Stocking rate and food self-sufficiency:

a way to secure the economic results for suckler cattle farms

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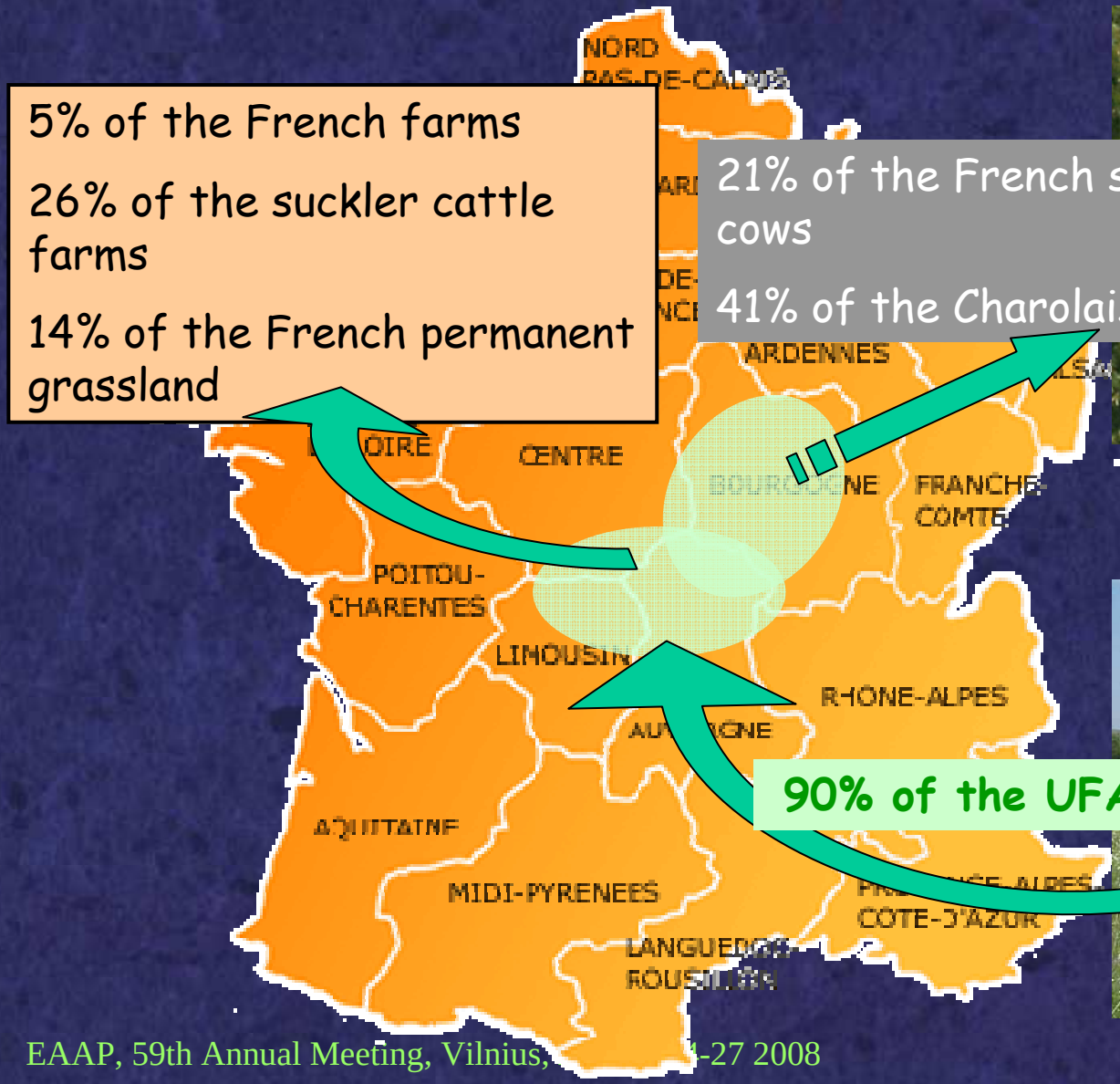
Introduction – Grassland and Charolais

5% of the French farms

26% of the suckler cattle farms

14% of the French permanent grassland



21% of the French suckler cows

41% of the Charolais cows

90% of the UFA

Aims of the study

- 2003 drought => ↘ 40 % grasslands' yield in the Charolais area

- Impacts on the farming systems?
- Economic impacts?
- The more vulnerable systems?
- The more flexible systems?

