BEEF PRODUCTION IN FRANCE

ECONOMIC AND ENVIRONMENTAL PERFORMANCES OF SUCKLER-CATTLE FARMS

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26/ 08/ 2013

INTRODUCTION

Suckler systems play a key role in French livestock farming

- A third of the EU suckler cow herd is located in France
- One in two French cows is a suckler cow
- French suckler-cattle provides 65% of beef consumed in France
- A third of this suckler cow herd is found in the depressed-area grassland of the Massif Central
- Faced with changing trends in farm-gate prices together with successive reforms to Common Agricultural Policy, suckler cow farmers have been pushed to adapt their production systems to maintain their income (one of the lowest of the French agriculture)
- Livestock farming was single out as a major driver of GHG emissions
- Livestock farming adds value to depressed area

➲ **Beef production from suckler cattle and some farms results (economic & environmental)**

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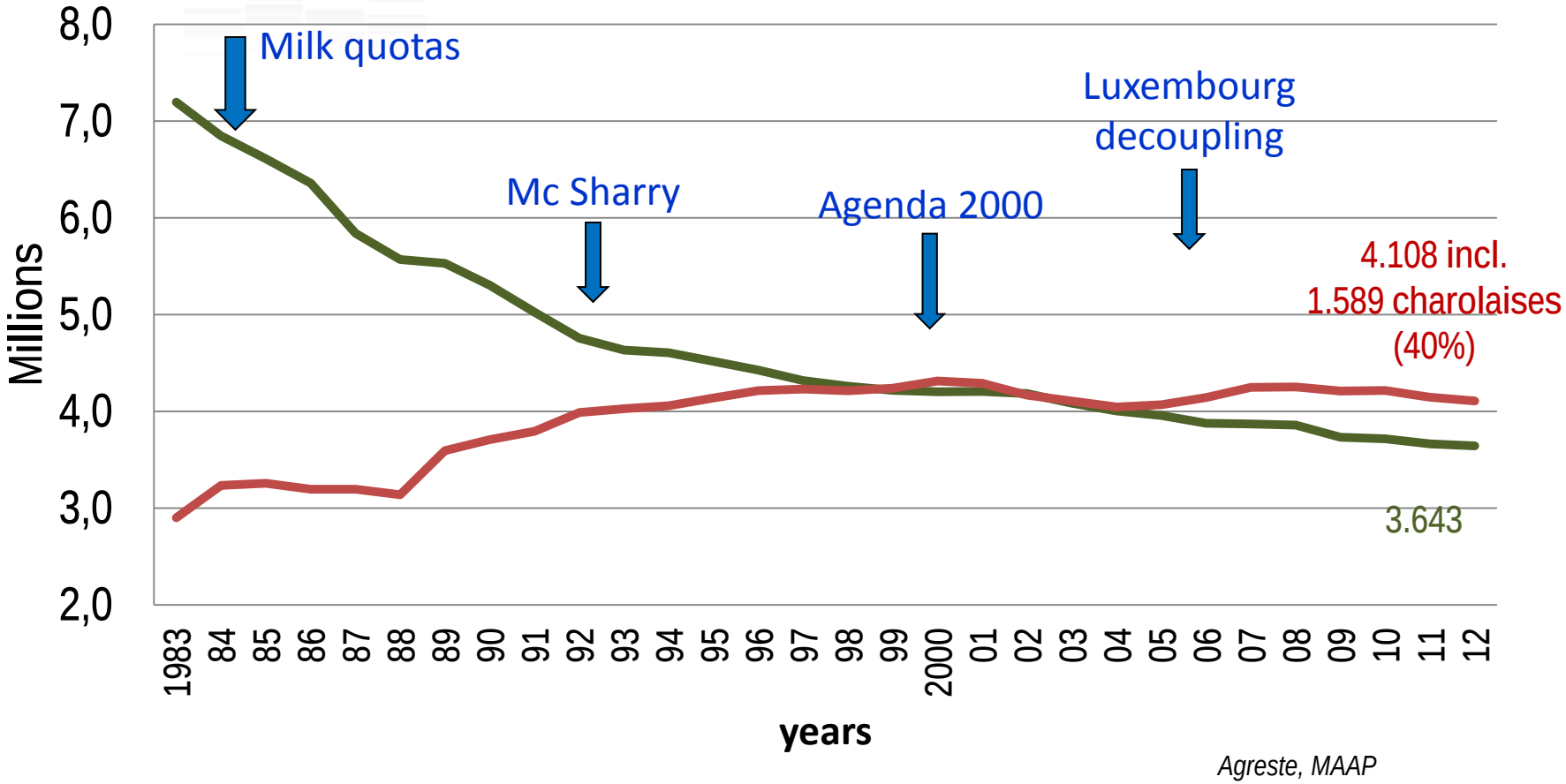
BEEF PRODUCTION AND SUCKLER CATTLE

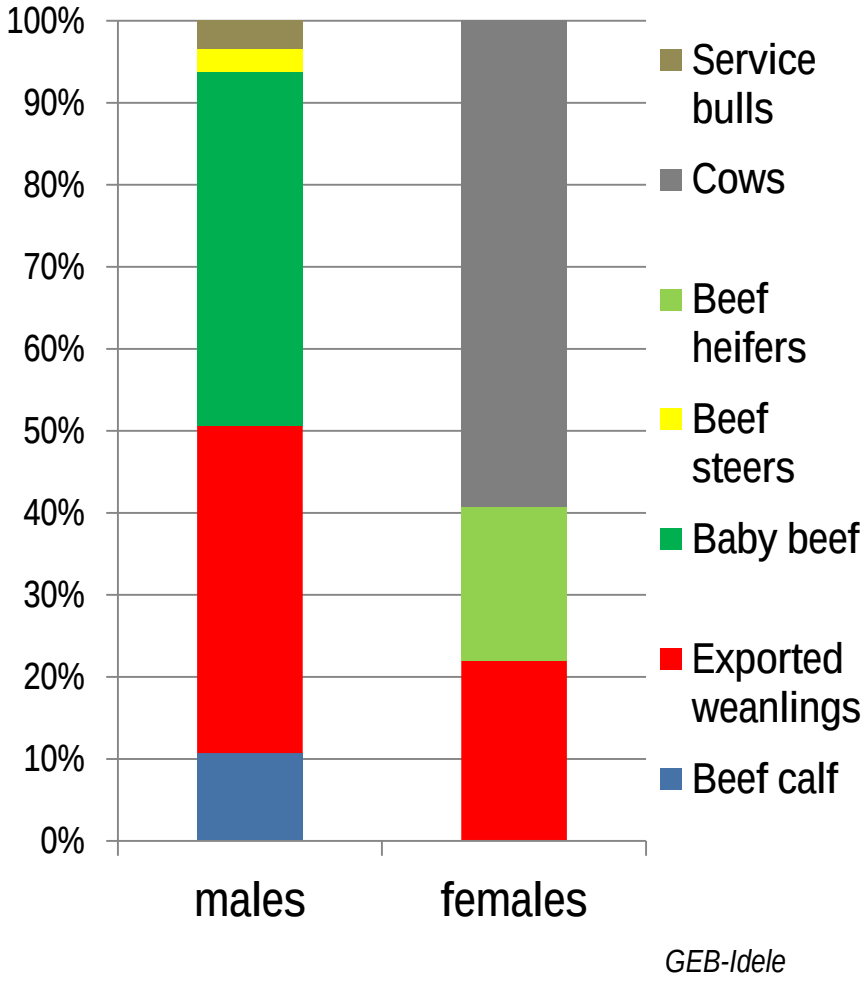
Number of cows: evolution



Calves from the suckler cattle

4,1 millions cows* 0,84 = 3,42 millions	
Veal calves	187 000
Exported weanlings (Italy)	1 065 000
Baby beef	745 000
Beef steers	48 000
Heifers for slaughter	312 000
Cows	990 000
Service bull	60 000

