



Livestock Biodiversity Workshop – Rome, 5-6th May 2010

Analysis of differences and similarities across local cattle farming in Europe

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EU policy of support to local endangered breeds

- **Reg. CEE 2078/92**
 - Financial support to farmers
- **Reg. CE 1257/99 – Reg. CE 817/2004:**
 - Financial support to farmers
 - Financial support for conservation of AnGR
- **Community programmes for conservation, characterisation, collection and utilisation of genetic resources in agriculture - GENRES**
 - Council Regulation (EC) 1467/1994
 - Council regulation (EC) 870/2004

EU policy of support to local endangered breeds: Financial support to farmers (economic incentives)

- **Gap in profitability (mainstream –local) varies among breeds, while incentives are not breed-specific**
- **Incentives probably is not a long term solution**

How to encourage self-sustaining local cattle farming ?

Questions addressed in the EURECA project:

- **Are there differences across European local cattle farming to require policies and strategies adapted to specific countries and breeds?**
- **Are there similarities among countries and breeds to justify common conservation policies ?**
- **What should be taken into account when developing policies to booster self-sustaining local breeds ?**

Farmers' Survey - Methodology

High diversity of breeds / farming systems, because the variety of historical, political, social, economic, cultural and environmental contexts.



Different influences and pressures during the recent erosion and revitalisation processes



We expect high diversity within and among local breeds today

Breeds surveyed



	BREED	N. FARMERS
FN	Eastern Finncattle	30
	Western Finncattle	31
IRE	Kerry Cattle	20
FR	Villard de Lans	15
	Ferrandaise	19
SP	Avileña-Negra Ibérica	31
	Alistana-Sanabresa	31
IT	Reggiana	30
	Modenese	26
ES	Estonian Native	30
BE	Dual purposes Belgian Blue	23
	Dual Pourposes Red and White	18
NL	Meuse-Rhine-Yssel	24
	Deep Red	21
	Groningen White Headed	22
TOTAL		371

Methodology – parameters surveyed

- Farm size (ha)
- Number of cows (all breeds on farm)
- % of cows of the local breed on farm
- Herd size relative to the breed average herd size
- Evaluation of the breed, compared to a mainstream breed

Farm

- Age of the farmer
- Degree of entrepreneurship activity of the farmer
- Level of cooperation with other farmers of the local breed

Farmer

- % of farm land owned by the farmer
- % of total family income from cattle farming
- % of total family income from local cattle farming
- % of the cattle production sold on farm/local market

Economic

- Farmer's opinion on the appreciation of "his work" by society
- Farmer's opinion on the importance of his breed for society
- Relevance of tradition as reason for keeping the local breed

Social

Methodology – indicator of "sustainability"

- Herd size in the next five years

Discriminant analysis was first used to identify the set of parameters that differs among countries – to be taken into account when developing policies

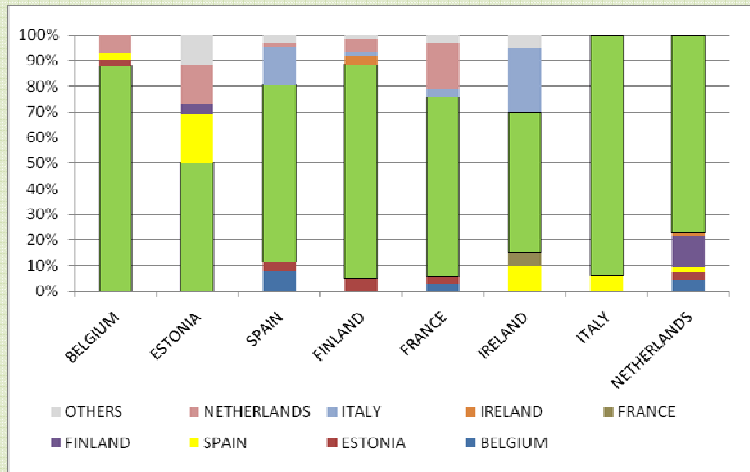
Results

Step wise discriminant analysis (country)

Step	Variables	Wilk's Lambda	Pr.
1	Importance of the breed for society	.468	<.0001
2	% of production sold on farm/local market	.250	<.0001
3	% of farm land owned by the farmer	.176	<.0001
4	Farmer's opinion on society's appreciation	.127	<.0001
5	Farm size	.091	<.0001
6	% of total family income from cattle farming	.075	<.0001
7	Number of cows	.065	<.0001
8	Herd size relative to the breed average herd size	.052	<.0001
9	% of total family income from local cattle farming	.046	<.0001
10	% of cows of the local breed on farm	.041	<.0001
11	Level of cooperation with other farmers	.027	<.0001
12	Evaluation of the breed vs. mainstream breed	.035	<.0001
13	Age of the farmer		n.s.
14	Degree of entrepreneurship activity of the farmer		n.s.
15	Relevance of tradition for keeping the local breed		n.s.

