



63rd Annual Meeting EAAP 2012 August 27th - 31st, 2012



O2LA

Several animal species in the same farm: a system from the past or an innovation for the future?

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Methods:

Materials and methodology

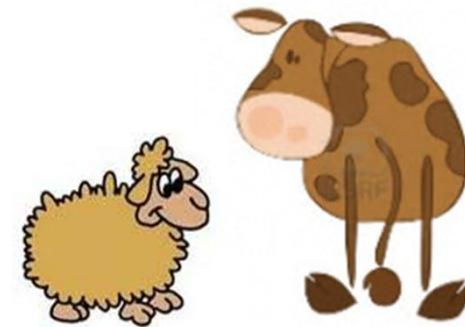
Results:

Main outcomes

Perspective of breeders

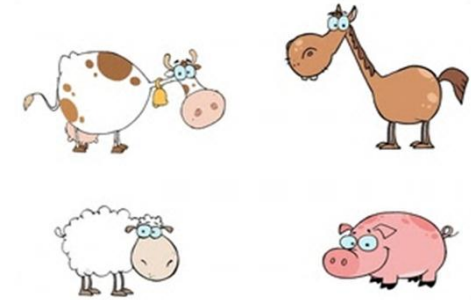
Conclusion:

Summary and perspectives





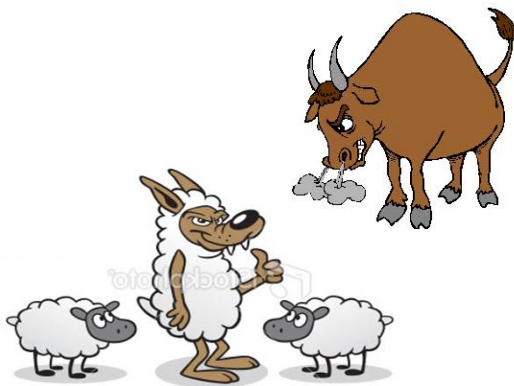
Mixed livestock farming systems:
several species and/or breed in the same farm

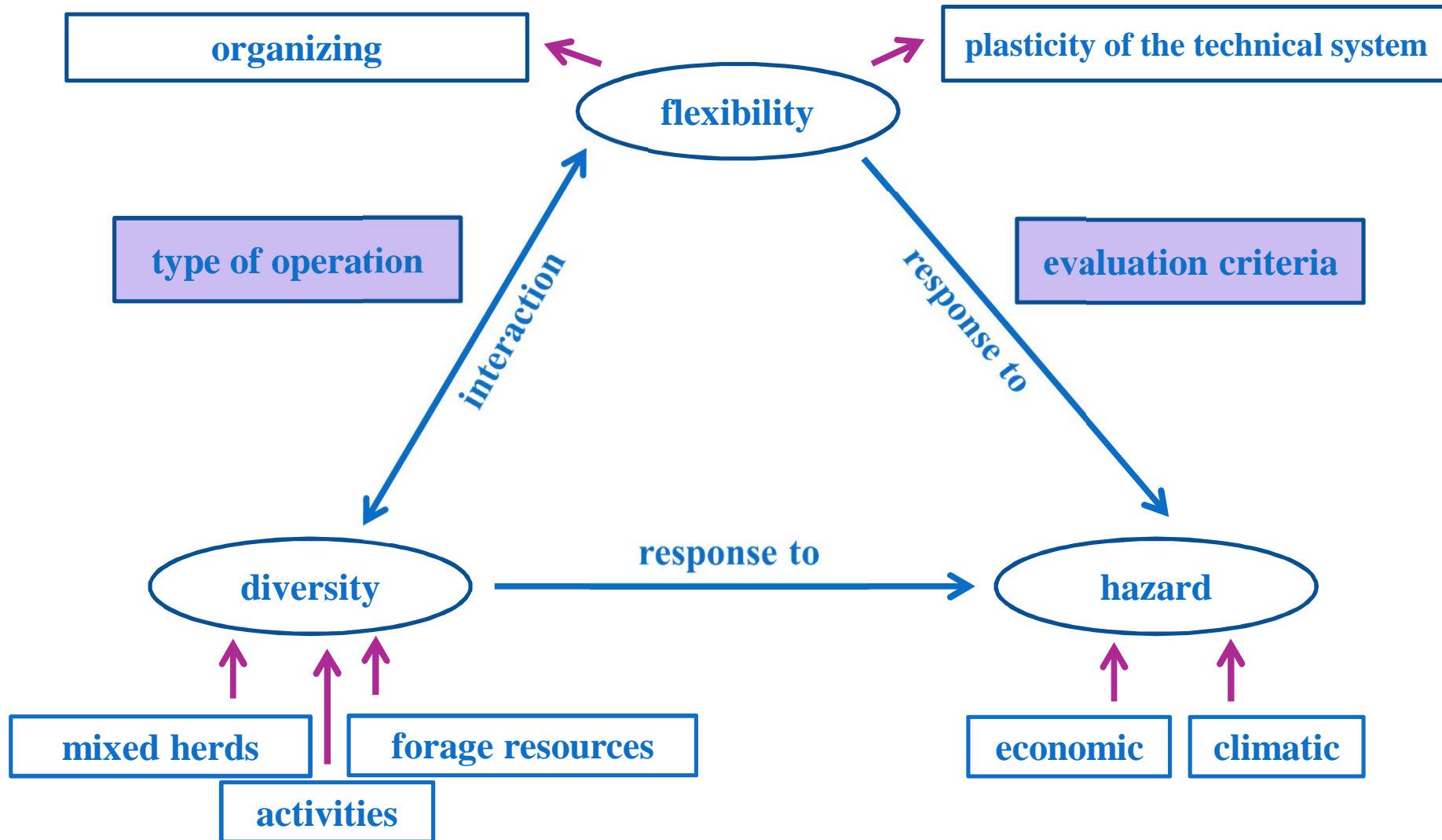


Mixed systems:
possible adjustment in the management (resource, allocations) and complementarity in the outputs

