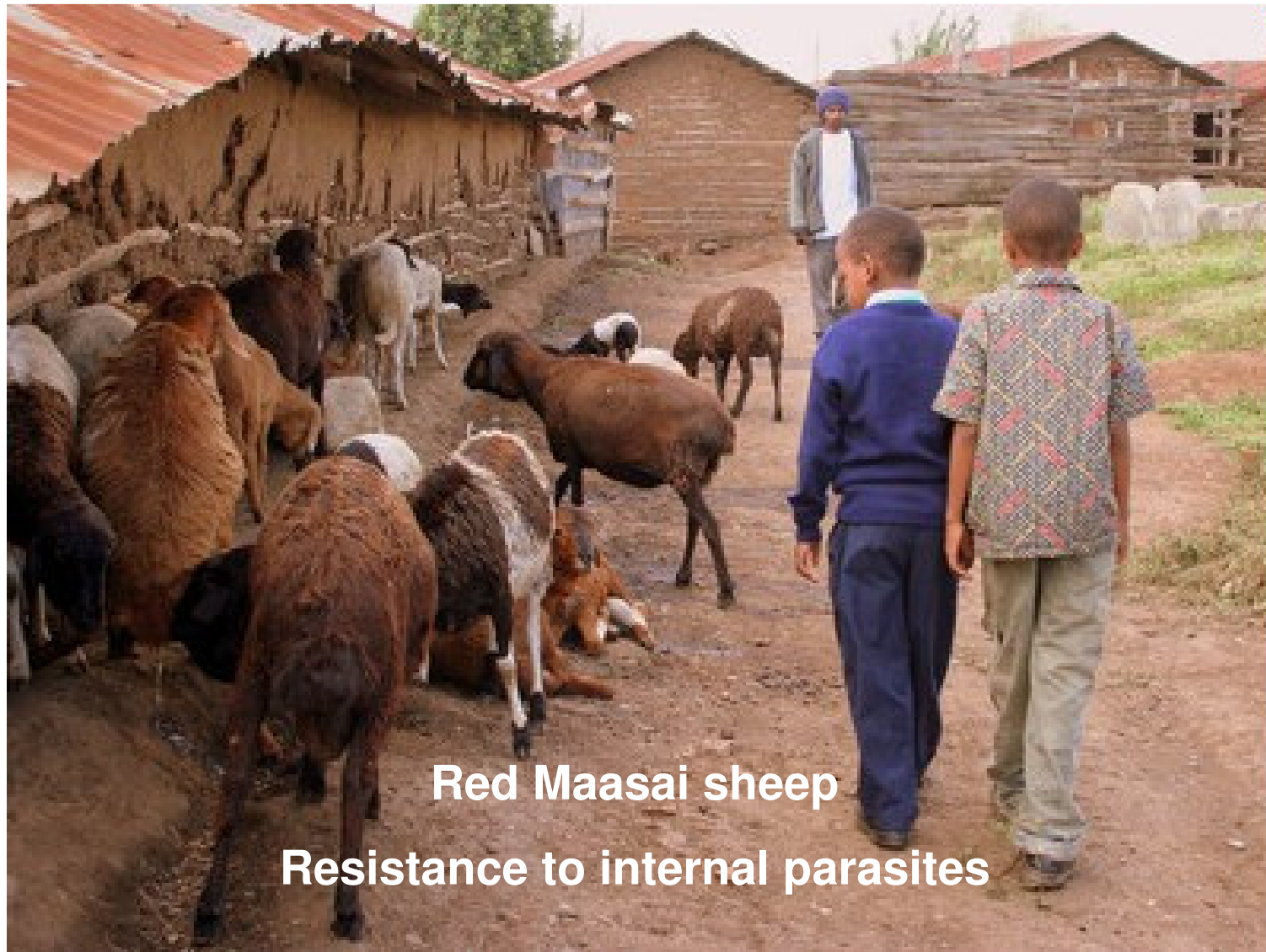


Organic Farming Technical Guide: “Organic upland beef and sheep production” (2009) by D. Frost, M. Morgan, S. Moakes

Organic sheep products from Racka sheep, Hungary



Examples of research results



Red Maasai sheep
Resistance to internal parasites



SKOPELOS GOAT BREED

- medium size
- hardy animal
- grazing ability
- adaptation
- very good growth rate and meat quality
- good prolificacy (1,4 -1,6)
- high milk yield (250-350kg)
- very good milk quality (5,0% fat, 4,5% protein, 4,0% lactose)

QUALITY PRODUCTS

For Nisa cheese, PDO, Portugal:

Superior cheese making yield and better quality characteristics of milk from local sheep breeds (Merino Branco, Saloia) compared to a foreign breed (Assaf)

A.P.L.Martins *et al.* *Options Mediterraneennes* 91:221-225



Merino Branco sheep



Saloia sheep

Milk of local breeds: better price?

Marketing

- Identification of special characteristics of a local breed
- Emphasis on special characteristics and product quality
- Linking the breed and its products to local environment, existing resources, culture
- Market research → likely users in the community, region, country, overseas
- Facilitating access of producers to commercial markets
- Combining several aspects e.g. special products and functions with tourism, organic farming, agriforestry, education etc
- Souvenirs
- Labelling
- Publicity

Legislation → political strategy

EU legislation provides → indirect (single farm payments, accompanying measures) support to local breeds and, direct financial support to “local breeds indigenous to the area and in danger of being lost to farming”*

** For sheep and goats, less than 10 000 breeding females*

Subsidies is a very helpful support tool

EU legislation supports the use of local breeds in organic farming systems “.....preference is to be given to indigenous breeds and strains”
(EC 1804/1999)

The EU carcass classification legislation does not favour local breeds because is based on conformation and fat classes and can result in difficulties when marketing carcasses from local breeds

Raising public awareness

- Local breeds: unique genetic resources
- Preservation of biodiversity
- Sustainable use
- Quality products
- Organic farming/Animal welfare
- Tradition, Culture
- Alternatives to industrial production
- Environmental aspects

Science journalism may help

Organisation

Breeding Associations

Establishment of breeding associations → critical step for local breed conservation and utilisation - State involvement for guidance and help

Organisation at a higher level

Regional: Nordic Genetic Resource Center

European Association: ATELIER

International Organisation: Slow Food

Mikuni Construction Co. in Kitakyusyu City, southern Japan, announced in August 2009, that it would be launching a new service to rent goats for weeding grass starting in April 2010. This unique weeding method does not require any machinery (?), and is drawing attention as an environmentally friendly (?) technique.



Local goat breeds would be the best choice for such a service



**THANK YOU
FOR
YOUR
ATTENTION**