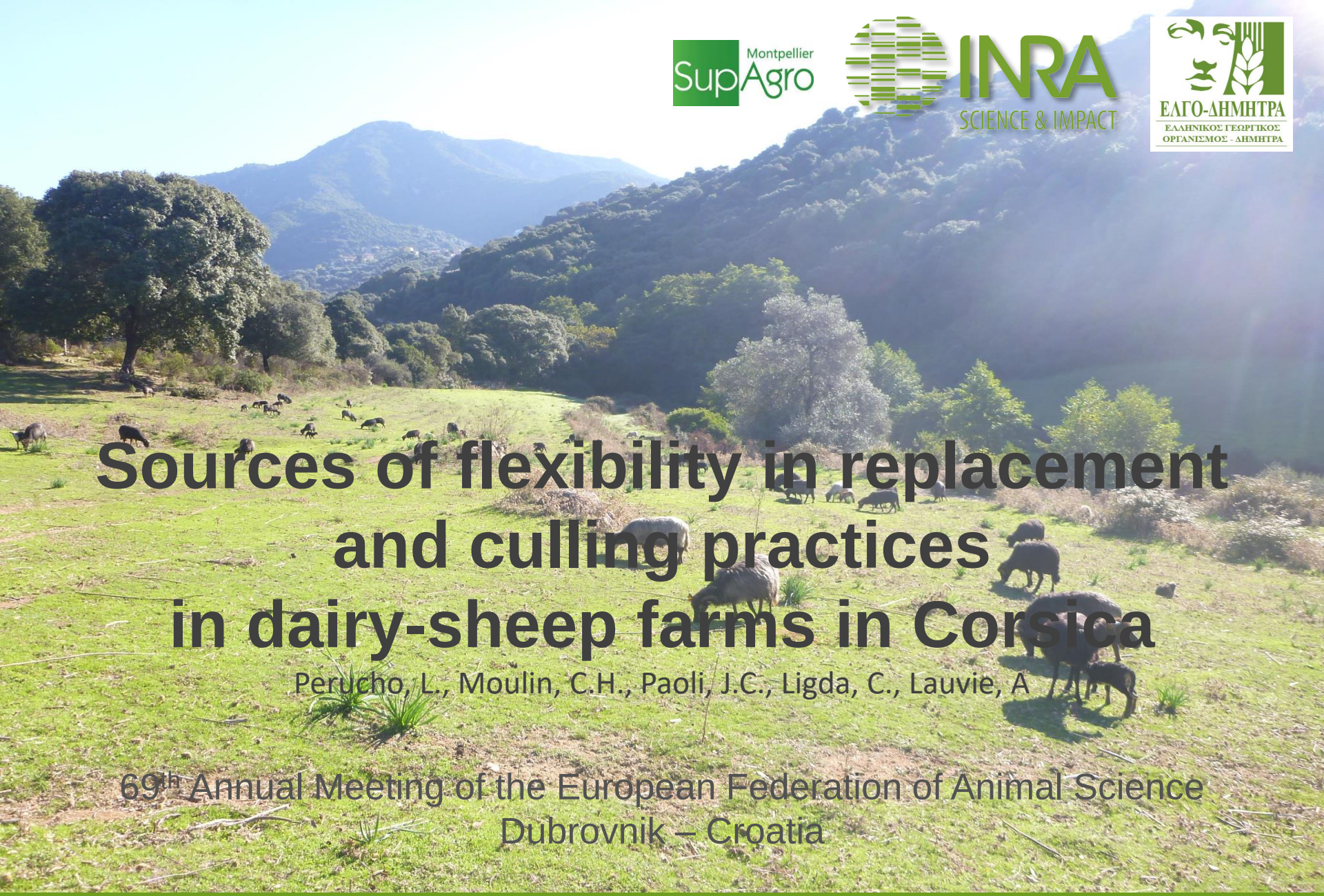


Sources of flexibility in replacement and culling practices in dairy-sheep farms in Corsica

Perucho, L., Moulin, C.H., Paoli, J.C., Ligda, C., Lauvie, A

69th Annual Meeting of the European Federation of Animal Science
Dubrovnik – Croatia

Breeding practices and pastoral farming in Corsica

- **A diversity of breeding practices :**

  - ✓ **Breeding scheme :** around 15% of total dairy-sheep farmers
  - ✓ **Use of rams from the breeding center :** around 34% of total dairy-sheep farmers
  - ✓ **Replacement and culling rates** : from 10% to 25% in farms in breeding scheme (OS Brebis Corse)
  - ✓ **Selection criteria** including various functional traits

- **Pastoral farming** : from exclusive use of rangelands to self-sufficiency in hay production

How are breeding practices a flexibility lever at the farm scale ?

For pastoral constraints ?