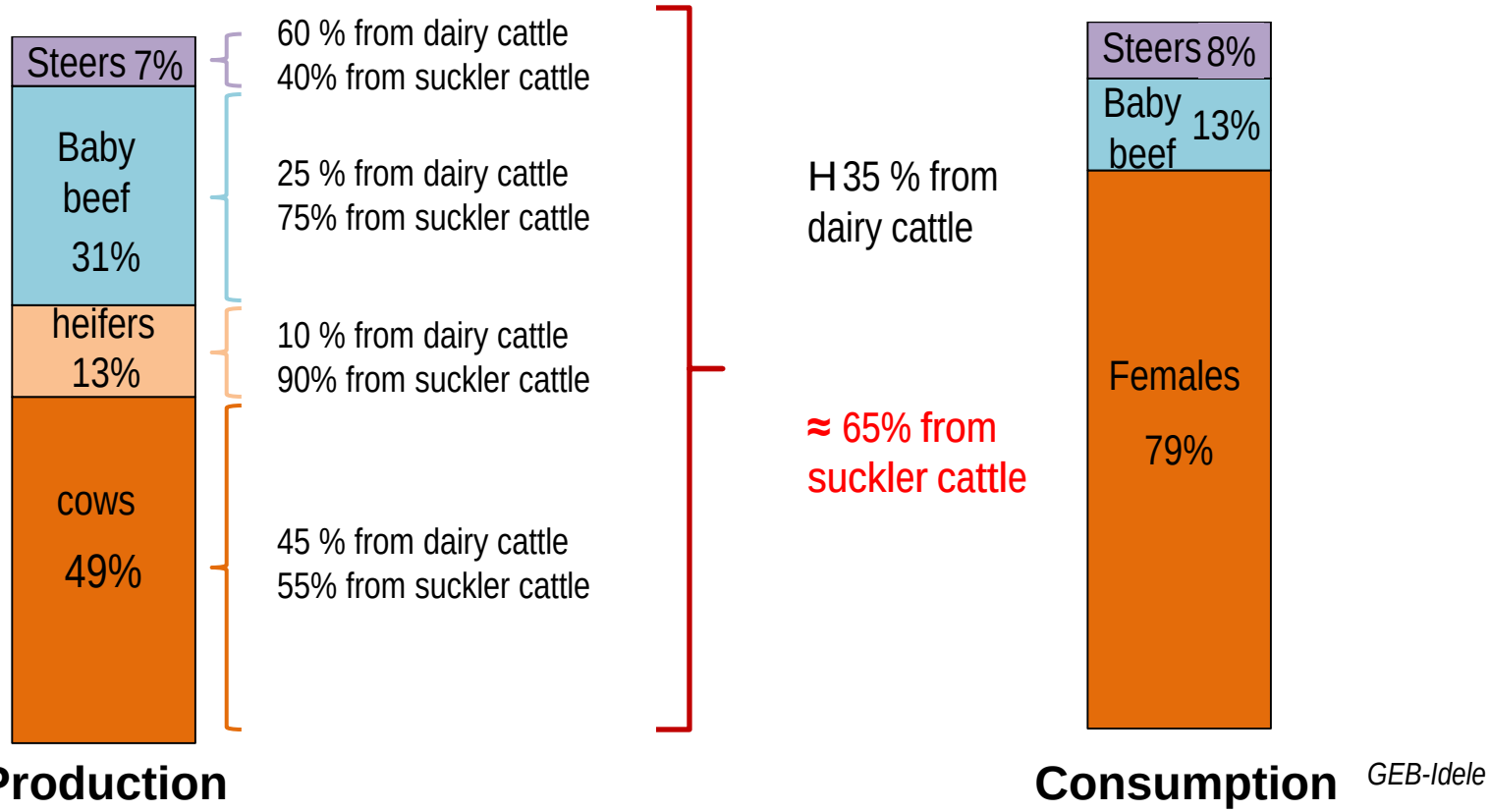
European exchanges of live animals:
- French weanlings for the Italian market
- more than 40% of the males from the French suckler herd are exported to Italy



