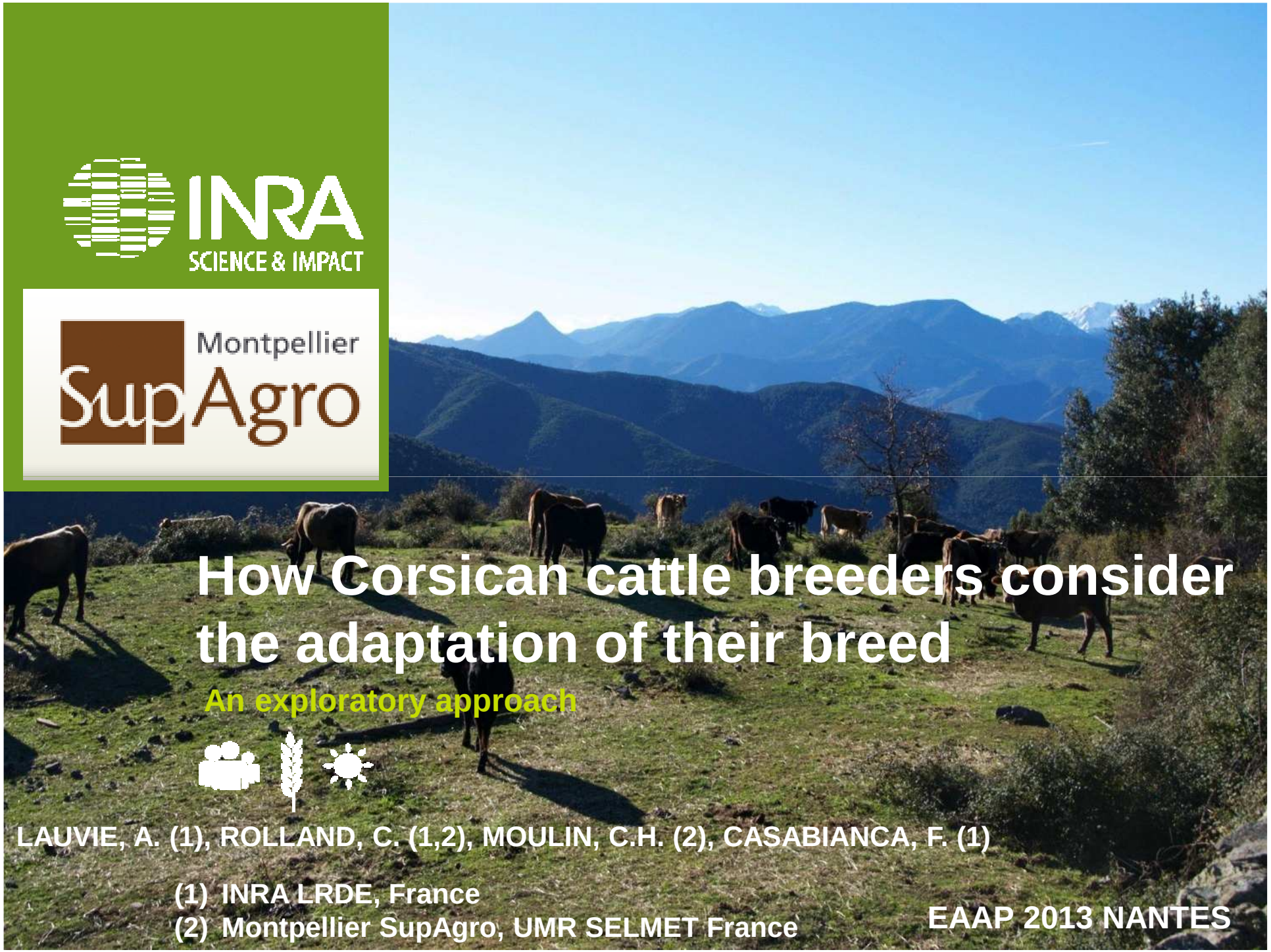

How Corsican cattle breeders consider the adaptation of their breed

An exploratory approach

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Adaptation of cattle breeds in the mediterranean area

- Mediterranean area: climate with dry and hot periods.
- Several zones of mountains or desert areas.

