Livestock farming systems in mountainous grasslands Outlook “2015”

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Session 03.4

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Context

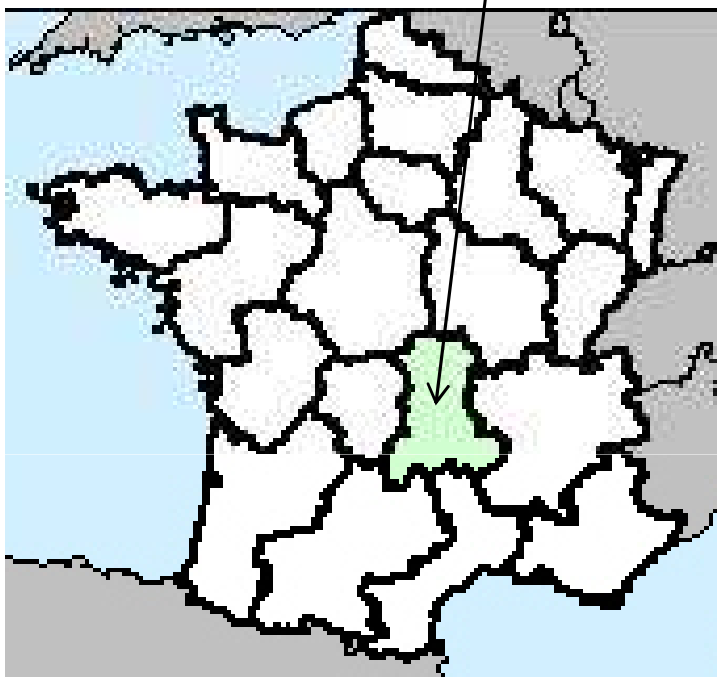
> **Grass:** 1st resource used by cattle & sheep farmers in Auvergne (mountain area in centre France, old volcanoes)

> **Consistency of the production systems:** interactive management

- Pedo-climatic and environmental constraints
- Production target
- Socio-economic and political context

> These systems are **constantly adapting**:

- CAP Health Check
- Milk quotas abolition
- Price of the agricultural products
- Price of energy and inputs
- Specifications of PDO cheeses



Objective

> Faced to these **economic and political changes** announced for **2015:**

=> which **possible changes and predictable strategies** for dairy cattle farmers, suckler cattle farmers and meat sheep farmers?

> To analyze the **adaptations:**

- Animal and plant production balance
- Size of the herds, quantity of outputs produced
- Management of the system: fodder area, feeding, reproduction, ...