GEB-Idele

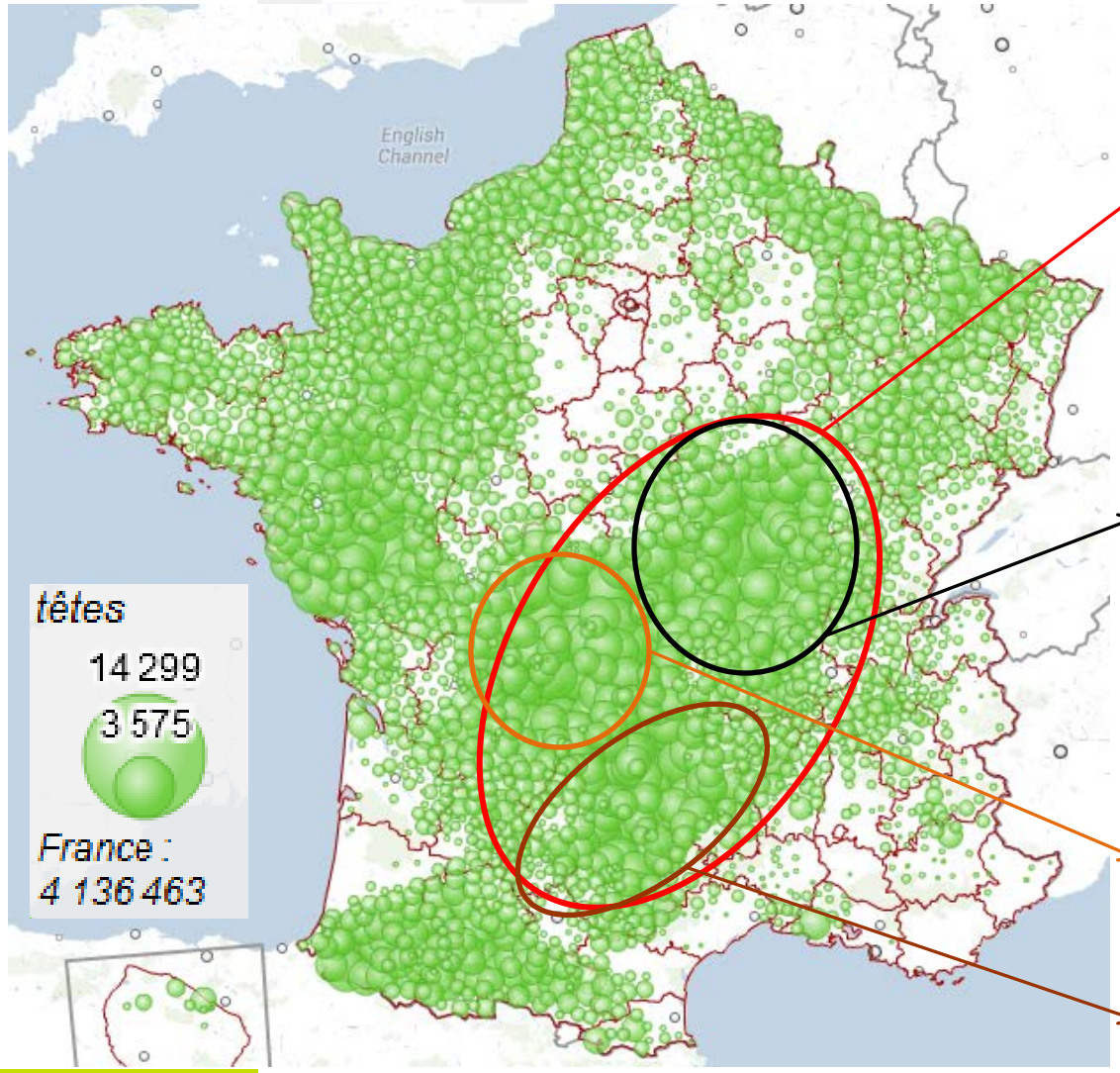
Beef consumed and produced in France

- Self-sufficiency in beef: 100%
  - ✓ 2011 balance of live animals exhanges = +1.4 millions
  - ✓ 2011 balance of beef exhanges = -52 000 t. eq.carcass



GEB-Idele

Suckler cows / district (2010)



Massif Central (15% of national UAA)
- Mountain areas = 58%
- Mixed crop-livestock area = 27%
- Pastoral area = 9%

35% of French suckler cows

Charolais area
- 41% of the total Charolais cows
- 20% of the total suckler cows

Limousin area
- 33% of the total Limousine cows

Salers + Aubrac area

Agreste, MAAP

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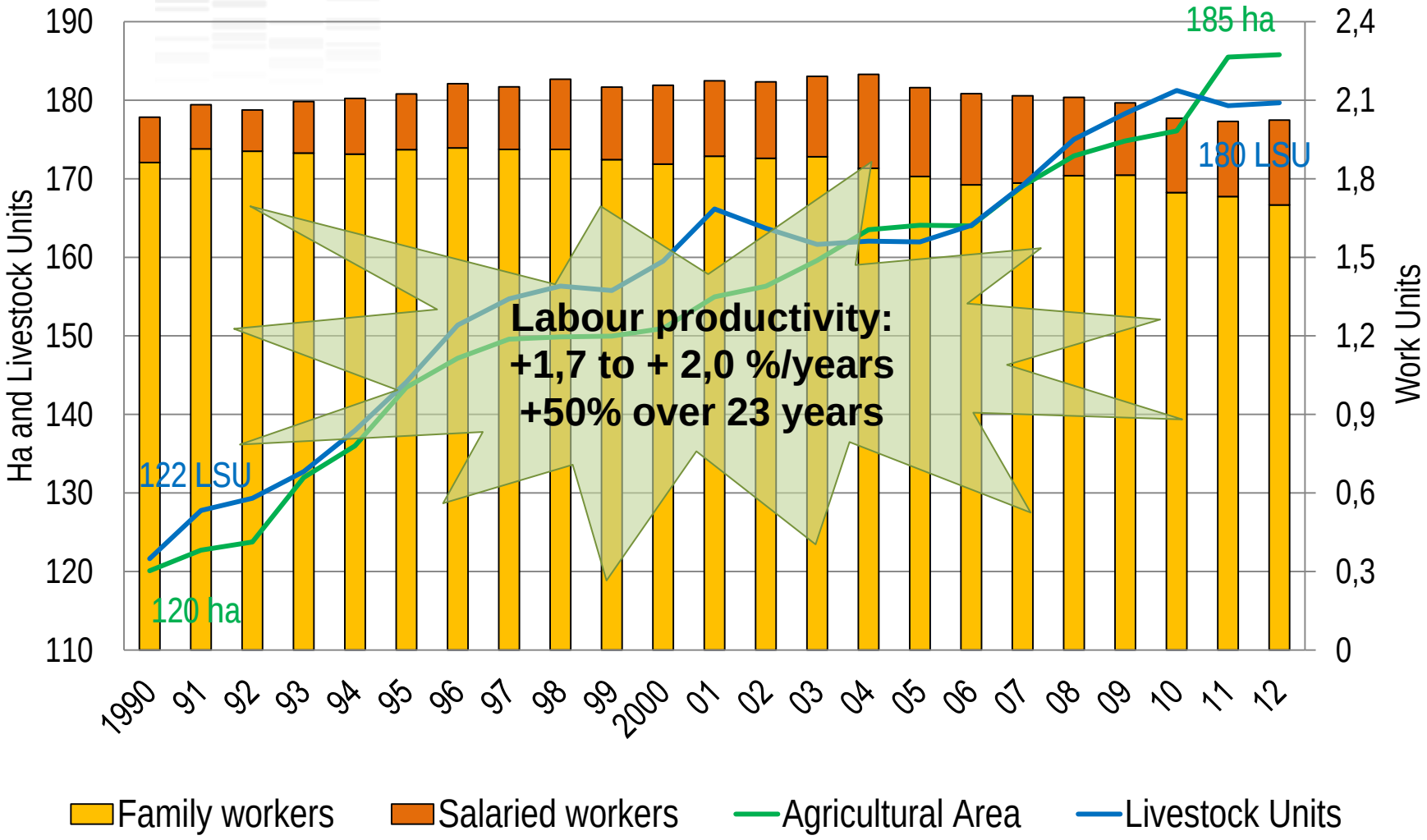
CHAROLAIS NETWORK
1990-2012 constant sample of 51 farms