Advantages:

- ✓ different ways to combining dairy cows and meat sheep systems
- ✓ several logical organization and possibility for flexibility
- ✓ multi-species systems can provide flexibility
- ✓ high complementarity of the two species and their production mode
- ✓ ability to adapt to any remarkable situation







Hazard:

uncertain phenomenon, mostly unpredictable, most often caused by an unknown or unfamiliar determinism

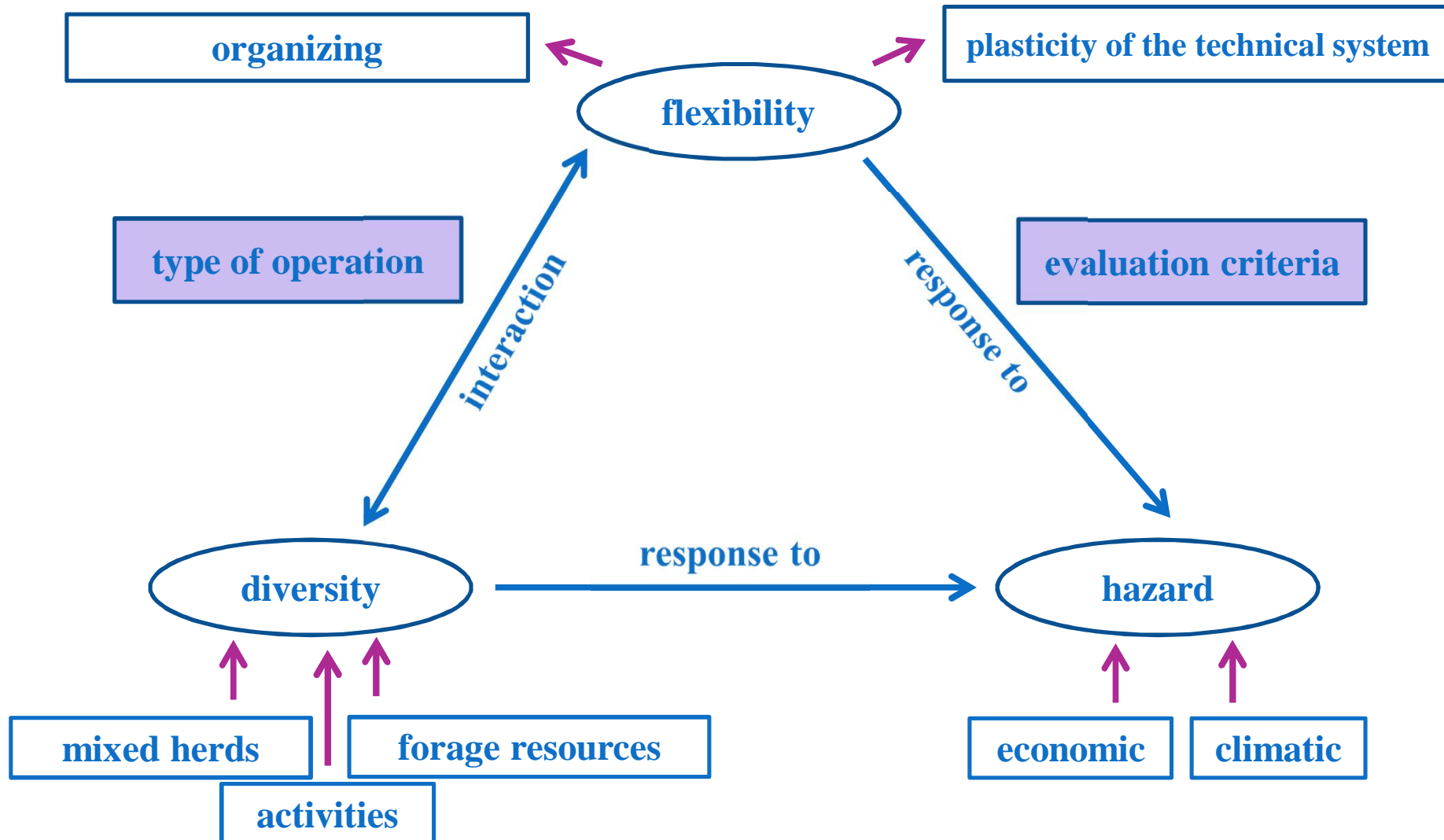
economic

volatility of the prices
climatic hazards



diversity

crops & grassland species
animal diversity: breed or species





Hazard:

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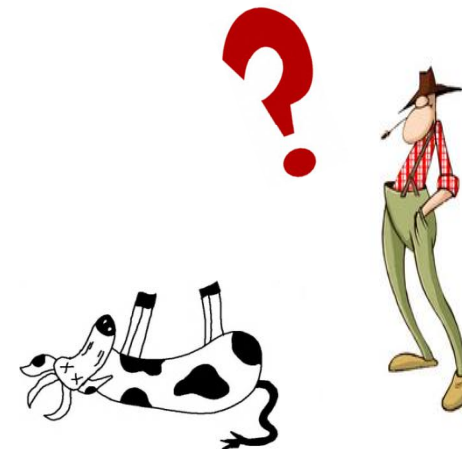