> **Economic impacts**

Methodology: model-based study

Farms studied

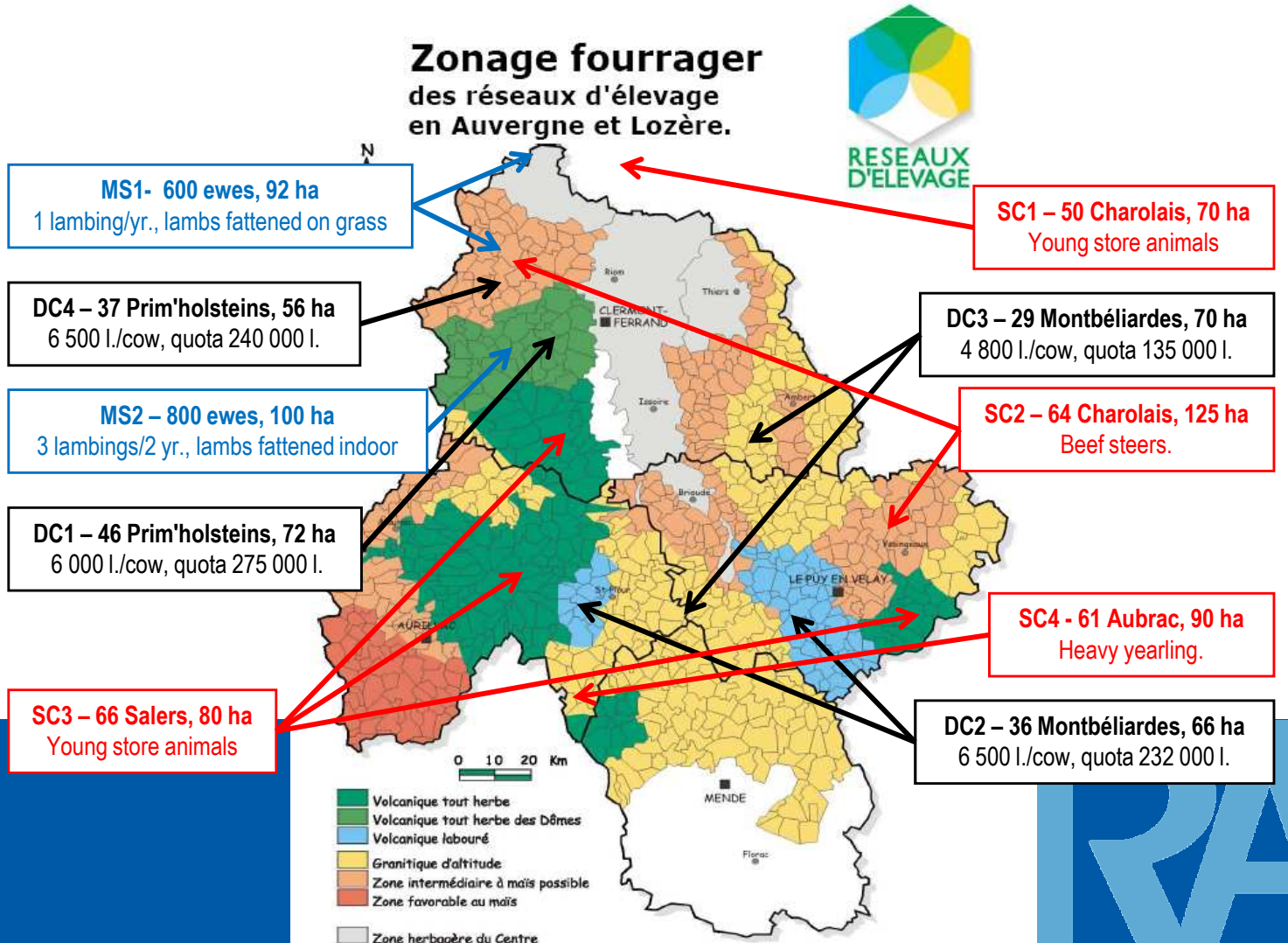
> **Diversity** of the farming systems and **diversity** of the fodder area

➲ **Diversity** of the farms modelled ➲ **10 farm-types**

-4 Suckler Cattle

-4 Dairy Cattle

-2 Meat Sheep



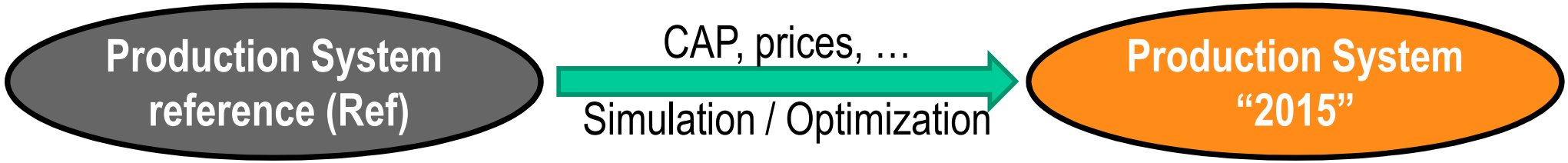
Eaap 2010
61th Annual Meeting
Heraklion, August 23rd-27th

Methodology: model-based study

Models used

> **Opt'INRA** *(Veysset et al., 2005)*: optimization model (PL) for cattle farms

