

# The impact of horses on farm sustainability in different French grasslands regions



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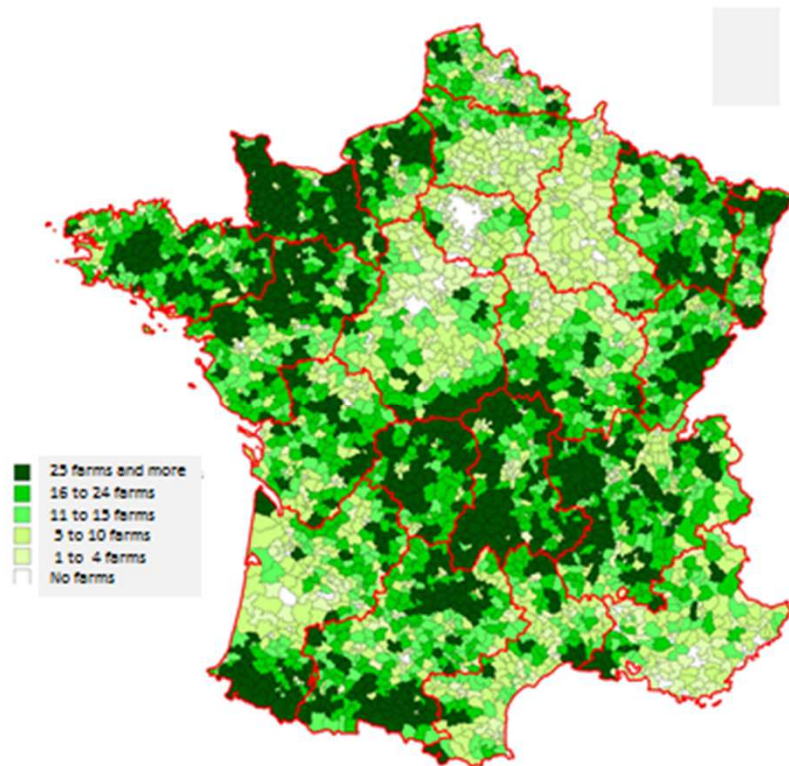
ÉCOLE NATIONALE D'ÉQUITATION  
*Le Cadre Noir de Saumur*



Institut français du cheval et de l'équitation

# Context : Horse productions in France

- 1 million of horses (*REFE, 2011*)
  - 60% are located in agricultural structures (*Perret et al, 2013*)



## Sustainable issues of grassland areas :

Maintenance of a workforce in rural zones, based on a viable agricultural economy while preserving their environmental resources.

In these areas mainly used by cattle farming, alternative productions are limited.

Therefore horse farming can provide opportunities with the development of riding.

## Research question :

Impact of horse productions (alone or associated with other productions) on farm sustainability in grassland areas

# Method:

- Farm survey in 4 grassland areas :