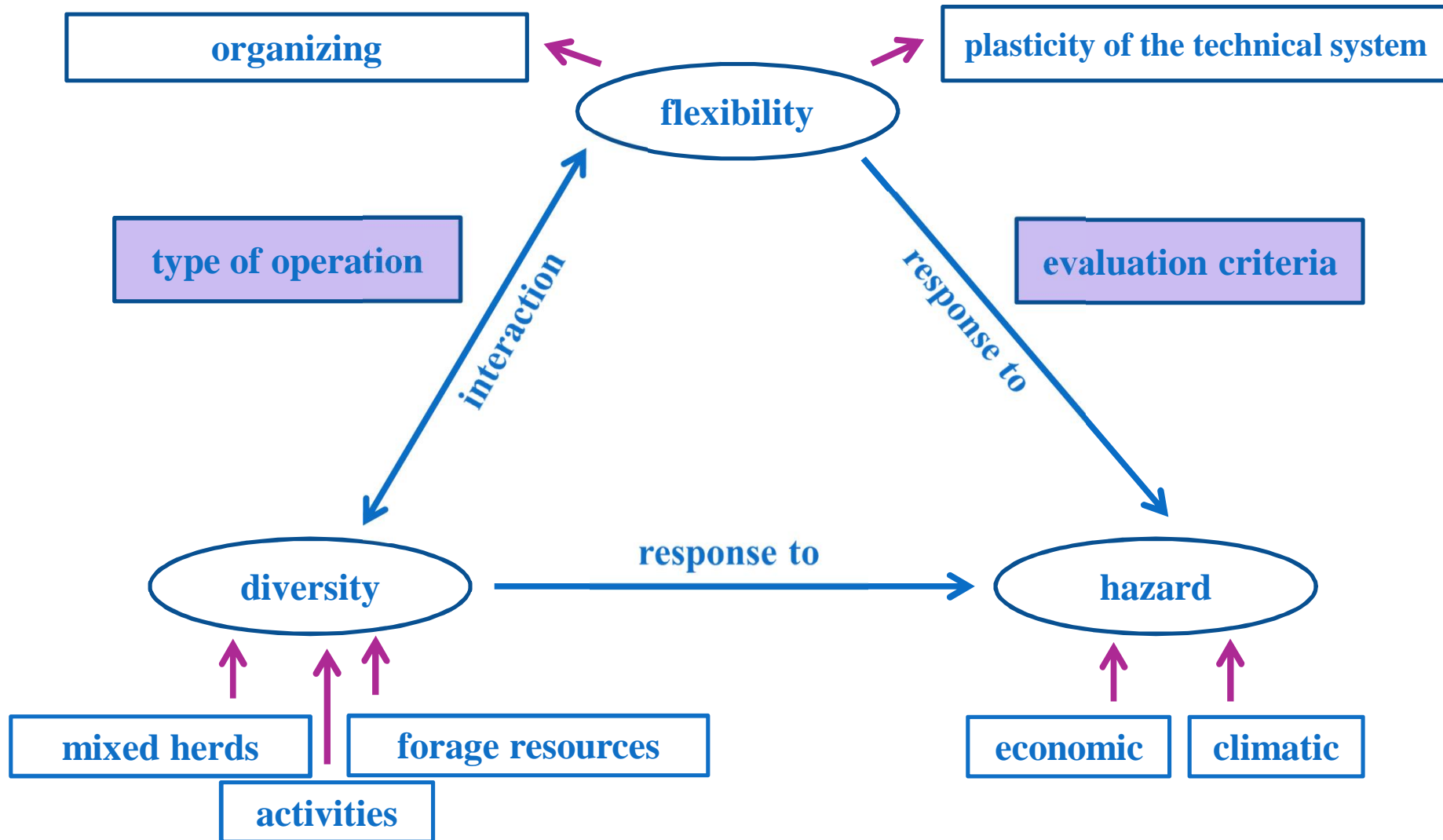
diversity

crops & grassland species
animal diversity: breed or species

Flexibility:

adaptability and ability of the farms to resist



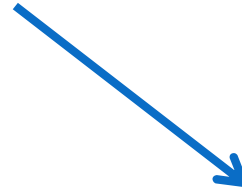




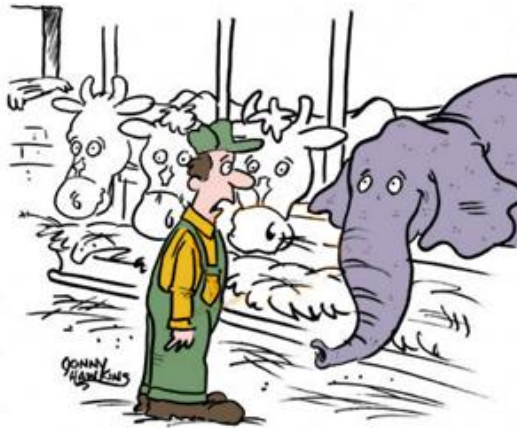
**Important elements for adaptation
to the hazards**