> **OSTRAL** *(Benoit, 1998)*: simulation tool for meat sheep farms



Hypothesis

> **Farm structure** (farm area, labour) = constant

> **Milk quotas** = abolition

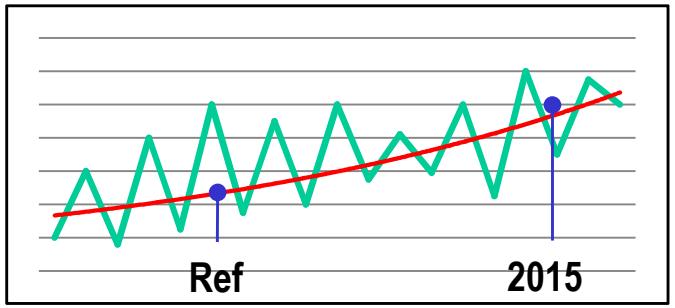
> **Milk production / cow** = +12% (trend + quota abolition)

Methodology: model-based study

Changes in prices of agricultural products and inputs

> Reference prices **= observed average over 3 years** (2004-2007) from the farms networks

> 2015 prices **= trend** from "**OECD and FAO** agricultural outlook 2008-2017"



Grain sold, purchased feedstuff	Purchased forage & straw	Beef	Sheep meat	Milk (except PDO)	Energy (crude oil barrel)	Chemical nitrogen	Pesticides, plastics	Veterinary, raising costs
+40%	+10%	+5%	+10%	=	+66%	+29%	+30%	+5%

Methodology: model-based study

CAP Health Check – 2015 1st pillar subsidies

2003 Luxemburg subsidies	Ref	2015	
Suckler Cow Premium	Coupled 200 €/head	25% decoupled Coupled 150 €/head	Decoupled part included in Single Farm Payment after levy (~13%)
Slaughter Premium	Coupled 32 €/head	Decoupled	
Ewe and goat premium	Coupled 13.3 €/head	Decoupled	
Arable crop premium	Coupled ~70 €/ha	Decoupled	

New Subsidies 2010 CAP Heath Check	Amount	Status	
Ewe and goat premium	21 €/head	Coupled	
Grass premium	20-80 €/ha	Decoupled	Total amount calculated according to historical references (ha, quota). Included in SFP
Mountain milk	20 €/1000 l. Ceiling ~ 100,000 l.	Decoupled	