2 Lowlands

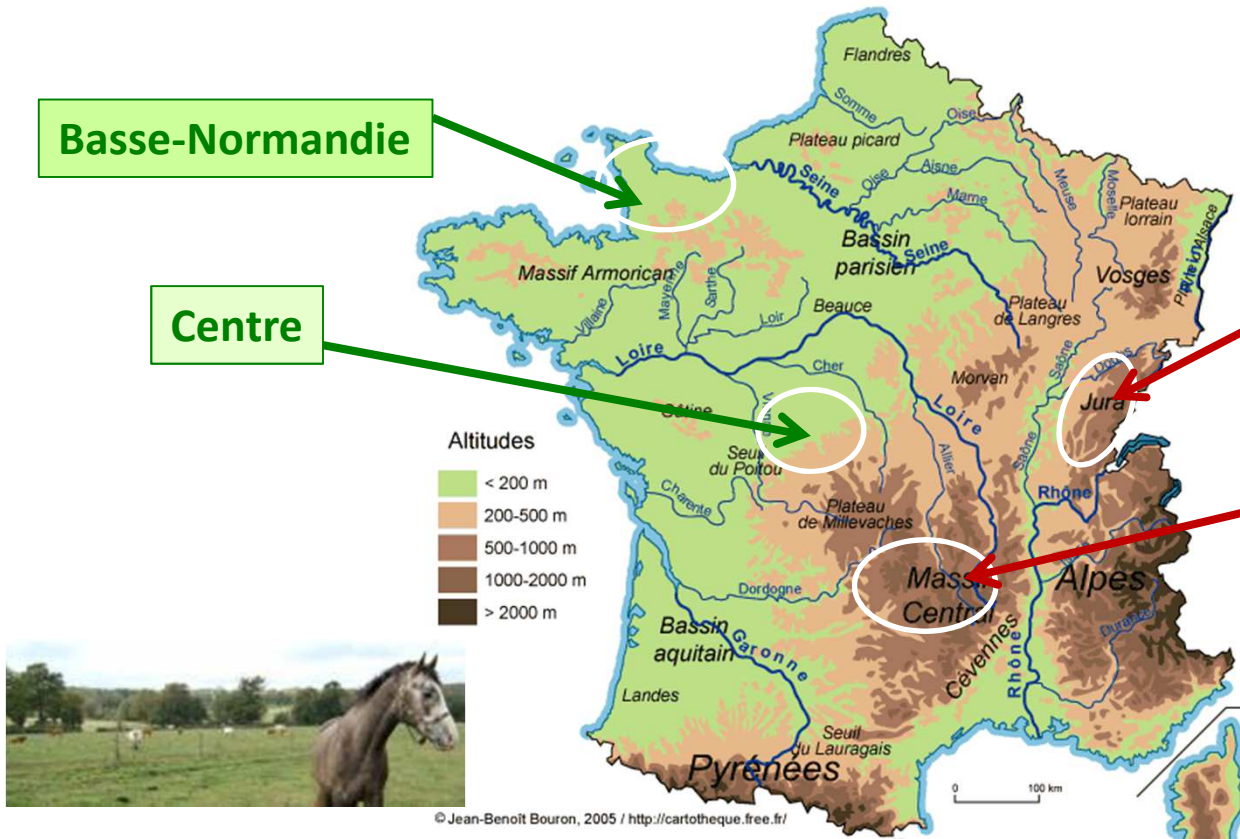
2 Uplands

Basse-Normandie

Centre

Franche-Comté

Auvergne



Saddle horse

Draught horse

# Method: Survey

- 20 to 26 farms per area :
  - More than 3 mares
  - Professional status : > 1 WU
  - A farming system representative of each area :

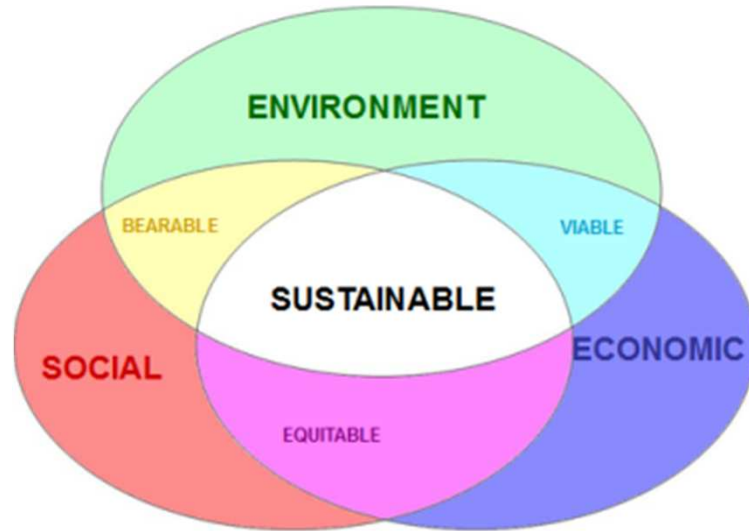
<b>Zone</b>	<b>Lowlands</b>				
<b>Horse productions</b>	<b>Saddle horses</b>				
<b>Area</b>	<b>Basse-Normandie</b>			<b>Centre</b>	
<b>Farming system</b>	<b>horses specialized</b>	<b>horses + beef cattle</b>	<b>horses + dairy cattle</b>	<b>horses specialized</b>	<b>horses + beef cattle</b>