**heterogeneity of the resources
and territories**



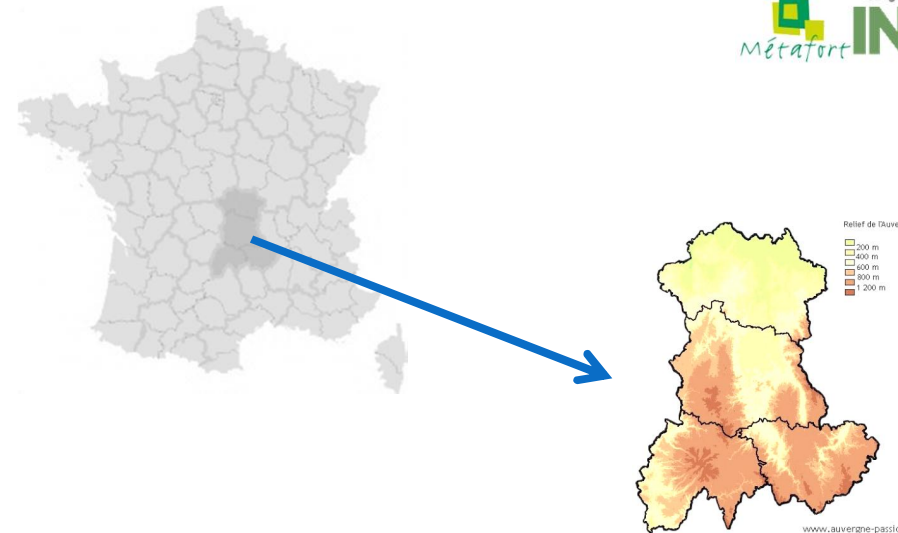
diversity of the animals



How did *you* get in here?



Field: Auvergne (Centre of France) Massif Central



The aim of the research:

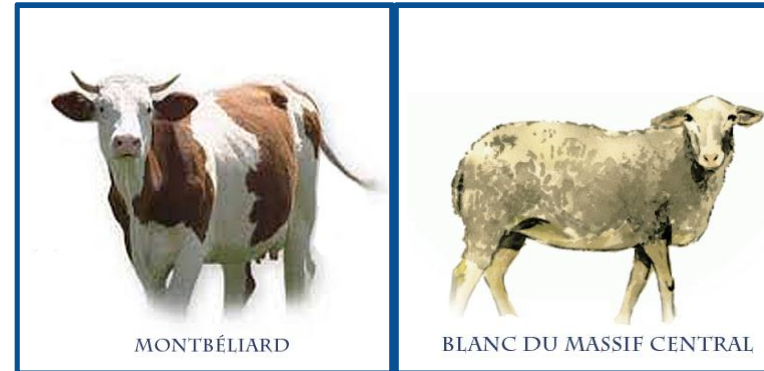
- ✓ understanding the functions of the mixed farming livestock systems and explaining how the breeders can reach the flexibility in this region.

The main question:

- ✓ the temporal organization of breeding activity in mixed systems promotes the flexibility against the climate and economic hazards?
- ✓ what are the advantages and constraints of the mixed systems against a single farming system?
- ✓ how the breeders can act to reach the flexibility in their system?



Auvergne: 17000 farms



	number	total area of agriculture	number of dairy cows	number of ewes
farms dairy cows and meat sheep	550	77 ha	31	150
farms dairy cows	5220	68 ha	36	
farms meat sheep	1400	68 ha		323



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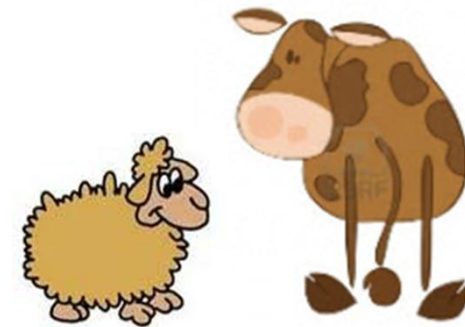
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preparation

18 surveys

**6 individually,
12 collective**

137 ha total area

interview guide

2 time scales

field



data

18 boards

55 variables

**full transcript of
the interviews**

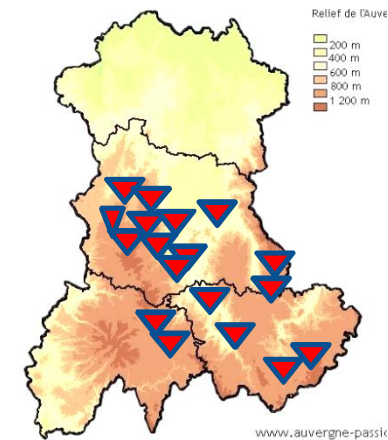
analysis

**descriptive and
multivariate
statistical
analysis**

**lexicometric
analysis**



	farms dairy cows/meat sheep
total area of agriculture (ha)	137
number of dairy cows	49 (Montbéliardes)
milk production (liter)/cow/year	5900
number of ewes	356 (BMC)
offspring/ewe/year	1.06



Questionnaire: semi-structured interviews

- 1) Historical approach about the mixed system within the farm: when? why? how?
- 2) Graphical methods to collect data about herd and land management