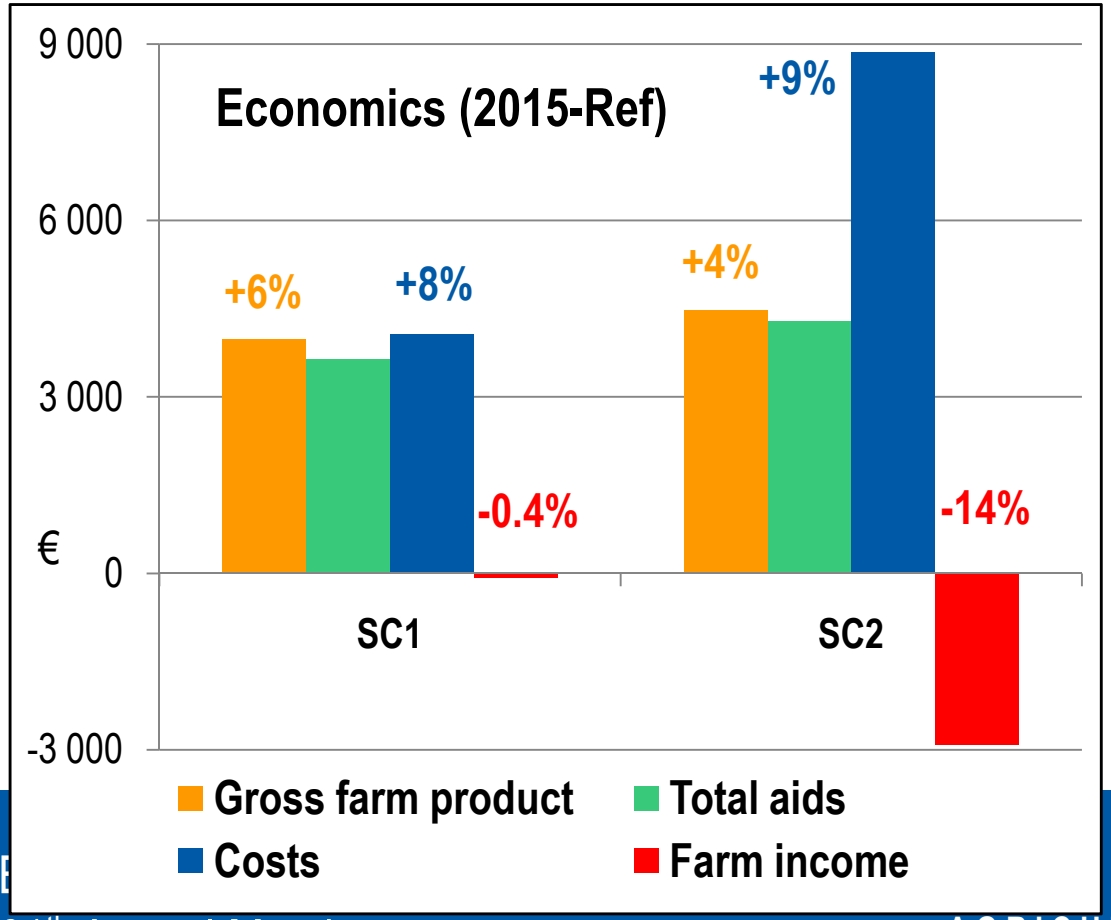
Modulation of all these subsidies from the 1st pillar
14.6% (exemption 5000 €)

Results - Suckler cattle farms

Charolais

> For both system the **optimal system Ref and 2015: the same**

- SC1: calf to weanling, 49 cows, 70 ha, 6ha cereals, 64 ha grass
- SC2: calf to beef steers, 65 cows, 125 ha, 13ha cereals, 112 ha grass



> ↗ gross farm product ≈ ↗ aids (new grass premium)

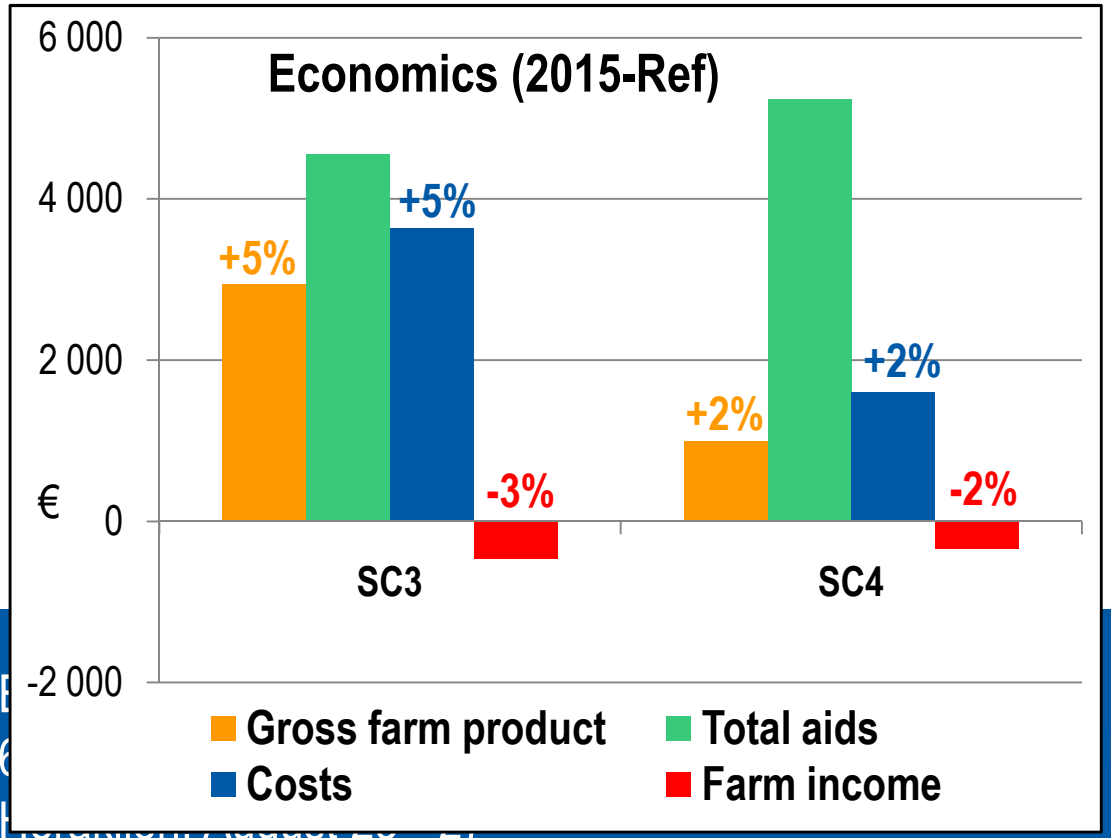
> **SC1:** ↗ aids offsets ↗ costs
➲**Farm income =**