<b>Zone</b>	<b>Uplands</b>				
<b>Horse productions</b>	<b>Draught horses</b>				
<b>Area</b>	<b>Auvergne</b>			<b>Franche-Comté</b>	
<b>Farming System</b>	<b>horses + beef cattle</b>	<b>horses + dairy cattle</b>	<b>horses + beef and dairy cattle</b>	<b>horses + dairy cattle</b>	<b>horses + beef and dairy cattle</b>

# Method: data gathering

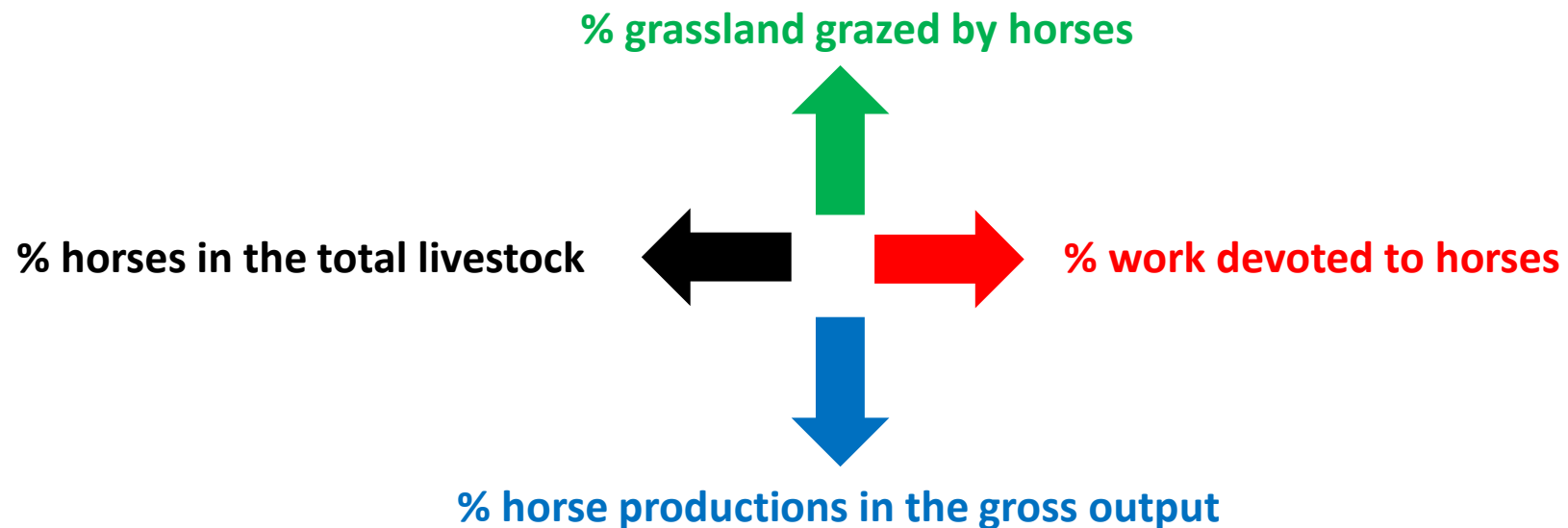
- **Similar questions in each area :**
  - Farm structure :
    - Landuse,
    - Workforce,
    - Economic results...
  - Aim, history, management and development of each production
    - specially on horse productions

# Method: Sustainability criteria



- **Environment :**
  - grazed grasslands (ha)
- **Social :**
  - workforce (WU)
- **Economic :**
  - Gross output (k€)