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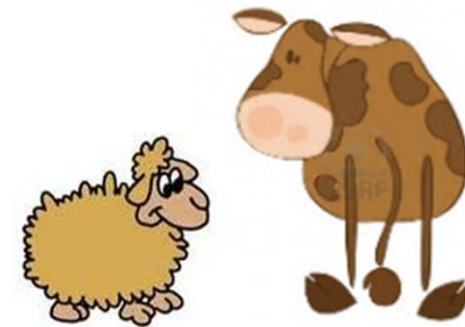
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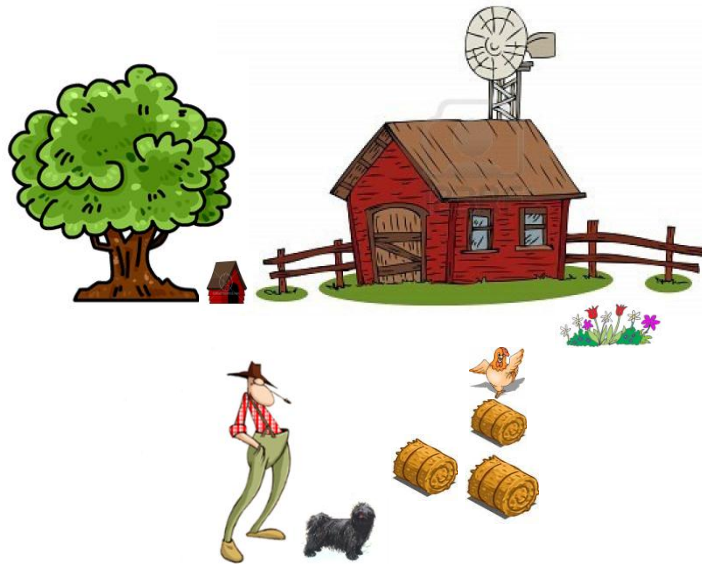
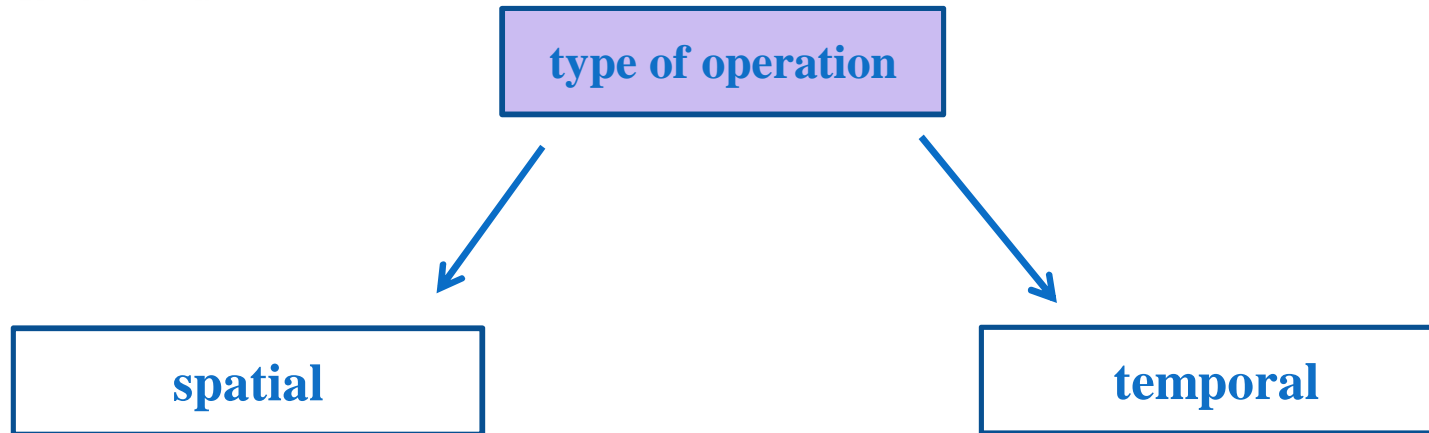
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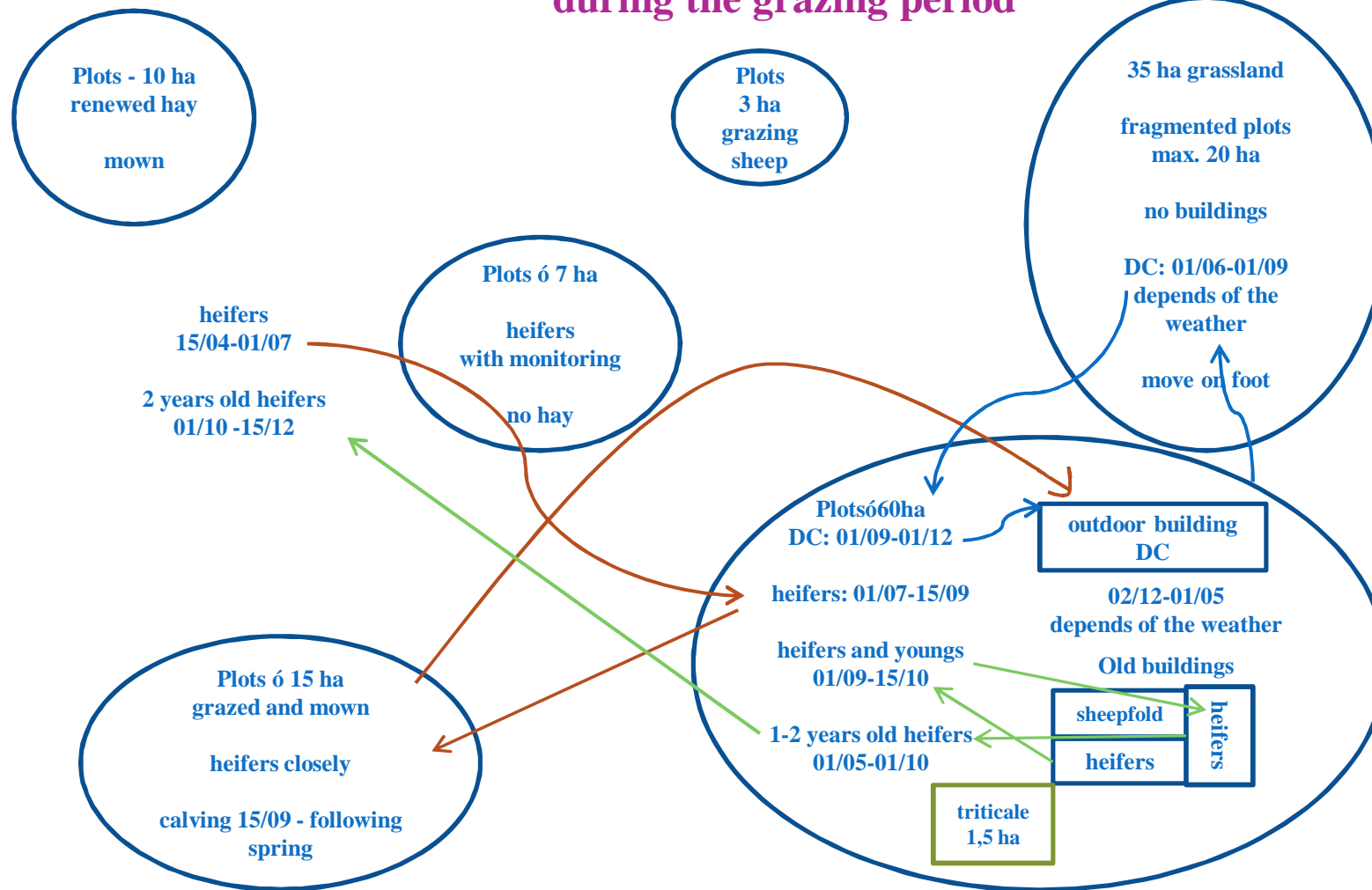