- Local breeds mobilized in those harsh environment present adaptation characteristics.

- Stake of adaptation is even more important in a context of climate change

Adaptation of cattle breeds in the mediterranean area

The Galimed project (INRA ACCAF meta-program)

- In a context where adaptive traits will gain importance:
  - ✓Considering cattle breeds populations in the whole Mediterranean area (14 breeds)
  - ✓Combining population genetics and a LFS approach

- Aim to link genetic characterization, LFS approach to identify genomic region underlying adaptation to production systems and environment and to understand better breeders'points of view and practices.

The Corsican case: understanding the breeders'views of adaptation

- Corsica: Moutainous mediterranean island
- Corsican cattle:
  - ✓historically used for animal traction in cereals farming areas. Converted to a suckler cow when cereals farming was given up.
  - ✓Small size
  - ✓Diversity of colors
- Collective management of the breed and valorization are difficult (new collective project began recently)

Photo Clémentine Rolland

Photo Anne Lauvie

The interviews conducted

- 20 farmers interviewed

- Aim to cover a diversity
  - mountain, hill and plain
  - breeders or not
  - crossbred animals or not
  - belonging to the regional association or not

- Guide for interview: History of the farm/ Farming system / Adaptation: point of view and practices / collective action

RESULTS 1

The adaptive traits quoted by the breeders

	Frequencies of total quotation/Number of total occurrences
Feeding autonomy	**100% / 283**
Morphology and external aspects	**100% /139**
Reproduction	**95% /117**
Adaptation to territory	90% /63
Behaviour	85% / 74
Resistance	80% / 67