Impact of horse productions expressed as percentage of the farm total



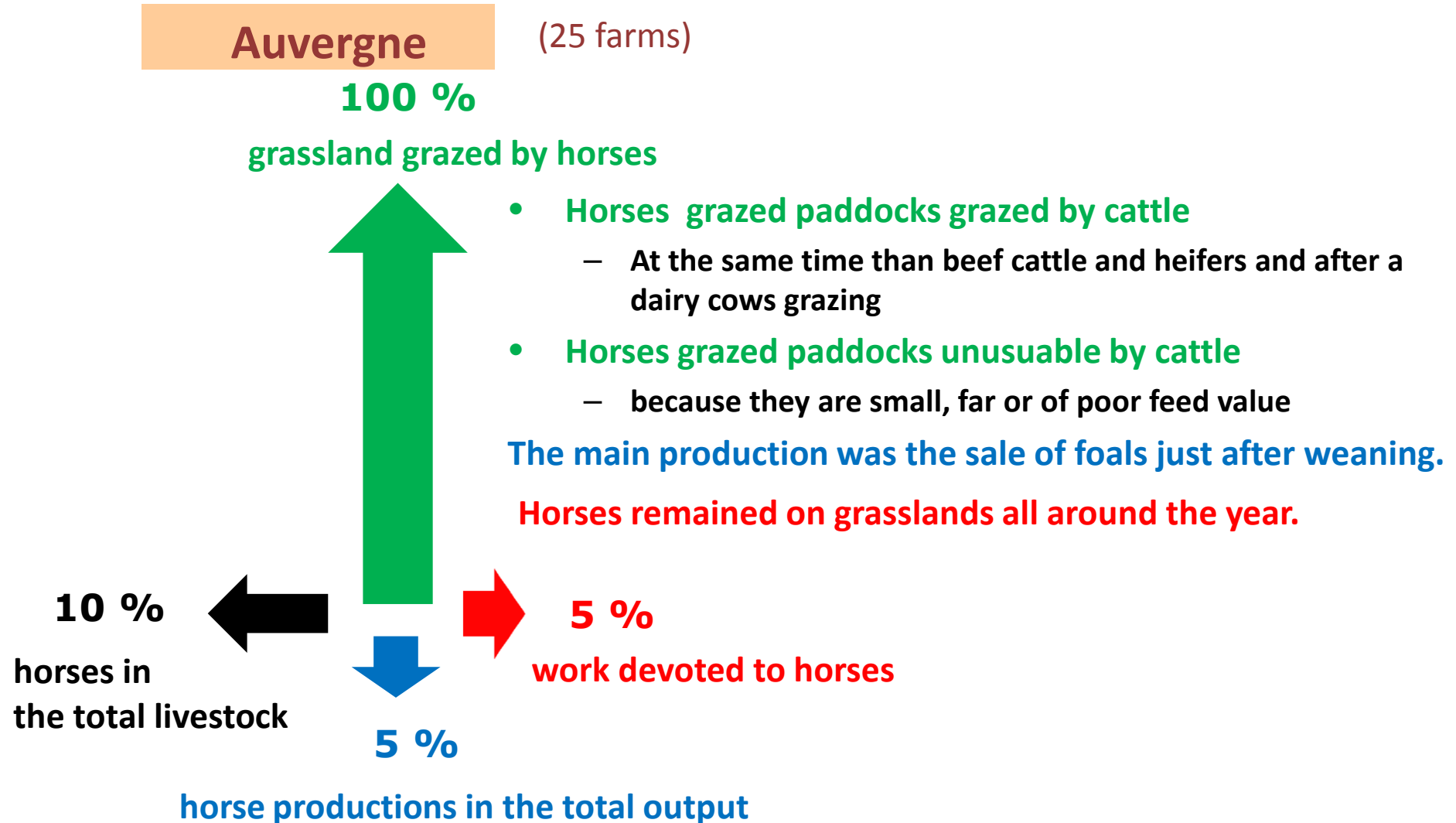
# Results: Draught horse farming in Uplands