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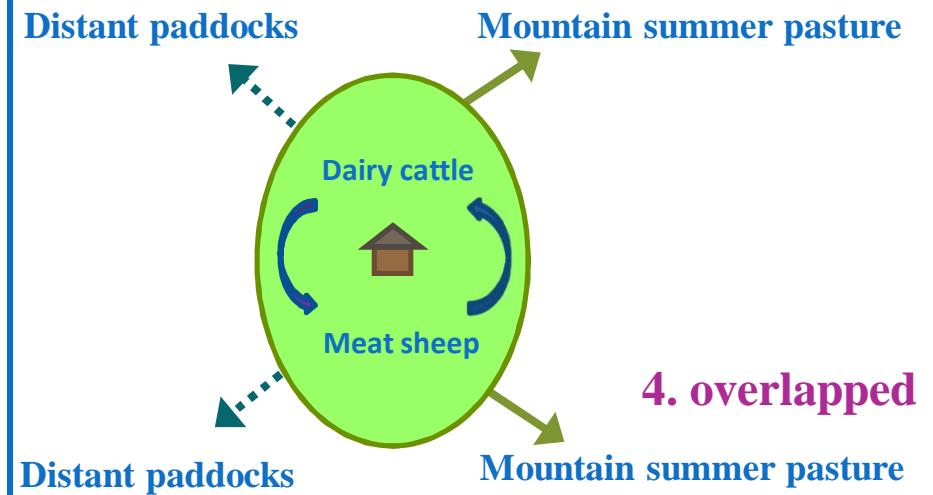
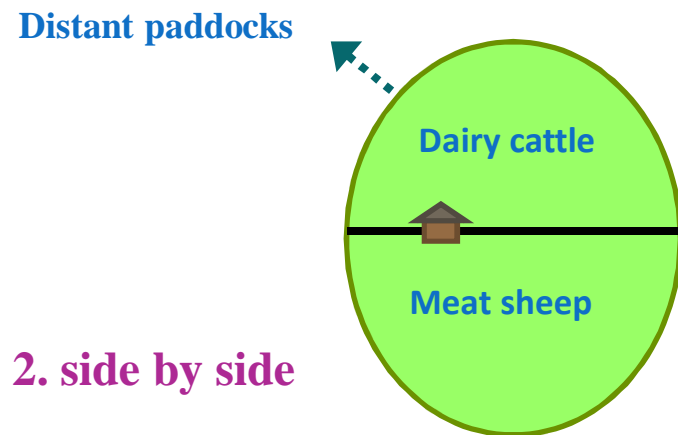
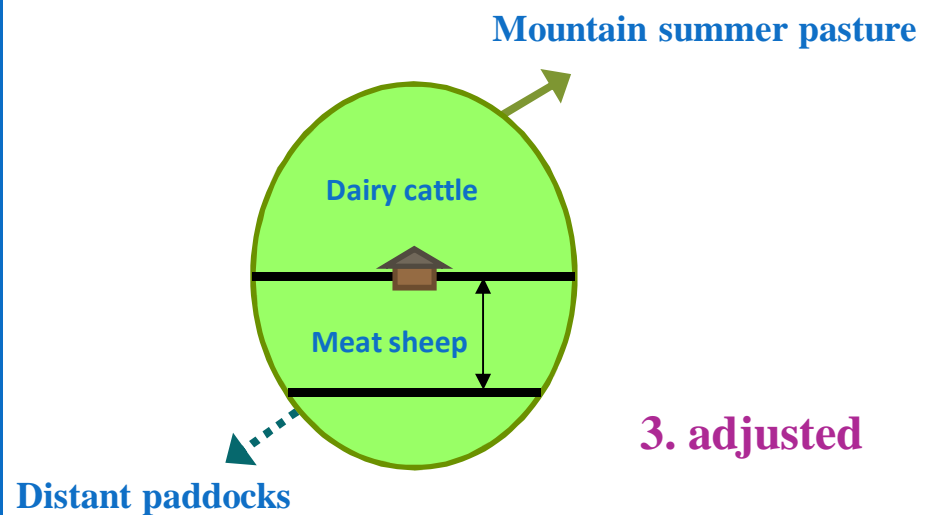
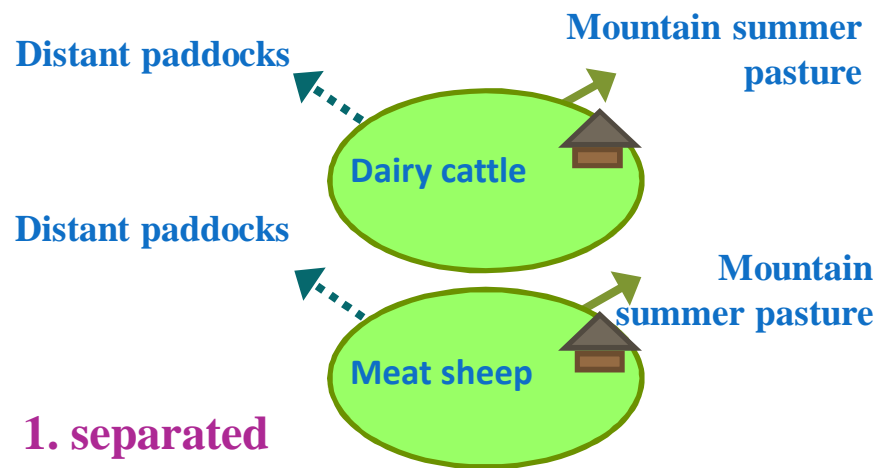
Example for one farm area (groups of paddocks), with the different circuits of animals during the grazing period