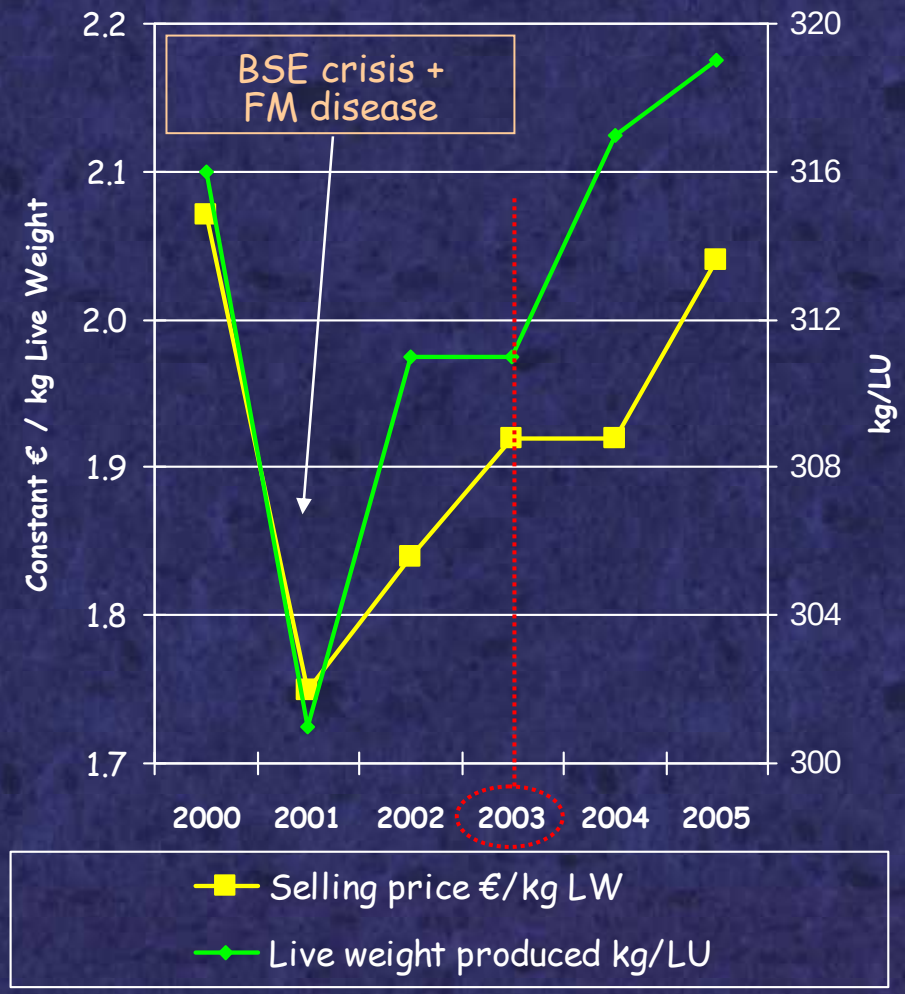
- Results of a constant group of 74 farms over 6 years (2000 – 2005)

Sample and context

	Workers *(salaried)*	UFA *(UFA/WU)*	Fodder area % UFA	Cows *(cows/WU)*	LU *LU/WU*	Stocking rate
INRA 74 farms 2004	2.04 *(0.28)*	150.5 *(73.8)*	82.5	86.3 *(42.3)*	153.6 *(75.3)*	1.24
RICA OTEX 42 Bourgogne 2004	1.49 *(0.08)*	110.9 *(74.4)*	91.7	65.4 *(43.9)*	125.5 *(84.2)*	1.20

- Size of the 74 farms larger than the average of the suckler farms, but with more workers (labour productivity =)
- All the systems are covered: cow-calf, cow-calf and fattening, intensive, extensive
- Grasslands' yield stable from 1999 to 2002, CAP reform in 2000 (Agenda 2000) => a 6 years study from 2000 to 2005

Weight productivity and bovine product



- Weight productivity unaffected by drought
- Range of sold animals and selling date unaffected
- BSE crisis and foot-and-mouth disease determinant in 2001
- 2003 is a continuation and not a break