- Main farms features

	Auvergne			Franche-Comté	
	horses + beef cattle	horses + dairy cattle	horses + beef and dairy cattle	horses + dairy cattle	horses + beef and dairy cattle
<i>Farm number</i>	8	11	6	22	4
<b>Agricultural area average (ha)</b>	<b>127</b>	<b>128</b>	<b>129</b>	<b>120</b>	<b>199</b>
<b>permanent grassland (% total area)</b>	<b>97</b>	<b>95</b>	<b>83</b>	<b>94</b>	<b>75</b>
<b>total output average (k€) *estimation</b>	<b>107</b>	<b>175</b>	<b>155</b>	<b>175*</b>	<b>220*</b>
<b>total labour force average (WU)</b>	<b>1.7</b>	<b>2.5</b>	<b>2.7</b>	<b>2.1</b>	<b>2.3</b>
<b>Rate of horse livestock on total livestock (%)</b>	<b>10</b>	<b>13</b>	<b>7</b>	<b>13</b>	<b>8</b>

# Results: Draught horses farming in Uplands

- Horses and sustainability criteria





# Results: Draught horse farming in Uplands

- Horses and sustainability criteria

Franche-Comté

(26 farms)

100 %

grassland grazed by horses

Work devoted to horses was relatively more important, because :

- 1) Some farmers housed horses in stable during winter
- 2) Other farmers trained young horses for draught work

12 %

horses in  
the total livestock

14 %

work devoted to horses

2 %

horse productions in the total income

# Results: Saddle horse farming in Lowlands

- Main farm features

	Basse-Normandie			Centre	
	horses specialized	horses + beef cattle	horses + dairy cattle	horses specialized	horses + beef cattle
<i>Farm number</i>	5	6	9	8	7
<b>Agricultural area average (ha)</b>	<b>66</b>	<b>76</b>	<b>128</b>	<b>49</b>	<b>75</b>
<b>Permanent grassland (% total area)</b>	<b>90</b>	<b>83</b>	<b>60</b>	<b>100</b>	<b>88</b>
<b>Rate of horse livestock on total livestock (%)</b>	<b>98</b>	<b>46</b>	<b>28</b>	<b>100</b>	<b>40</b>