> **SC2**: more **dependent on the inputs** (feedstuff for fattening), and more **subsidies levy**
➲**Farm income ↘**

Results - Suckler cattle farms

Salers & Aubrac in mountain

2015 / Ref	SC3 Salers - calf to weanling 66 cows, 80 ha grass	SC4 Aubrac - calf to weanling 61 cows, 92 ha grass
Calvings	**=**	**=**
Age, weight of sold males	-1 month, **-20 kg**	-4 months, **-100 kg**
Live weight produced	**-4%** (-807kg)	**-10%** (-2950kg)



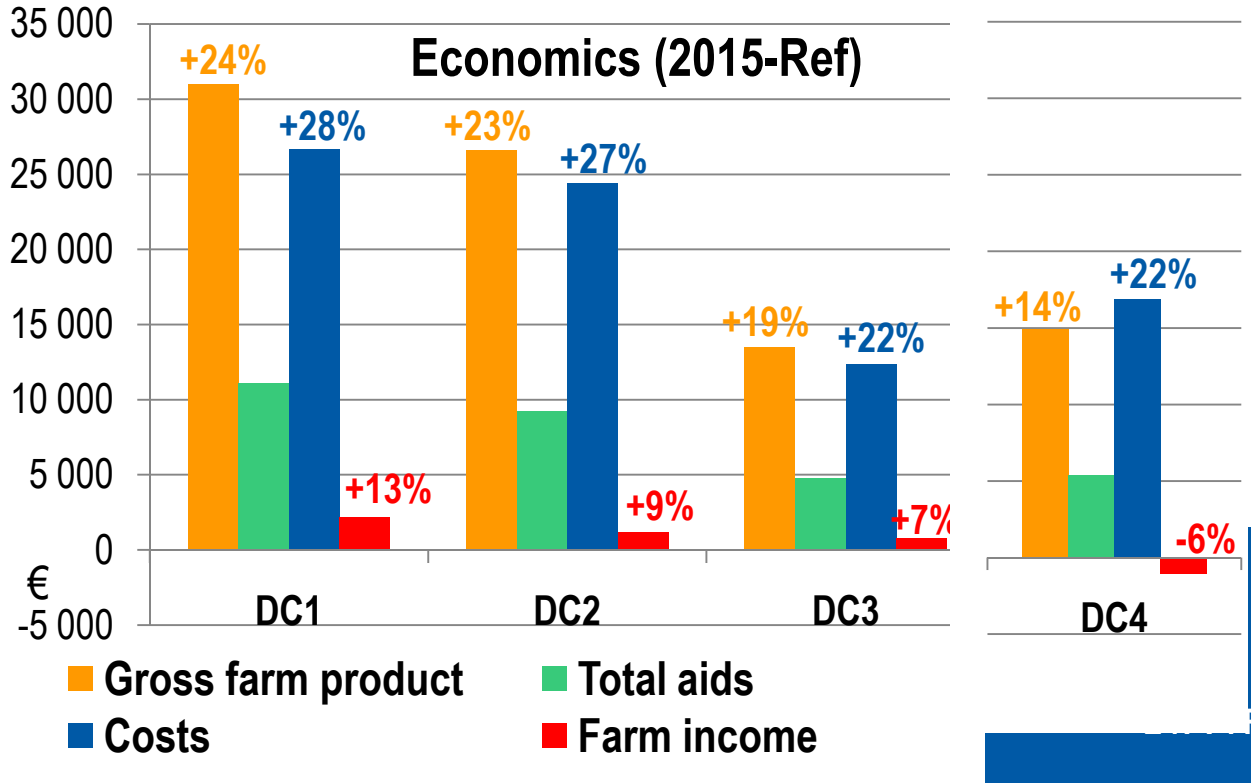
> Live weight produced ↘
total of the aids↗
=> Gross farm product ↗