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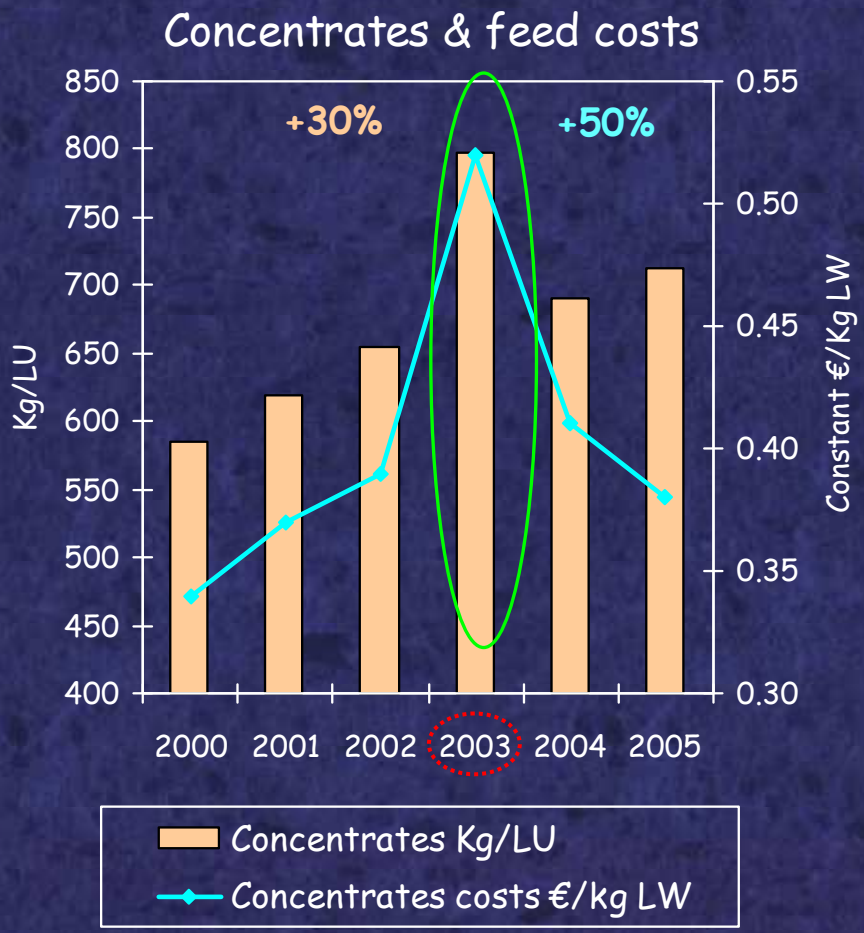
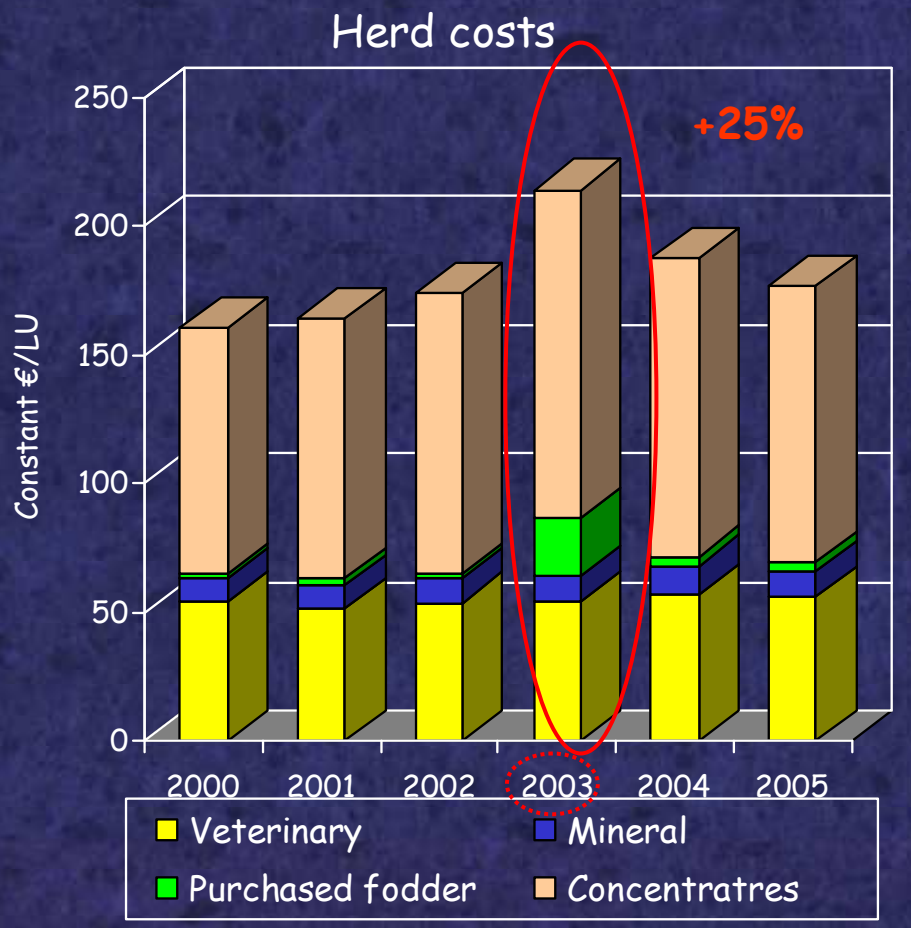
Herd costs