RESULTS 1

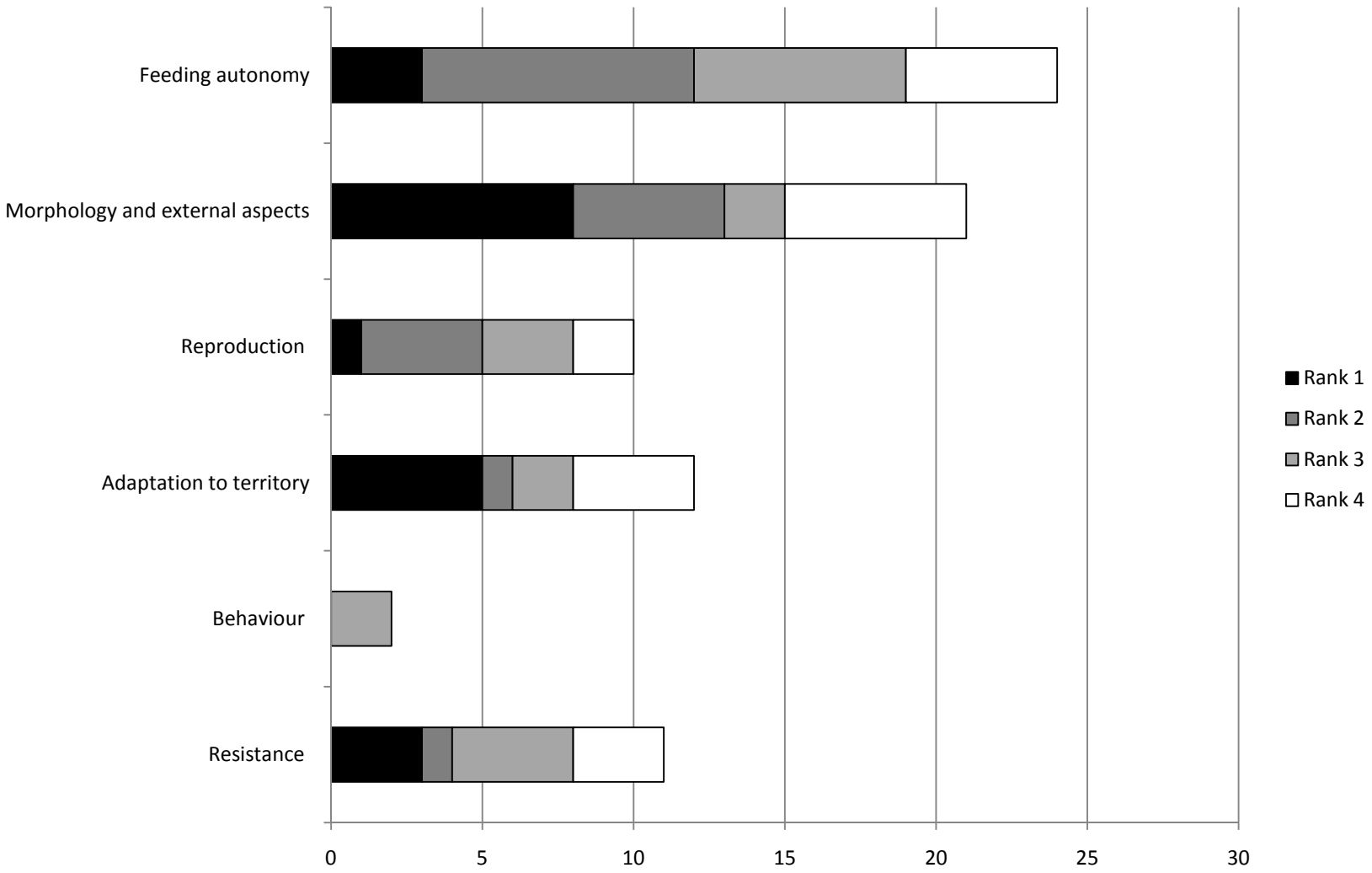

Fig: Ranking of the adaptive traits in answer to the part concerning adaptation

Feeding autonomy analysis

RESULTS 2

→ Ability

- A1 needs of the animal

Because they are smaller, they content themselves with eating less.

- A2 feeding behaviour

Her capacity to go in the rocks, see… go where other cows can't go

- A3+/- body condition

They go up in the montains and when they come down they are not skinny, they are really big

- A4 resources

For instance you leave her here, she will eat the heather, she will eat everything.

Feeding autonomy analysis

RESULTS 2

→ **Ability**

- A1 needs of the animal
- A2 feeding behaviour
- A3+/- body condition
- A4 resources

→ **Consequences**

- A5 Lower cost
- A6 Easy to manage, less time consuming
- A7 Not in adequation with social expectations

→ **Causes**

- A8 Morphology explains autonomy
- A9a Autonomy is inborn
- A9b Autonomy can be adquired thank to a learning process from cow to heifer
- A9c+ Breeder can increase autonomy
- A9c- Breeder can decrease autonomy

Feeding autonomy analysis (4)

(1)Number of occurences

(2) Number of breeders quoting the item at least once

	A1	A2	A3+	A3-	A4	A5	A6	A7	A8	A9a	A9b	A9c +	A9c -
(1)	**50**	**139**	**51**	6	**59**	22	15	7	**25**	5	5	8	8
(2)	**19**	**20**	**17**	5	**18**	12	10	3	**14**	5	3	5	7

RESULTS 2

Feeding autonomy for the breeders is mainly **associated to the behavior of the animals**, the **ability to use some natural resources** (unknown for cows of other breeds) and the ***morphology explains*** to a large extend such ability.

Discussion and conclusion

- Importance of the breeders' point of views on adaptation AND link with their practices

- Methodology to be tested again on other cases (Italy for instance) with different breeds and farming systems

- Question of the links between adaptation and LFS