➲ **Farm income ≈**

> Reducing the outputs to **limit the inputs, and thus the costs**

Results – Dairy cattle farms

2015 / Ref	DC1 – 72 ha 100% grass 48 cows*6000l	DC2 – 66 ha 80% grass 36 cows*6500l	DC3 – 72 ha 93% grass 30 cows*4800l	DC4 – 56 ha 5 ha maize 30 cows*6500l
Calvings	**+9%** (+4)	**+8%** (+3)	**+3%** (+1)	**+3%** (+1)
Milk sold	**+22%** (+60,000l)	**+21%** (+48,900l)	**+20%** (+27,090l)	**+14%** (+33,120l)
Stocking rate	**+1%** (+0.01)	**+9%** (+0.08)	**+3%** (+0.02)	**+6%** (+0.06)
Concentrates g/l	**+33%** (+67g/l)	**+13%** (+41g/l)	**+27%** (+57g/l)	**-8%** (-17g/l)



> Milk production (/cow and total) ↗ with ↗ concentrates

> **DC1, DC2 and DC3 :**
Gross product ↗, costs ↗
➲ **Farm income** ↗

> **DC4**: more **dependent on the inputs** (more intensive), and more **subsidies levy**
➲**Farm income** ↘

Results – Dairy cattle farms / opportunities

PDO cheese Saint-Nectaire *(DC1)*

New specifications (2010):

> No silage

> Concentrates 30% max of the cows diet

> Milk price: +64 €/1000 litres

⇩

- No grass silage
- ↘ chemical N fertilizers
  17 kg N/ha *vs* 28
- ↘ milk production (-5%)
- ↗ grazed area (+2ha)
- ↗ concentrates kg/cows and g/l (278 g/l *vs* 239)