Structure and labour productivity



Cropping plan & stocking rate

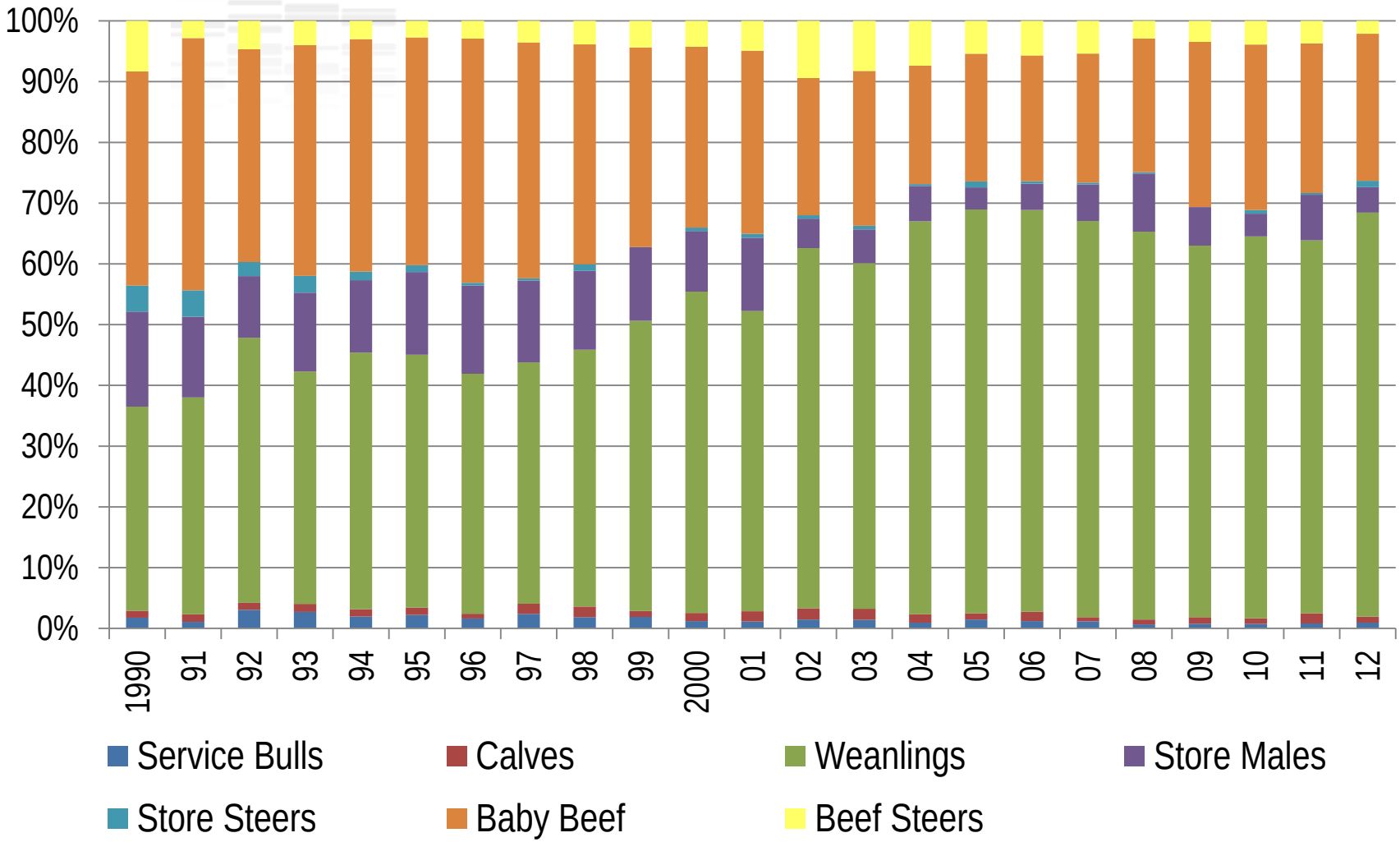
- Cropping plan remains stable:
  - ✓ Grasslands = 77% UAA
  - ✓ Maize forage = 3% UAA
  - ✓ On-farm feed crops = 6% UAA
  - ✓ Cash crops = 14% UAA

  Forage area = 80% UAA

  Area for cattle = 86% UAA

- Stocking rate = 1.20-1.30 LSU / ha forage area
  - ✓ Extensification incentive of Agenda 2000
  - ✓ Security again dryness: forage self-sufficiency