Results

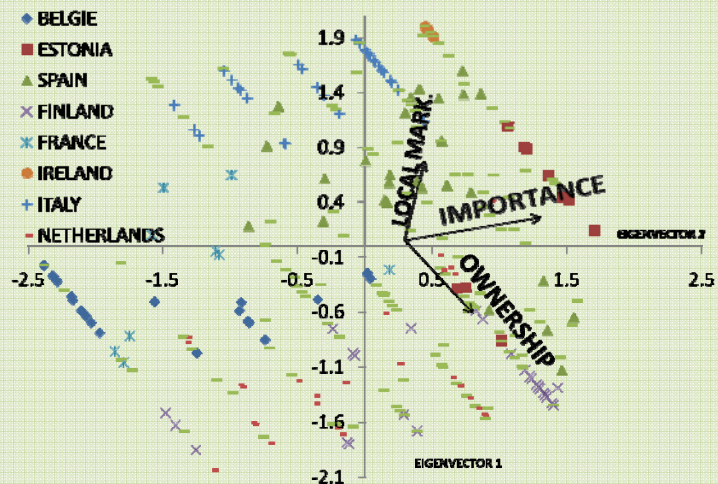
Discriminant analysis (country): error rate



The green part of the bar = proportion of farms of each country that will not be mixed up with farms from other countries

Results

Discriminant analysis (country) - PCA: how the three first variables discriminate countries

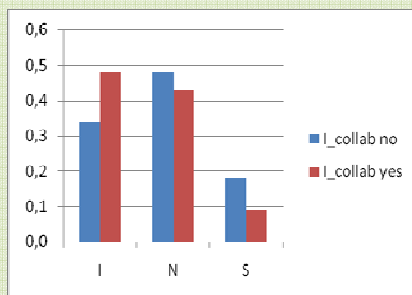
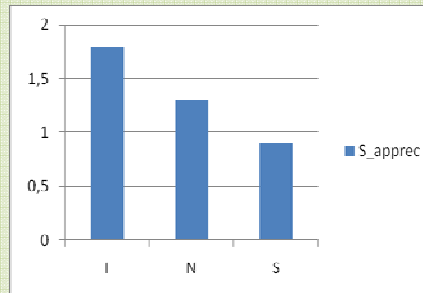
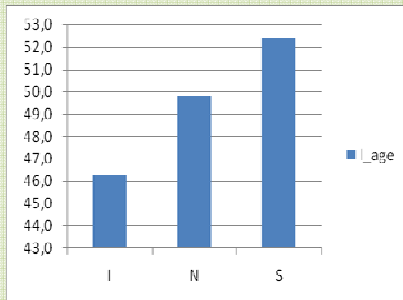


Discriminant analysis was secondly used to identify those parameters that affect herd size trend (increasing, no change, decreasing/stopping) in all countries – to be taken into account when developing policies

Results

Discriminant analysis (herd size trend)

Step	Variables	Wilk's Lambda	Pr.
1	Farmer 's opinion on appreciation of the society on "his work"	.626	<.0001
2	Age of the farmer	.601	<.0001
3	Level of cooperation with other farmers	.598	<.0001



Relationship between expected change in herd size in the next five years and:

- age of the farmer
- appreciation of the society of "his work"
- cooperation among farmers.

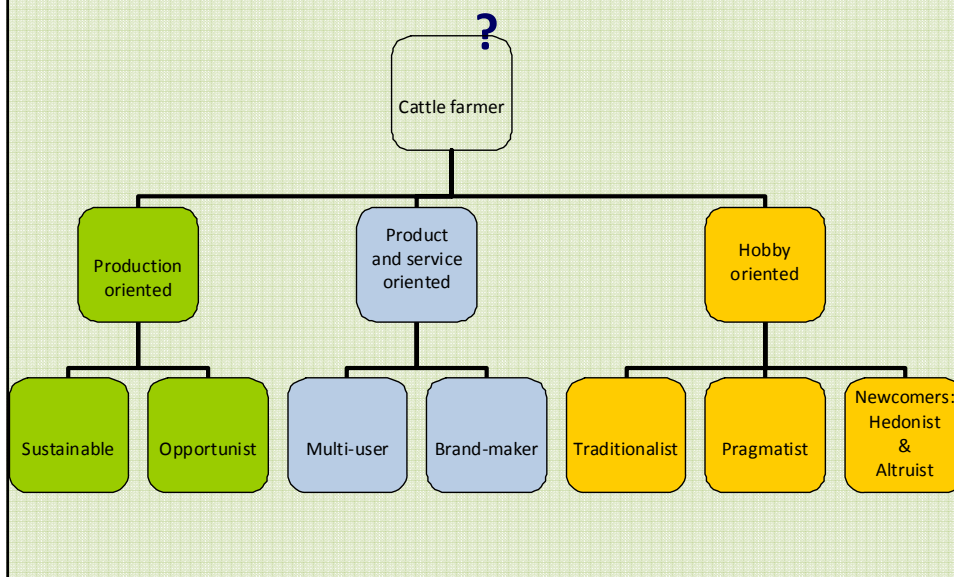
Logistic regression analysis was used to predict herd size change (increasing, no change, decreasing/stopping) in the next five years from:

- age of the farmer (25 / 83)
- degree of collaboration among farmers (0 / 1)
- farmer's opinion on the appreciation of the breed by the society (5- / 5).

Results - Logistic regression analysis (herd size change in the next five years)

FACTOR	TREND	ODD RATIO	Pr.
Age of the farmer (unit = 10 years)	Increasing vs. no change	.96	.003
	Stopping vs. no change	1.03	n.s.
Collaboration degree (1 vs. 0)	Increasing vs. no change	1.61	n.s.
	Stopping vs. no change	.50	n.s.
Society's appreciation (unit = 1)	Increasing vs. no change	1.21	.006
	Stopping vs. no change	.85	n.s.

Can we identify farmers types regarding their attitude toward local cattle farming



Conclusions

- **Development of conservation policies and strategies should involve all major stakeholders (farmers, etc.)**
- **Common policies should:**
 - **not create unbalanced effects across Europe**
 - **be accompanied by local policies tailored to specific countries/breeds situations**

Conclusions

- **Need for measures:**
 - **to raise social awareness about the positive role of local breed farming for the society**
 - **to promote collaboration among farmers**
- **Monitoring parameters of sustainability**