⇨

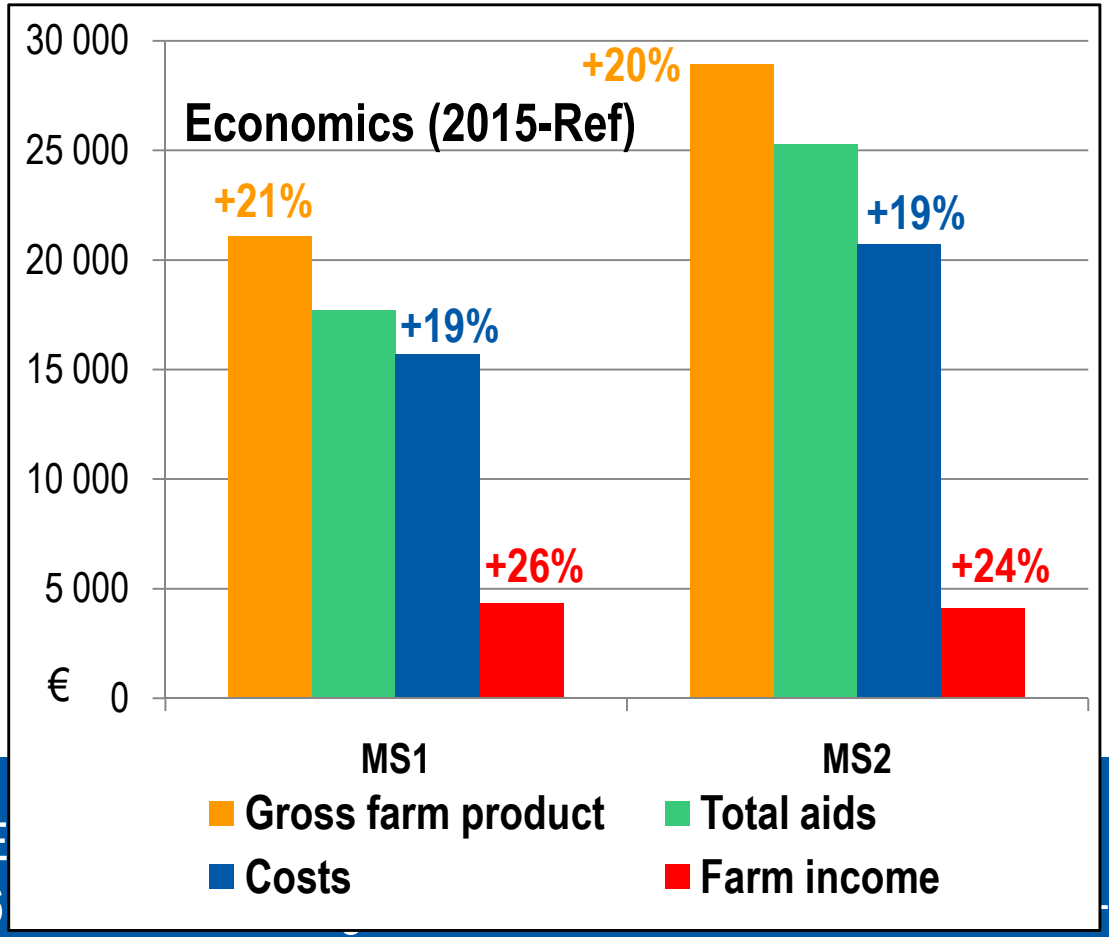
Economic impacts (2015 PDO cheese / 2015)	
Gross farm product	+10%
Total costs	-3%
Farm income €/worker	+50%

> 6 500 L/cow => Impossible

Results – Meat sheep farms

> **MS1:** 102 ha in mountain, **100% grass**, 800 ewes, **3 lambings per 2 years**, lambs fattened indoor

> **MS2:** 92 ha in mountain, **88 ha grass + 5 ha cereals**, 600 ewes, **1 lambing/years**, lamb fattened on grass



> **Total aids = +50%**
new ewe + new grass premiums

➲ **Farm income/worker +25%**
(reaches **the same level** than other farms)

> Farm income/worker for meat sheep farms **was the lower of all the French farms**

Discussion, conclusion

Grassland systems: strengthened

> ↘ of the farm income for the less grass systems

> **Redistribution of aids**

Contrasting evolution of the systems

> **Suckler cattle: inputs saving => limitation** of the live weight **production**

> **Dairy cattle: ↗ milk production => ↗ kg concentrates/cow and/l.**

Large uncertainties

> **Prices** (beef, milk, energy, inputs), **shocks**, macro-economic **balances**

> **Flexibility, adaptative capacities of the systems, labour**

Opportunities

> **Demarcated quality:** PDO cheeses, animals fattened on grass

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