Males sold


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1990
91
92
93
94
95
96
97
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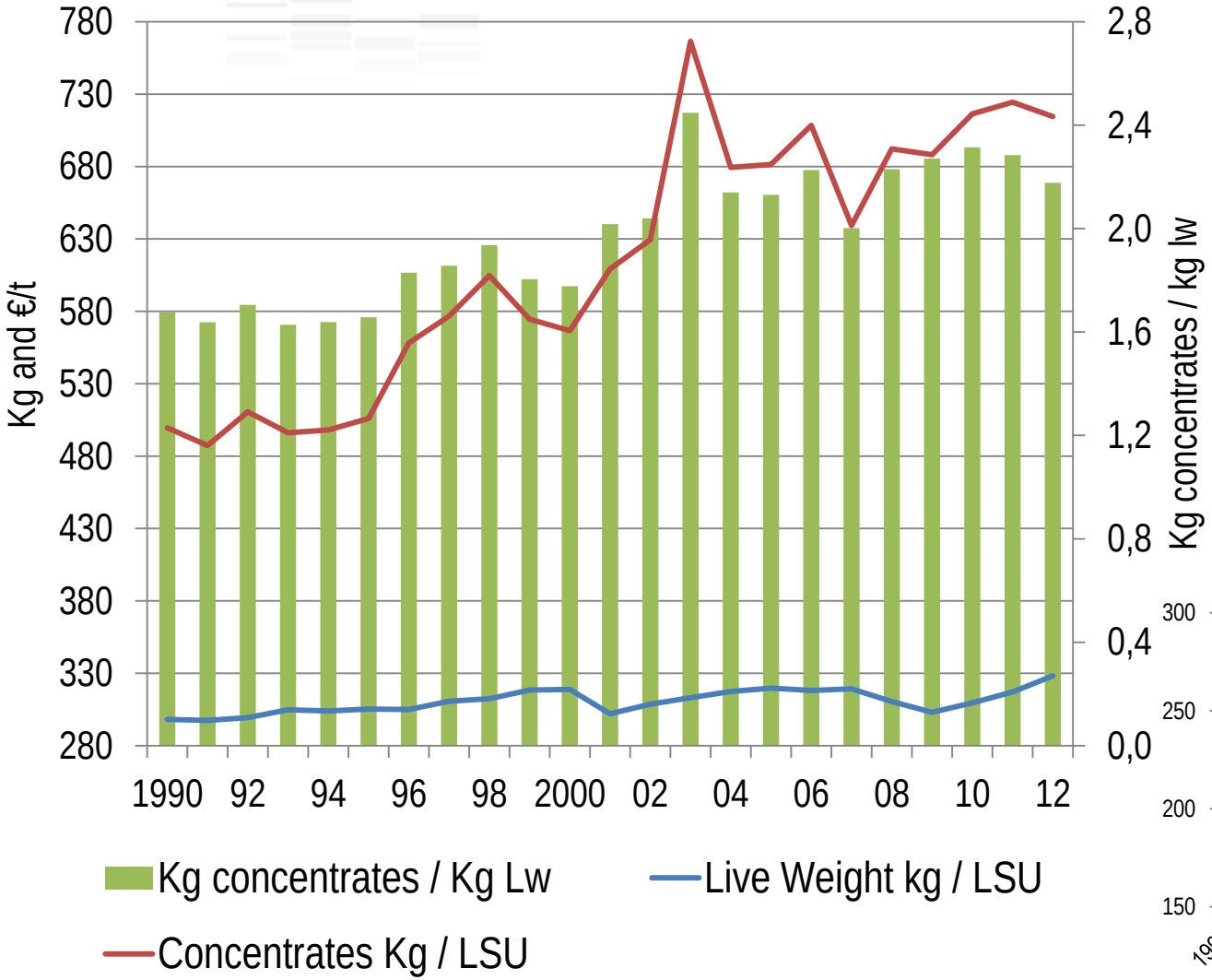
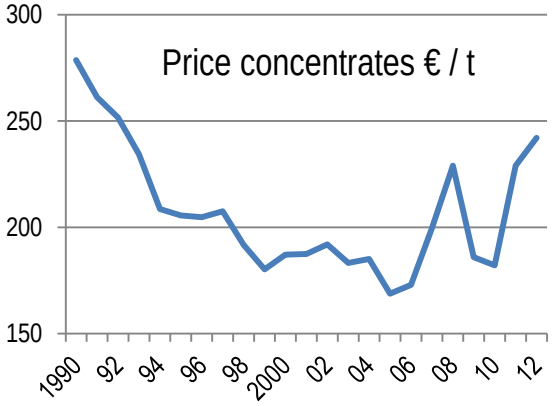
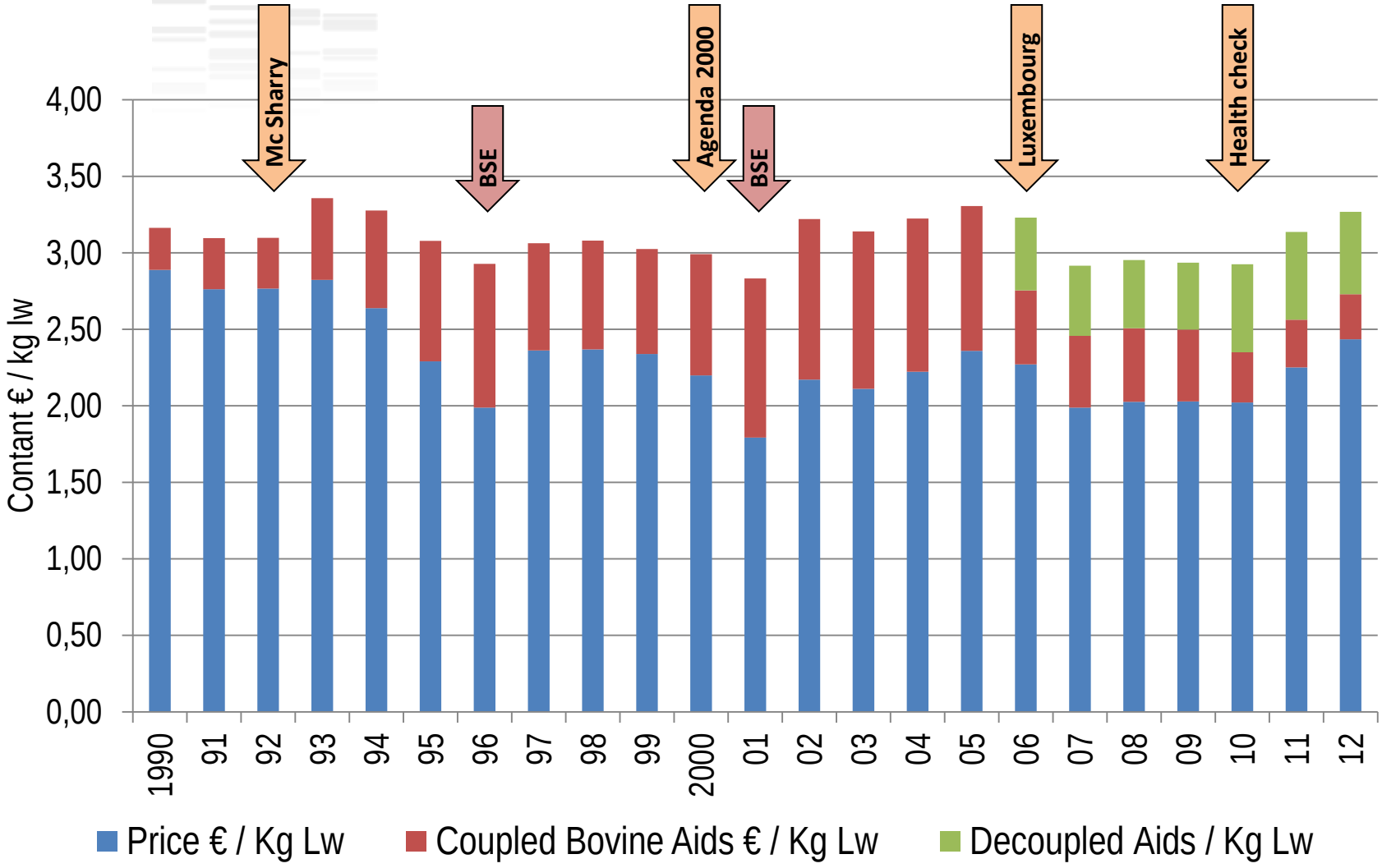
Service Bulls
Calves
Weanlings
Store Males
Store Steers
Baby Beef
Beef Steers