DC: dairy cow



Four types for the spatial interaction between cows and sheep



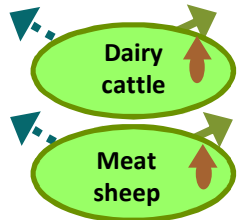
 main area (around barns)

 farm



spatial adjustments

separated



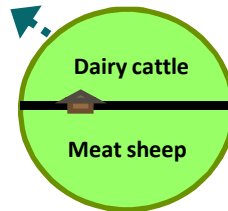
priority: the quality of milk and sheep meat

available oversized and additional areas

large number of the animals

adjustments: rarely

side by side



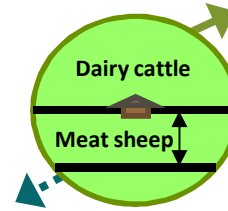
priority: high level of the productivity

management: complex frequently modified

system: under pressure

adjustments: rarely, in case of purchasing feed

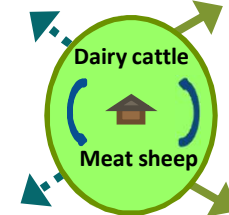
adjusted



priority: great range of outputs

adjustments: when it need to reduce the area of the sheep for keeping the same amount of feed for dairy cows

overlapped

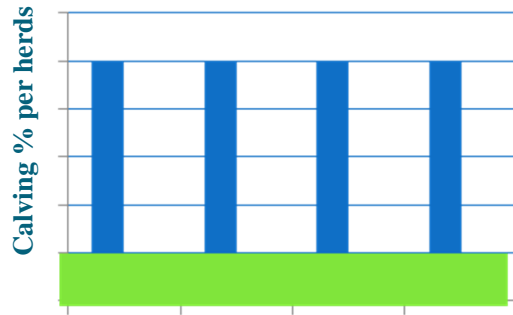


priority: use self produced feed as much as possible to simplify the management and increase the age of the animals

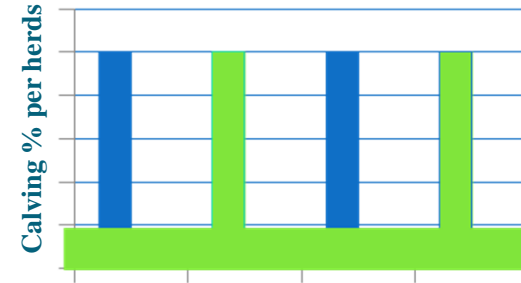
adjustments: rarely, due to the low animal requirements and to the internal sources



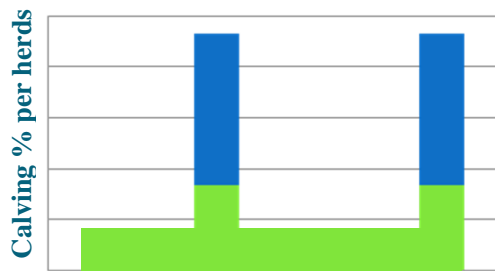
Four types for the temporal (calving/lambing) schedule of the mixed herds