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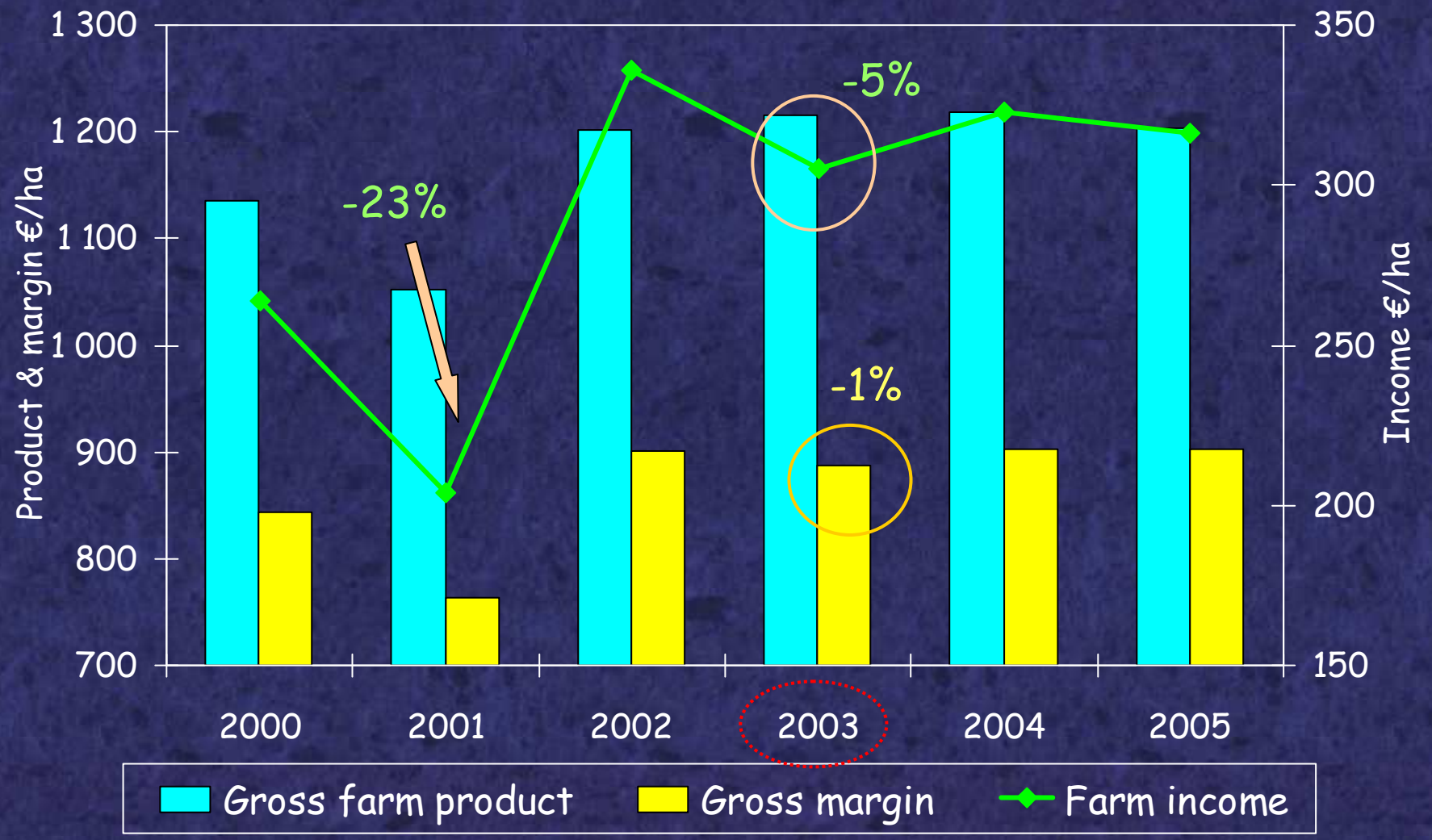
Product, gross margin & farm income / ha