Live weight produced & concentrates

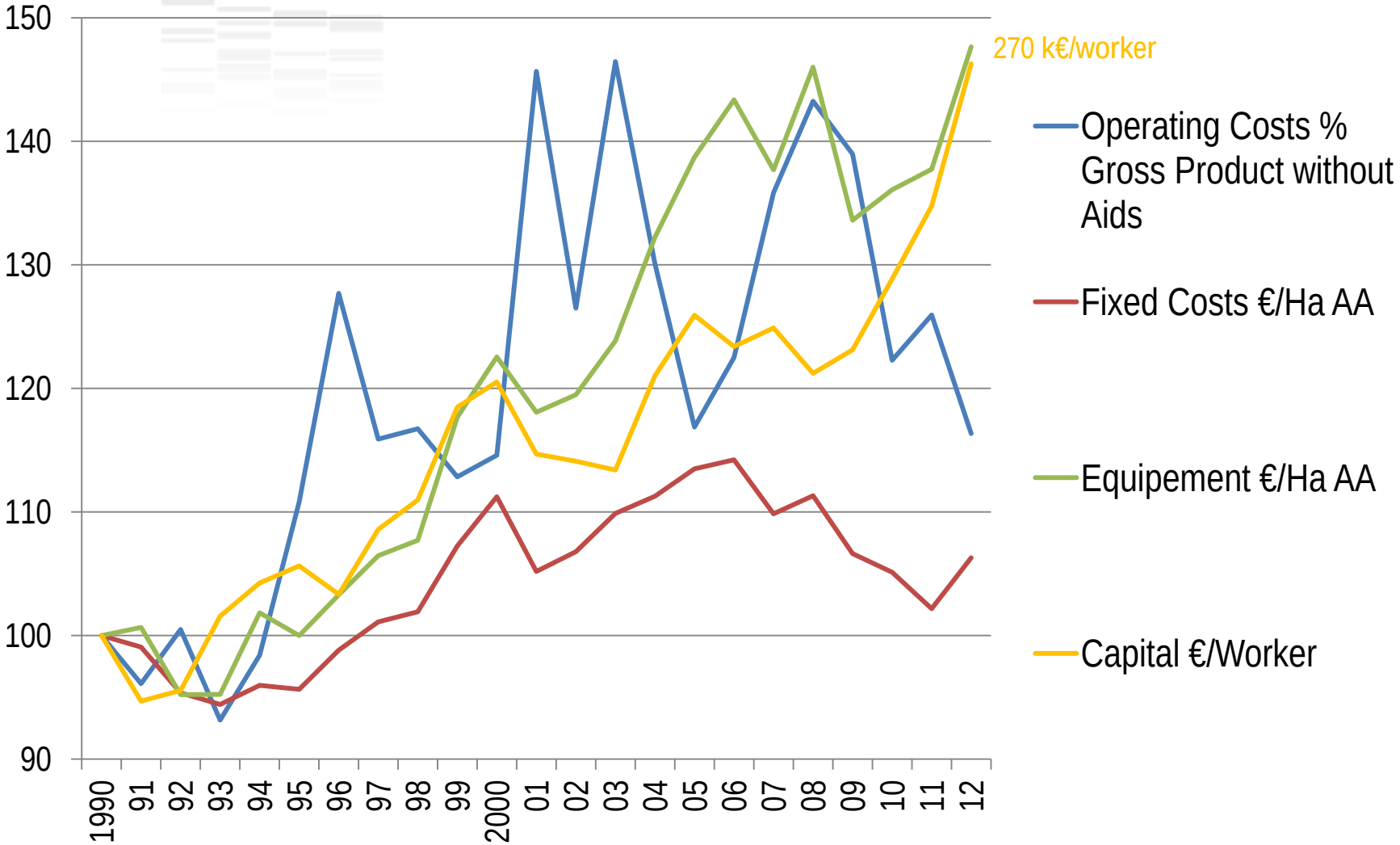




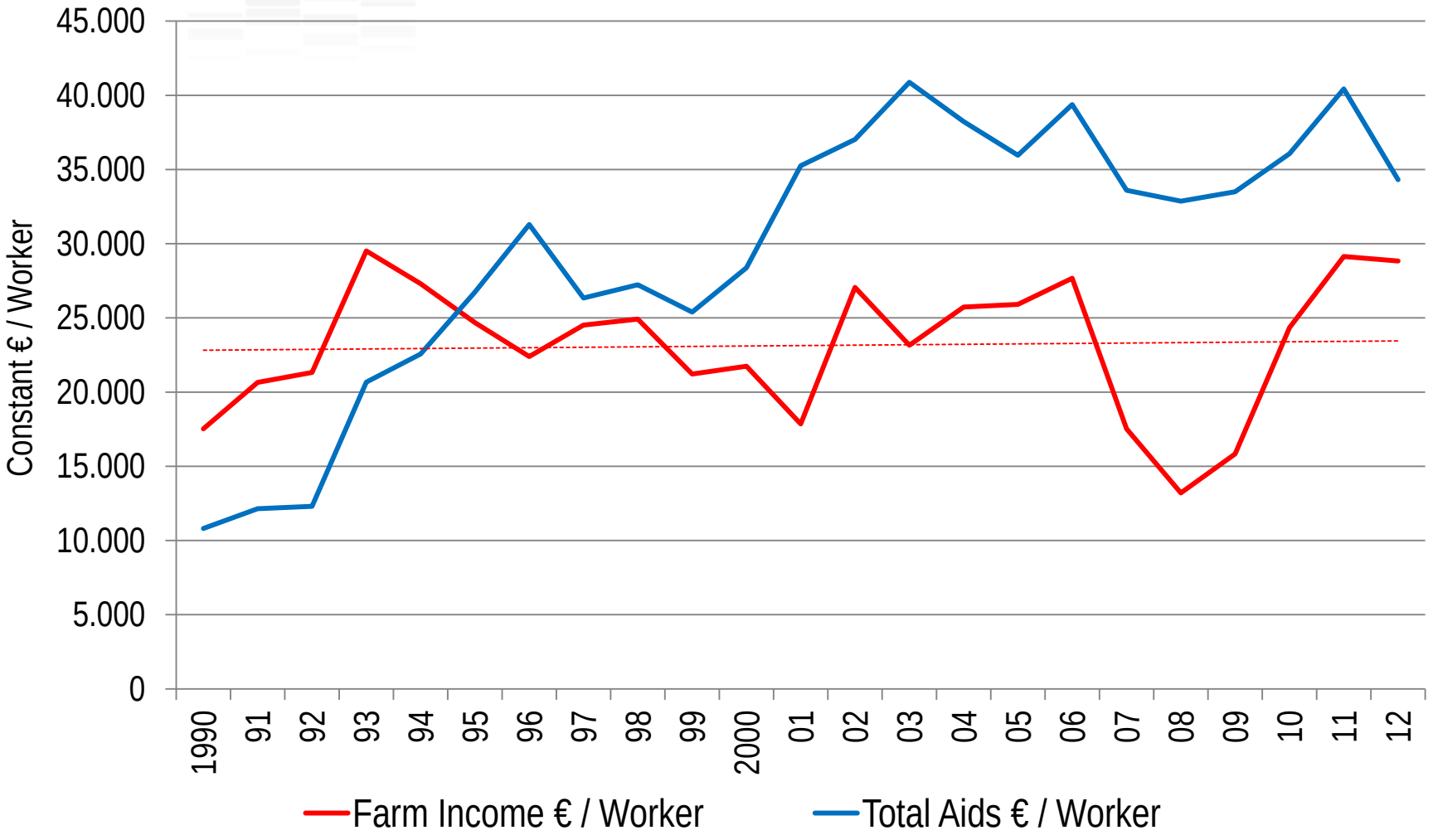
Price & CAP aids per kg live weight



Costs & capital



Farm income & aids per worker



Summary, discussion

- CAP and market are strong drivers of the livestock farming systems
- (Remaining) suckler cattle farmers have adapted their farming system
- Huge increase in size and labour productivity
- Simplification of the production systems
  - ✓ Weanlings
  - ✓ Concentrates
- Farm income does not increase (huge inter-annual variability)
- Economies of scale?
  - ✓ Enlargement allowed to get more subsidies
- Who benefits from these productivity gains?
  - Downstream of the beef sector (slaughterers, distributors, consumers)
  - Manufacturers and dealers of farm equipments