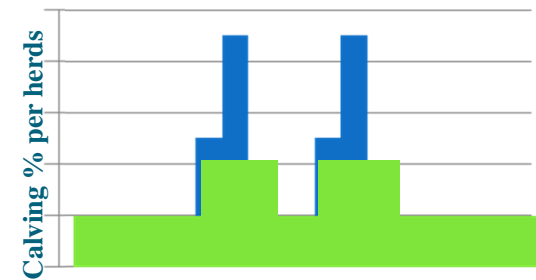
1. expanded and cumulated



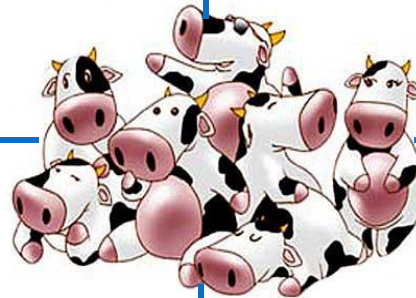
3. separated



2. added



4. overlapped

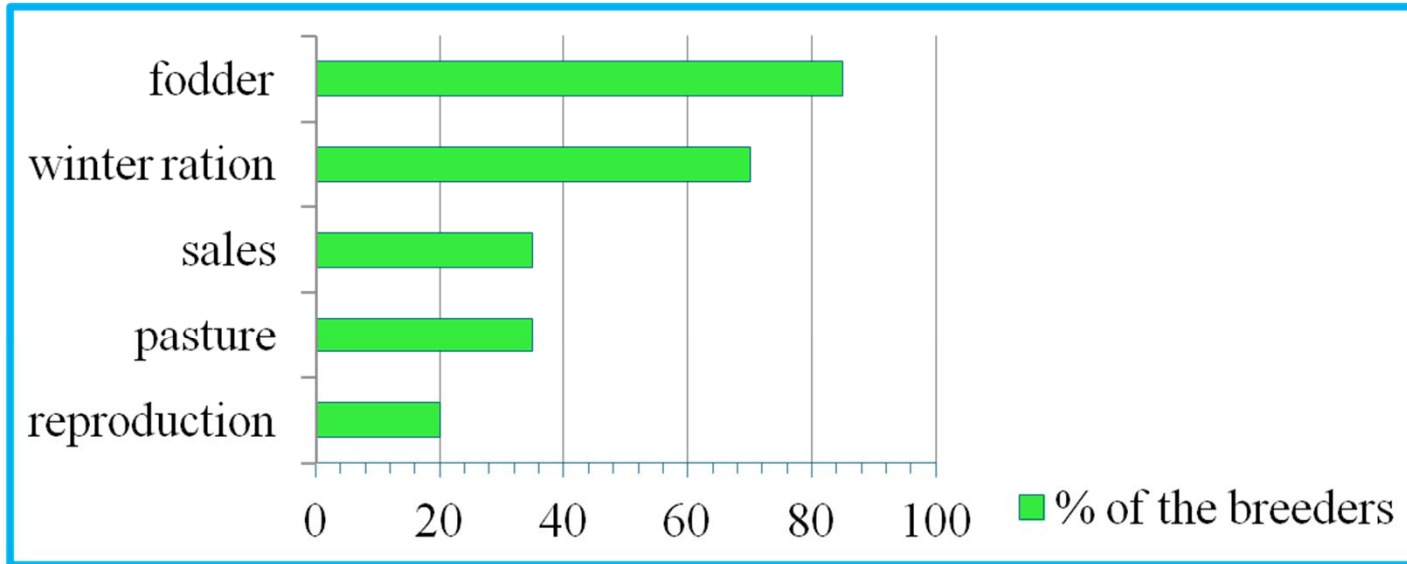


One colour = one species

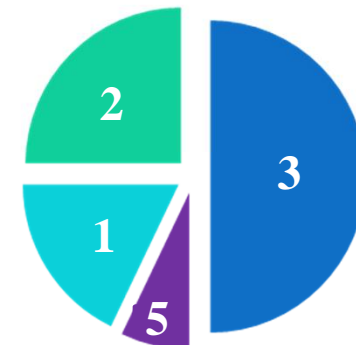


temporal adjustments

5 ways to adapt - often combined



The most common combinations for the mixed adaptations

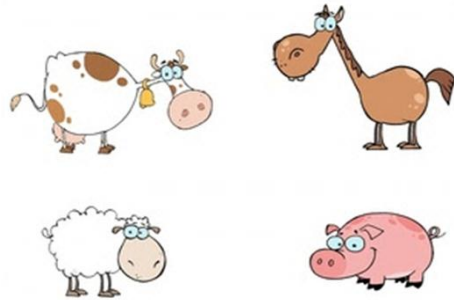


40% of the farmers are do not connecting to these mixed types of adaptations



breeding system

50% possibilities of plots



20% financial freedom

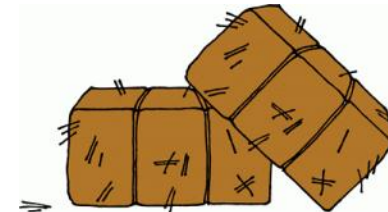


TEMPORAL ANCHORING

10% compensate in emergency



20% safety stocks



forage system

F
I
E
L
D

A
N
A
L
Y
S
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S



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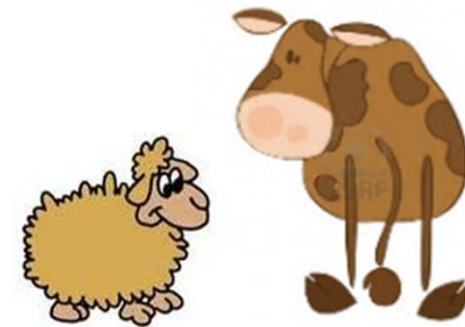
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Summary

- ✓ during two years eighteen inquires of mixed farms (dairy cows and meat sheep) of Massif Central were realized
- ✓ two different ways of organizations exist in the mixed livestock systems: spatial and temporal
- ✓ there are different potentials to cope with hazards:
 - 4 possibilities for the temporal
 - 4 possibilities for the spatial } adjustments
- ✓ in the breeding and forage management systems there are different external and internal sources to avoid the risks





Conclusion

There are trends pointing towards the
specialization,

BUT it seems mixed farming systems
still have a beautiful future ahead
and can be keep modern,

because lots of breeders did not think
to need to specialize in one or other
type of the productions.

system from the past innovation for the future

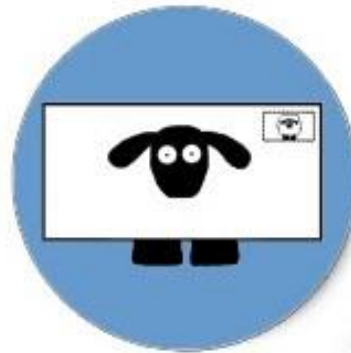




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Thank you for your attention!



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