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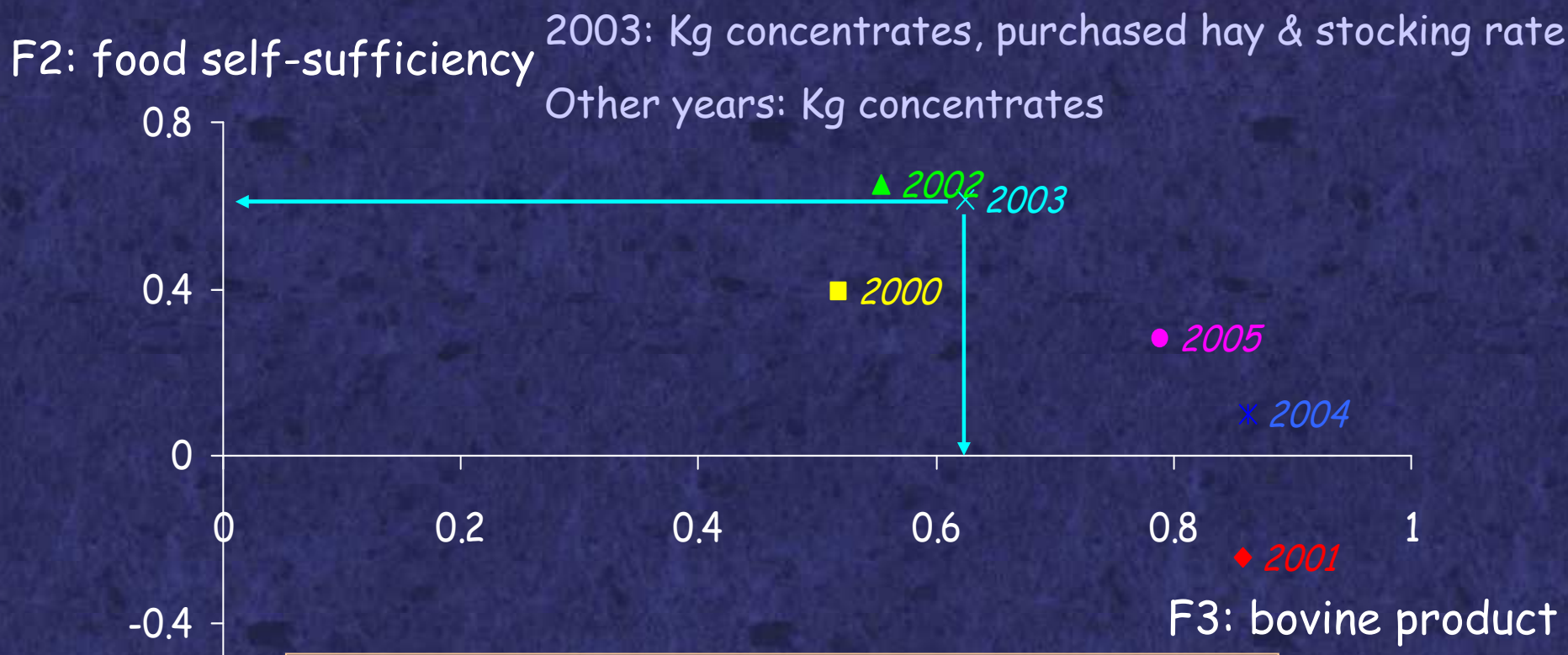
Bovine gross margin variability



Sample variability:

F1: intensification of production	= 25 %
F2: food self-sufficiency	= 17 %
F3: bovine product	= 11 %

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Determinants of the bovine margin (correlations)

Forage self-sufficiency FU = FU forage produced/ FU requirements
Food self-sufficiency FU = FU total produced/ FU requirements

r^2	Num. Prod.	Forage self-suf.	Food self-suf.	Conc. Kg/LU	Stock. rate
2000		0,23	0,23		-0,24
2001					-0,43
2002	0,39	0,30	0,33	-0,29	-0,34
2003	**0,38**	**0,46**	**0,48**	**-0,36**	**-0,43**
2004			0,25		-0,33
2005			0,24		