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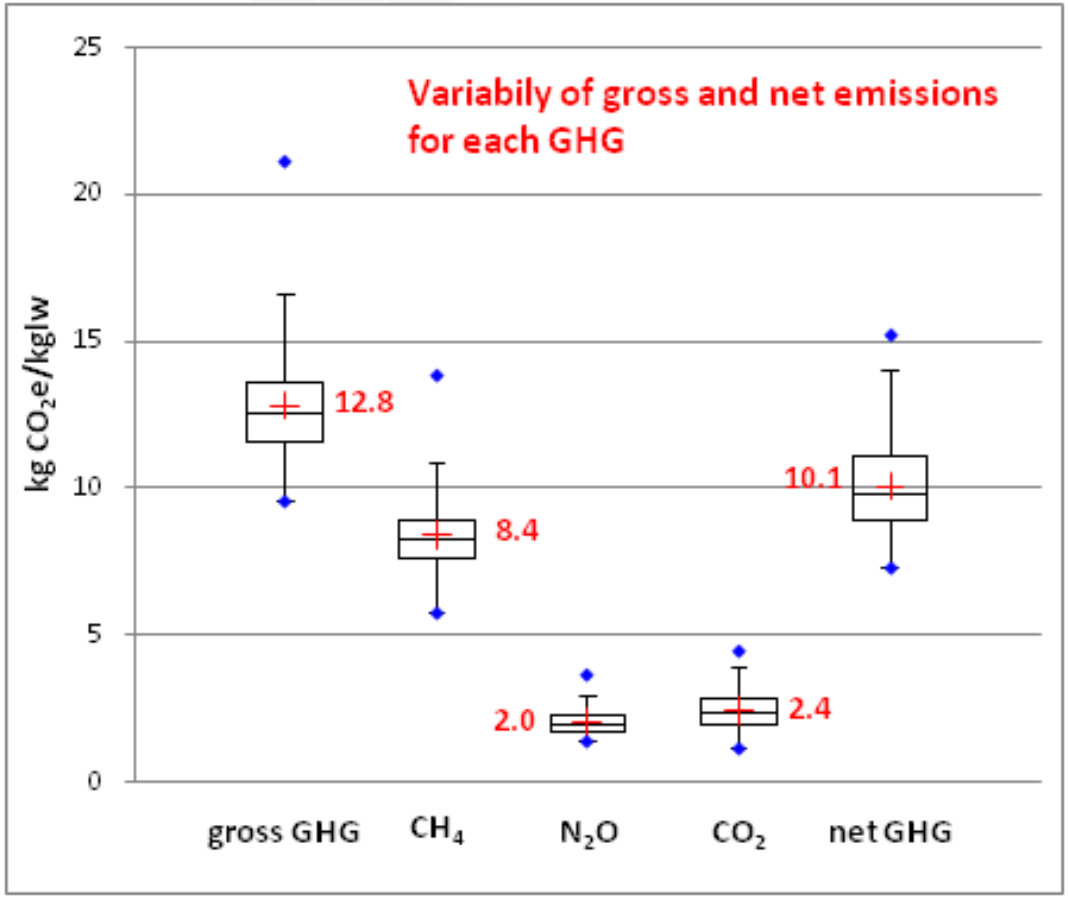
CHAROLAIS NETWORK
Environmental performances

Greenhouse gases emissions per kg lw

59 farms 2010-2011

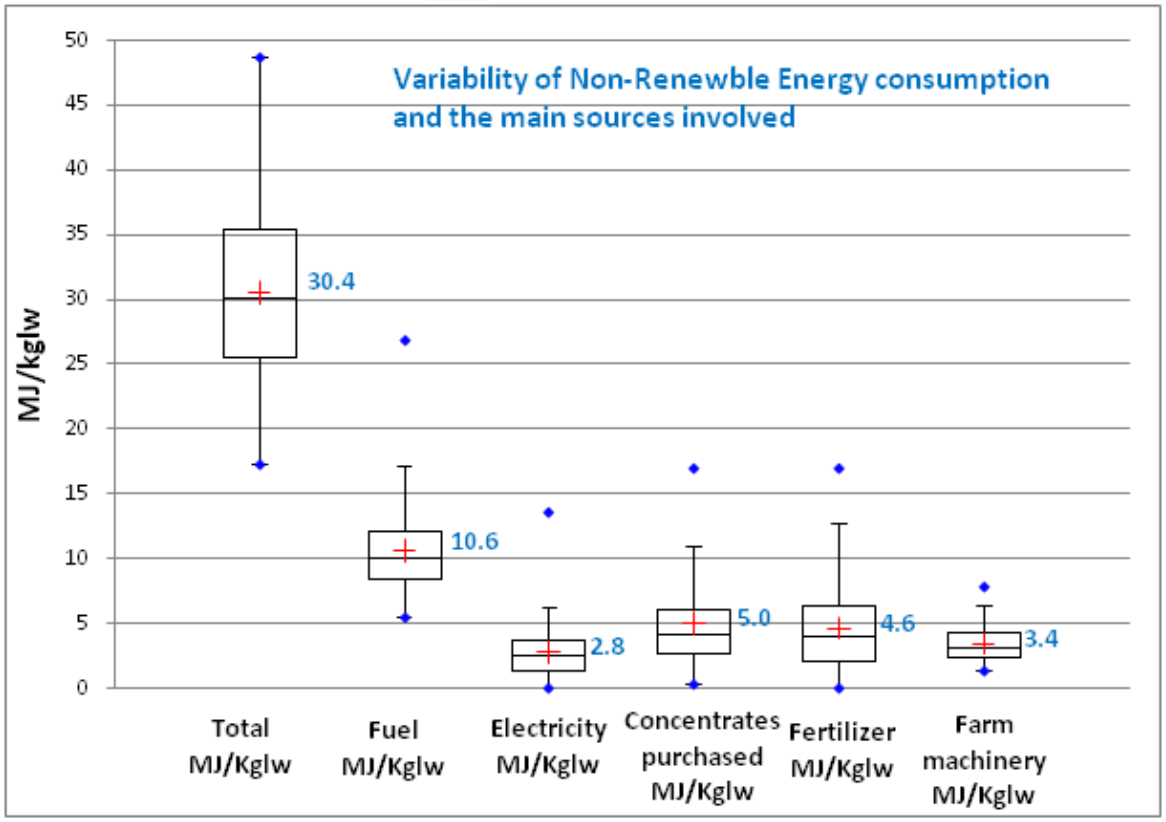


- Methane: 66% of gross GHG
- C offseting (land use change): 21%
- Net GHG correlated positively with:
  - ✓ Farm area (r=0.349)
  - ✓ Herd size (r=0.372)
  - ✓ Stocking rate (r=0.320)
  - ✓ N fertilizers / Ha (r=0.374)
- Net GHG correlated negatively with:
  - ✓ Kg Lw/LU (r=-0.545)
  - ✓ % grassland (r=-0.367)
  - ✓ Beef specialisation (r=-0.266)

Large mixed crop-livestock farms seem to be the most-GHG-emitting per kg lw

Fossil energy consumption per kg lw

59 farms 2010-2011



- Fuel: 32% of total NRE
- NRE correlated positively with:
  - ✓ Fuel use / Ha (r=0.569)
  - ✓ N fertilizers / Ha (r=0.435)
  - ✓ Concentrates use (r=0.361)
  - ✓ Farm size (r=0.221)
- NRE correlated negatively with:
  - ✓ Beef specialisation (r=-0.266)

Correlation (/kg lw)	NRE consumption
CO_2 emissions	0.774
N_2O emissions	0.488
Net GHG emissions	0.569