# Results: Saddle horses in Lowlands

- Horses and sustainability criteria in mixed systems

Basse-Normandie

◆ Horses  
Beef cattle

% grazed  
pasture

91 %

% Livestock 46 %

58 % % work

52 %

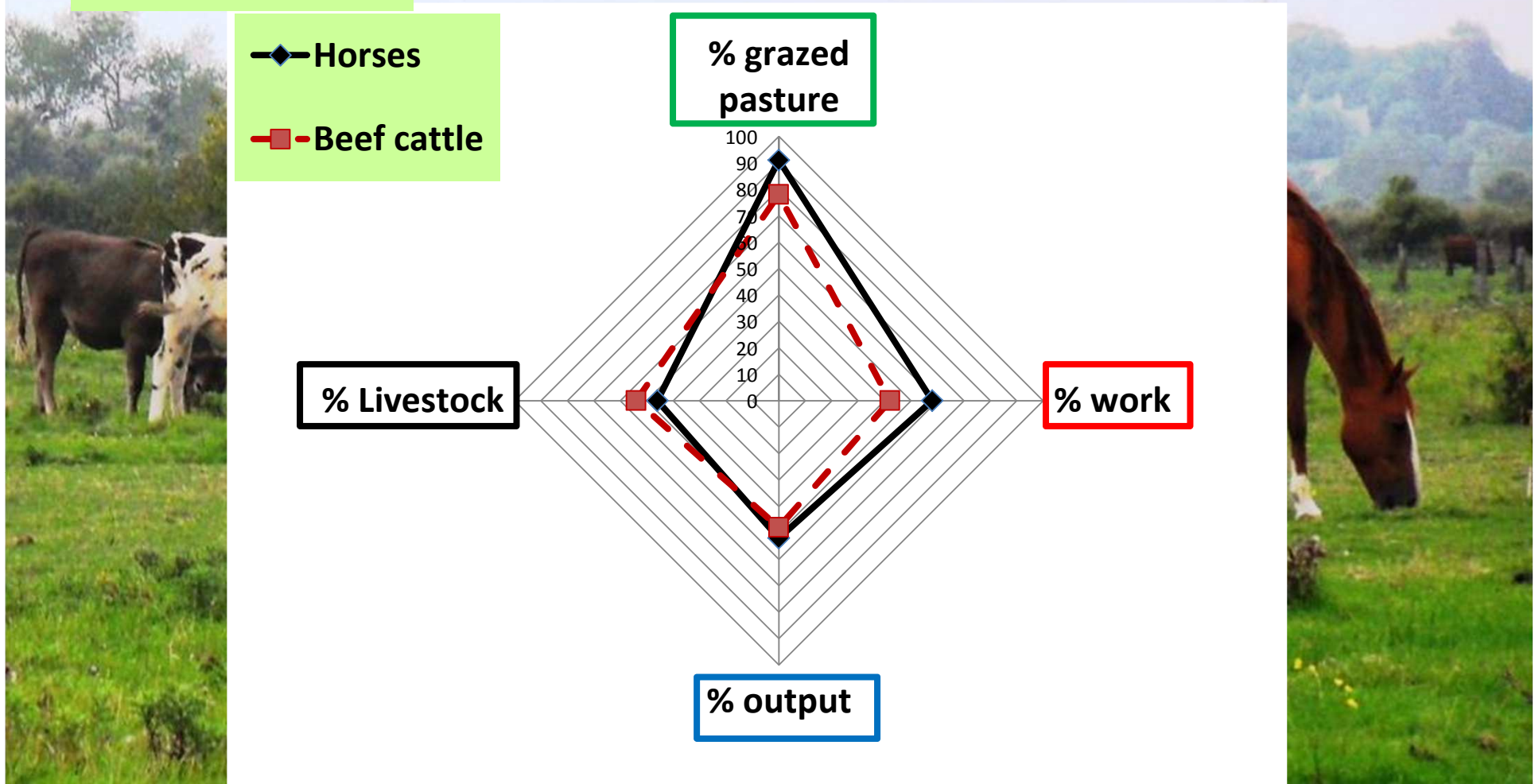
% output



# Results: Saddle horses in Lowlands

- Horses and cattle sustainability criteria in mixed systems

Basse-Normandie

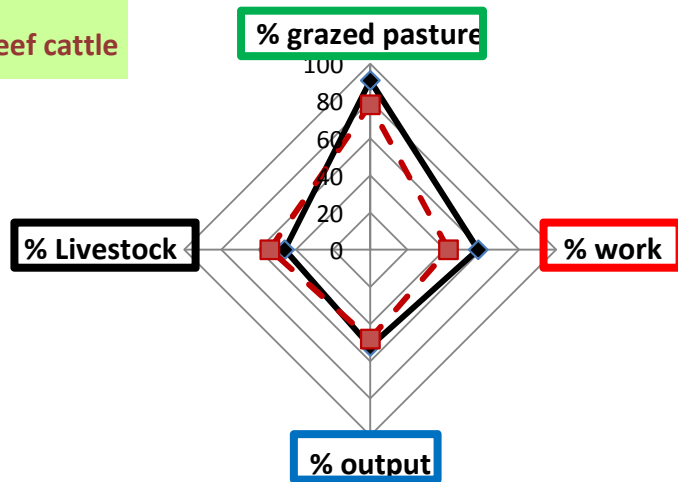


# Results: Saddle horses in Lowlands

## • Horses and cattle sustainability criteria in mixed systems

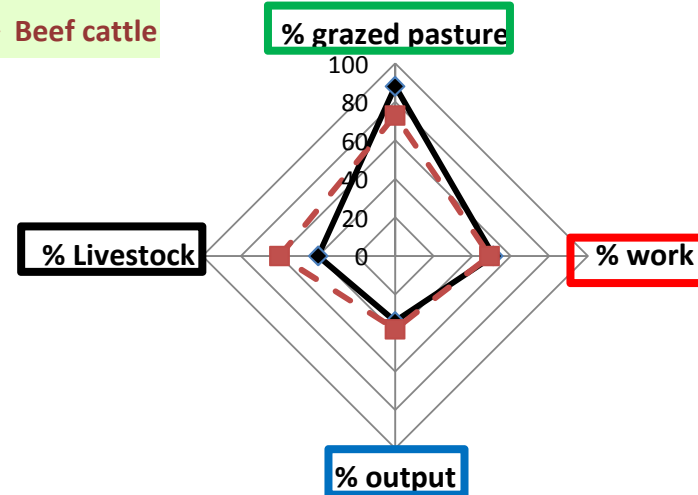
### Basse-Normandie

- ◆— Horses
- Beef cattle

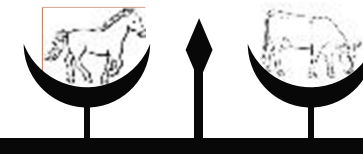
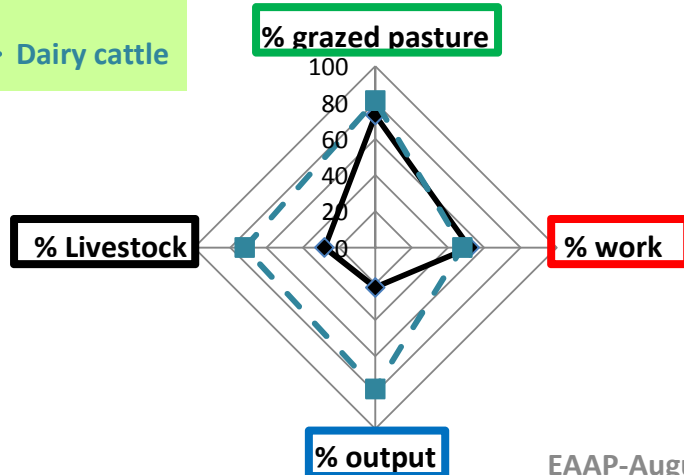


### Centre

- ◆— Horses
- Beef cattle



- ◆— Horses
- Dairy cattle



### Saddle horses compared with cattle

- grazed larger grasslands areas
- needed a more important work
- brought an output :
  - < dairy cattle
  - = beef cattle

# Results: Saddle horses in Lowlands

- Diversity of saddle horse activities in farms.

Marketing of young horses (% of the farms number)	Basse-Normandie	Centre
Farms number	20	15
<b>before breaking-in</b>	<b>15</b>	<b>20</b>
<b>between 3 and 6 years of age</b>	<b>25</b>	<b>50</b>
<b>after 6 years of age</b>	<b>60</b>	<b>30</b>

Services (% of the farms number)	Basse-Normandie			Centre	
	horses specialized	horses and beef cattle	horses and dairy cattle	horses specialized	horses and beef cattle
Farms number	5	6	9	8	7
<b>Livery boarding</b>	<b>100</b>	67	33	<b>100</b>	29
<b>Reproduction centre</b>	<b>80</b>	33	11	<b>50</b>	14
<b>Training centre</b>	<b>60</b>	50	22	<b>0</b>	0

# Conclusions:

## Sustainable impacts of horse in grasslands

### The environmental impact

- **Horse farming contributes to a better maintenance of grasslands :**
  - Horses graze areas than cattle could not use
  - Horses graze during longer periods than cattle
  - Horses graze grasses than cattle do not graze
- **Horse breeding contributes to the biodiversity maintenance in animal species**
  - In France, horses represent only 4% of the herbivorous livestock
  - In particular, the french draught horse breeds are endangered

### The social impact

- **All inquired farmers raised horses because they love them**
  - So that some draught horses breeders tend to regard this activity as a hobby
- **Saddle horse farming needs work and provides services around**

So that specialized horse farms operate increasingly as small developmental poles in rural zones