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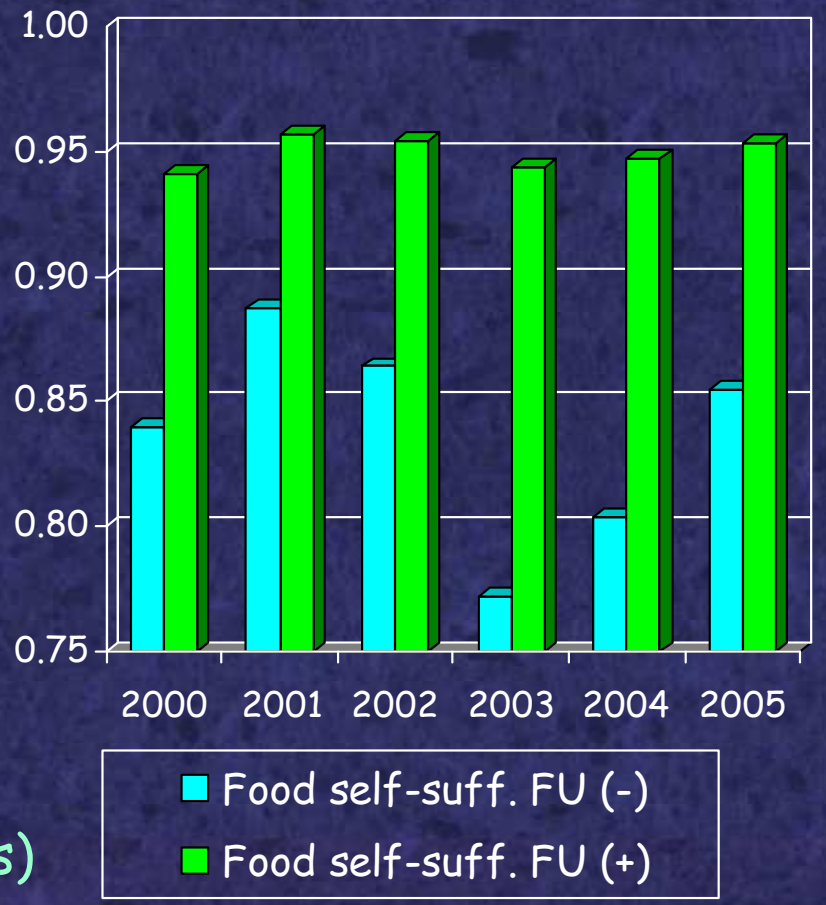
Self-sufficiency and farm income / worker

r^2	Forage self.	Food self.
2000	-0,24	
2001	0,23	0,28
2002		0,29
2003	0,29	0,36
2004		
2005		



2 groups:

25% food self-suff. + 2003 (19 farmers)

25% food self-suff. - 2003 (19 farmers)

Self-sufficiency and farm income / worker

Discussion

Average over 6 years	Self +	Self -
UFA / WU (Ha)	69.7	74.6
LU / WU	66	87
Crops % UFA	23.2	13.4
Maize % fodder area	3.1	3.1
Harvested herbage %	43	38
Stocking rate LU / ha fodder area	1.25	1.32
Live weight produced Kg / LU	310	311
Concentrates Kg / LU	556	769
On-farm produced concentrates %	68	33
Bovine gross margin € / LU	647	587

Low input systems (OF)

22 OF farms *vs* 400 Conv. (2004)	OF	Conv
UFA / WU (Ha)	71	39
LU / WU	59	64
Stocking rate LU / ha fodder area	1.00	1.28
Live weight produced Kg / LU	250	300
Concentrates Kg / LU	470	700
incl. purchased concentrates	140	350
On-farm produced concentrates %	70	50
Forage self-sufficiency	90	82
Food self-sufficiency	97	90
Bovine gross margin € / LU	660	640

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Conclusions

- Adaptation of the Charolais systems to the 2003 drought: purchase of forages and concentrates
  - Productivity of the herd and bovine product unchanged
- Specific subsidies had compensate, in part, for the additional costs:
  - The farm income per worker decreased by 8%

Conclusions

- Adaptation of the system faced with climate change:
  - Reaching the food self-sufficiency :
    - Decrease of the stocking rate
    - Management of the forage system and the of the feeding strategy as a whole
    - Management of the herd (calving date)

- For low input systems (organic farming systems) the food self-sufficiency and hence the stocking rate are part of the major determinants of the farm income