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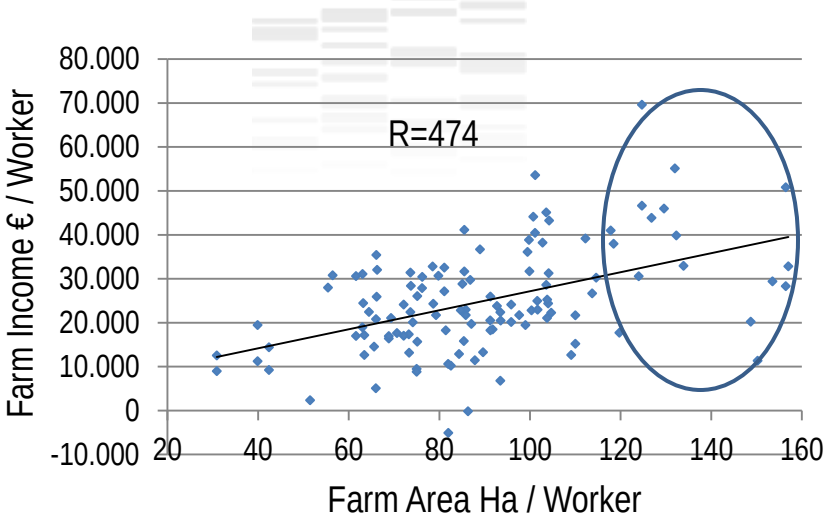
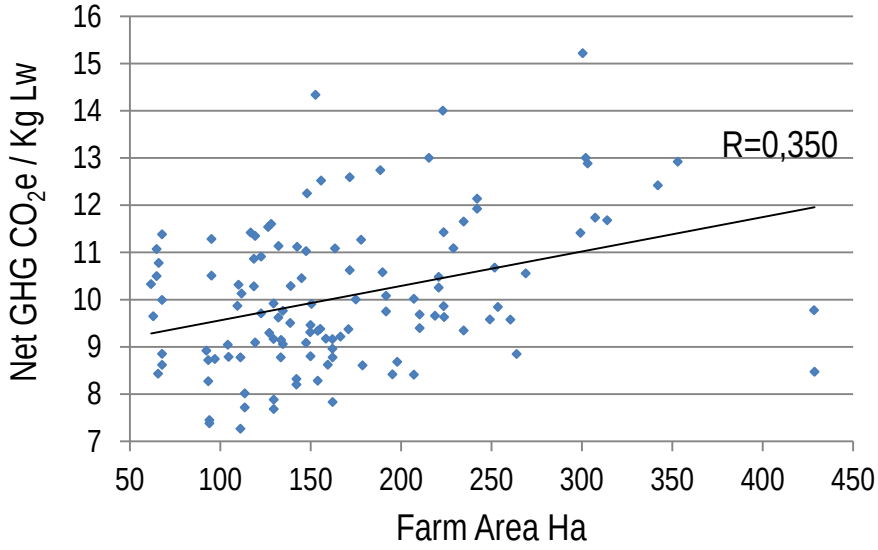
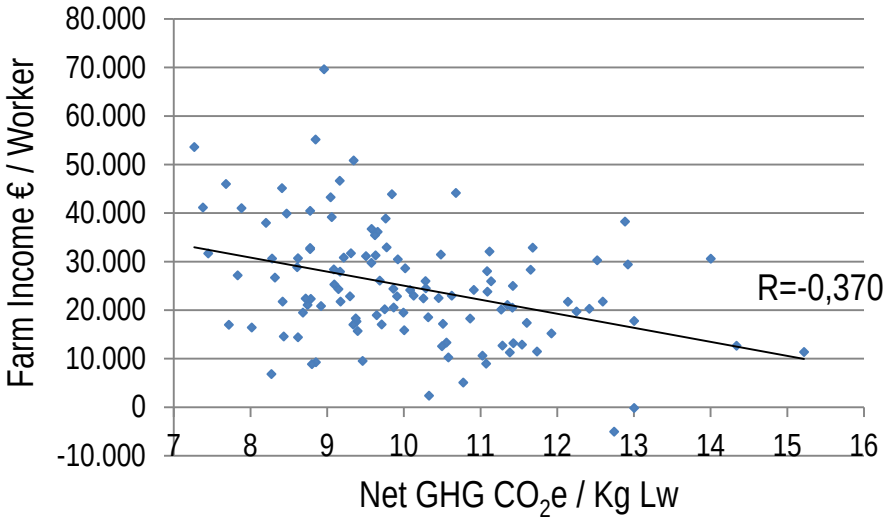
SIZE, ECONOMICS & ENVIRONMENT

Size, economic and environmental performances







- Size per worker: important driver of the farm income due to the aids and subsidies received. Over 120 ha/worker …???
- Net GHG emissions and economics: ⊖

A good animal productivity with less inputs:

  - ✓ Lower costs
  - ✓ Higher gross margin and income
  - ✓ Lower N_2O and CO_2 emissions

- Net GHG emissions and farm size: ⊕
  - ✓ The largest farms are the less efficient

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CONCLUSIONS, PERSPECTIVES

Conclusion

- There is a great variability of the structures and production systems
- This variability entails a variability in the productive, economic and environmental performances
- From an economic and environmental point of view, optimizing the system at the farm scale will have a higher impact than adopting specific practices or technologies at the animal or field scale.
- Reminder: a cow is a ruminant. A ruminant produces methane. BUT a cow is an herbivore, an herbivore eats grass, grasslands are carbon sinks. In depressed areas, livestock farming is paramount to regional development, to maintain a certain degree of biodiversity, to local landscape
- Producing beef soilless and without grass?

Conclusion

- It is often the same farms that outperform the others on all three fronts — technical, economic and environmental. They are the farms that optimize their factors of production and make the most efficient use of inputs
- The large farms (> 120 ha/worker) marketing both beef and cereal crops appear to emerge as less efficient
  - ✓ The concepts of economies of scale and economies of scope seem to be not valid for these suckler-cattle farms
- The most efficient production system was found in midrange-sized farms running just one specialized production activity (beef) while diversifying their diet resources for the benefit of the herd (grassland and cereal crops).

Perspectives

- Production systems and farm viability are heavily dependent on aids and subsidies from the EU CAP
- What will be the impact of the milk quota system removal in 2015?
  - Impact on the regional localization of the dairy farms?
  - Impact on the beef production from dairy cattle?
  - Impact on livestock farming in mountainous areas?
- The capital needed for young farmers to enter into farming announces difficulties in the replacement of farms owners. Difficulties strengthened by the work load
- In plain areas, the competition between crop and livestock could affect livestock production

Perspectives

- The largest beef cattle farms have maintained a stable income level thanks to the uncapped aids and subsidies (aids and subsidies are coupled to the hectares)
- For the regional development of the less favourable areas: back to the coupled subsidies system?
- Policymakers should encourage the most efficient production systems. Government policy should design measures to promote farming structure that are capable of optimizing this production system efficiency
- This “aids race” could be kept in check by a size-indexed degressivity policy on the unit amount of the payment, and by green payments
- Enlargement and gain in labour productivity show their limits


THANK YOU