# Conclusions:

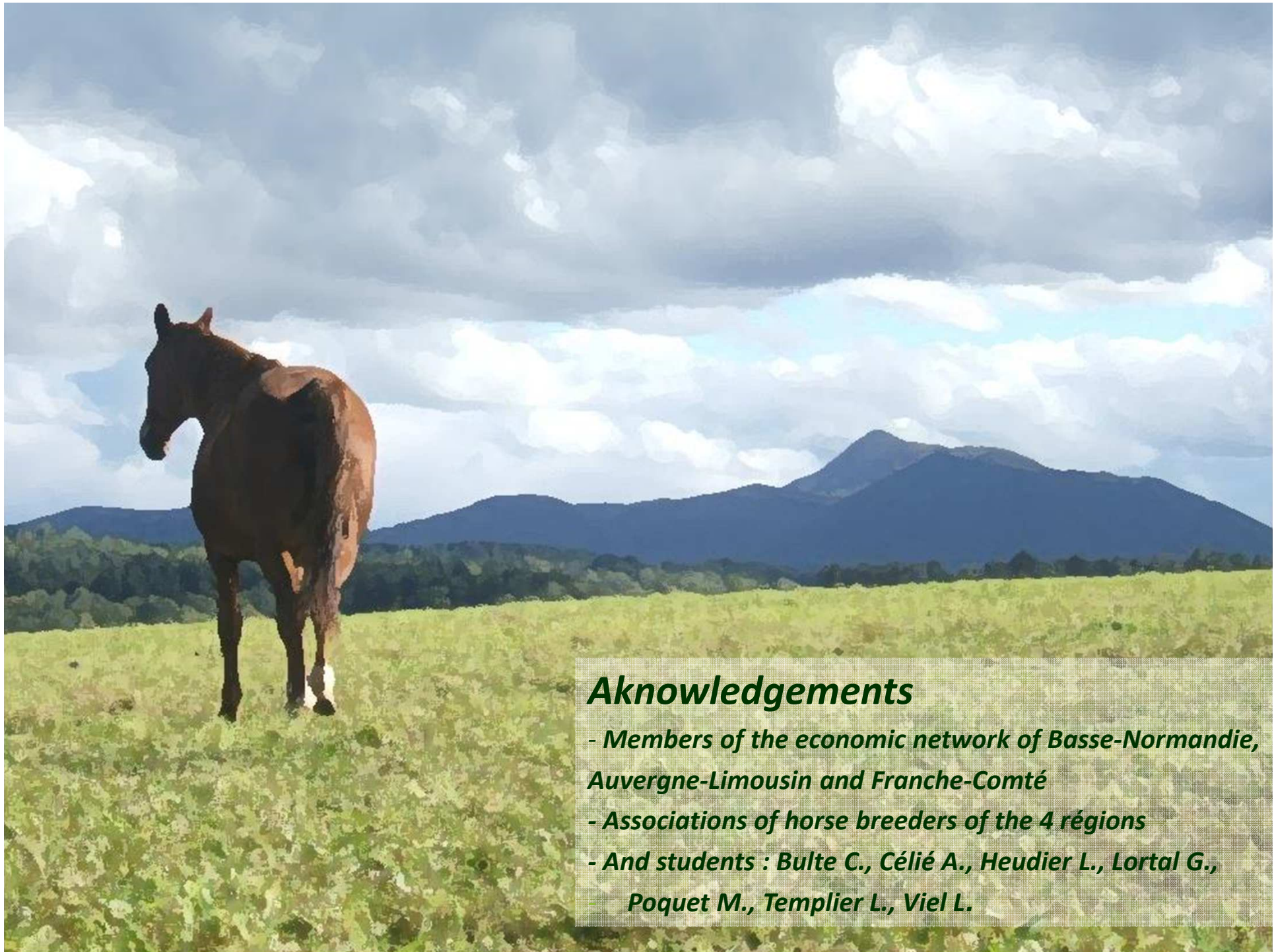
- **These results from representative farms  
must be combined with national data bases  
to quantify**

**the sustainable impacts**

**of horse husbandry**

**in French grasslands.**





## ***Aknowledgements***

- *Members of the economic network of Basse-Normandie, Auvergne-Limousin and Franche-Comté*
- *Associations of horse breeders of the 4 régions*
- *And students : Bulte C., Célié A., Heudier L., Lortal G., Poquet M., Templier L., Viel L.*