Material and methods

The flock as source of flexibility for the farming system (Nozieres et al, 2011)

Three sources considered in the study :

(i) the animal flows in and out the herd

→ **Replacement and culling rates (RC rates)**

(ii) the diversity of species/breeds/animal populations within breed

→ **Supply in external rams**

(i) the animal adaptive capacities

→ **Functional and productive traits in replacement/culling**

Material and methods

Semi-structured interviews across Corsica region (n=30)
Bertin's graphical data analysis

→ Setting RC rates : modalities and reasons
→ Changes in RC rates under forage offer variations
→ Supply in external rams : modalities and reasons
→ Replacement and culling decisions for "good milk producers" displaying : twinning, non-compliance with breed standard, restless temperament, difficulties in milking, sensitivity to mastitis

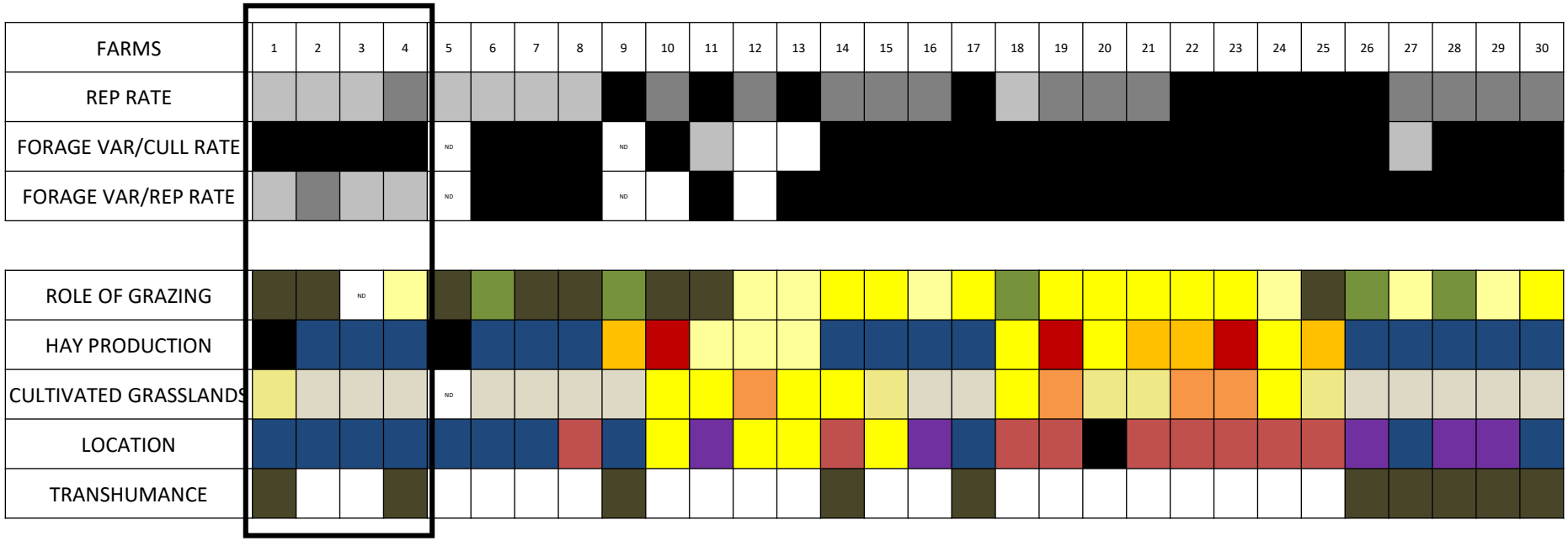
Characterizing pastoral components

Role of grazing	Hay production	Cultivated grasslands	Location	Transhumance

Linking forage offer variation … to variability of RC rates

Low replacement rate

Increase of replacement rate in case of good forage offer



Grazing > 50% of energy requirements

Hay purchased on the market/no hay

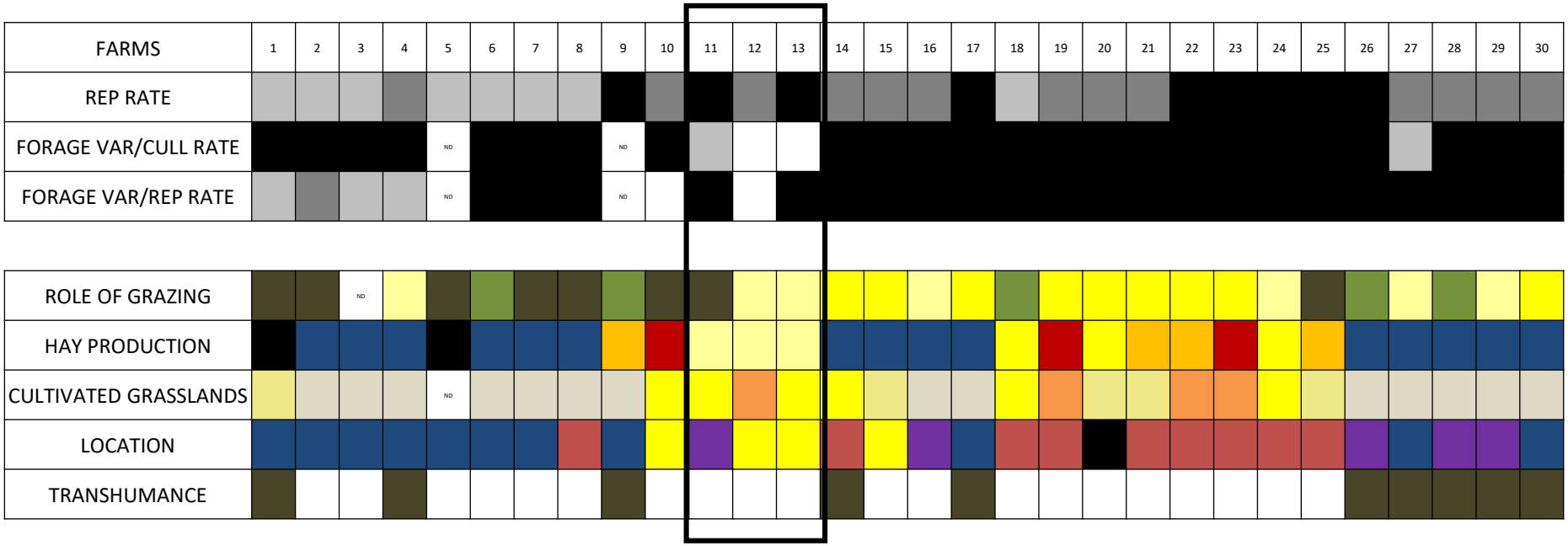
Rangelands and native grasslands

South-Western Corsica

Linking forage offer variation … to variability of RC rates

Medium to high replacement rate

Increase of culling rate in case of low forage offer



Grazing > 50% of energy requirements

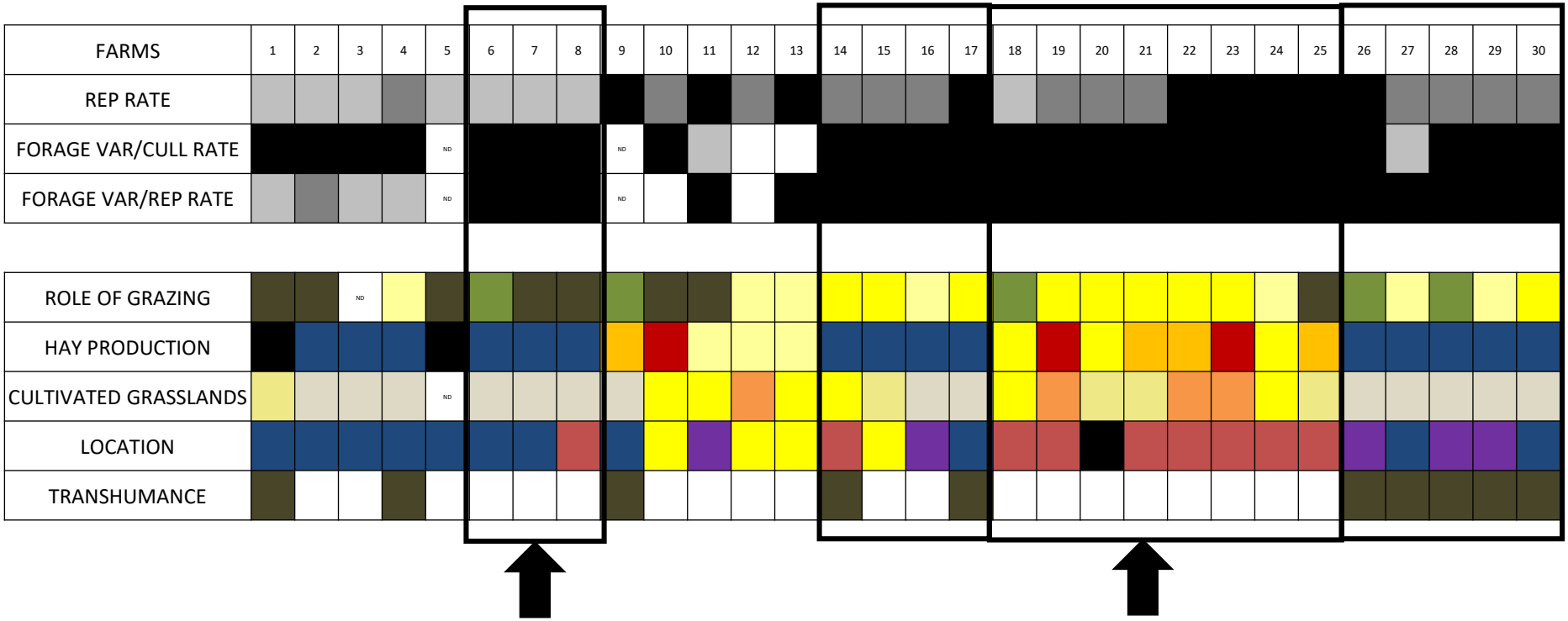
Hay produced : low self-sufficiency

Cultivated grasslands

Central Corsica and North-Western lowlands

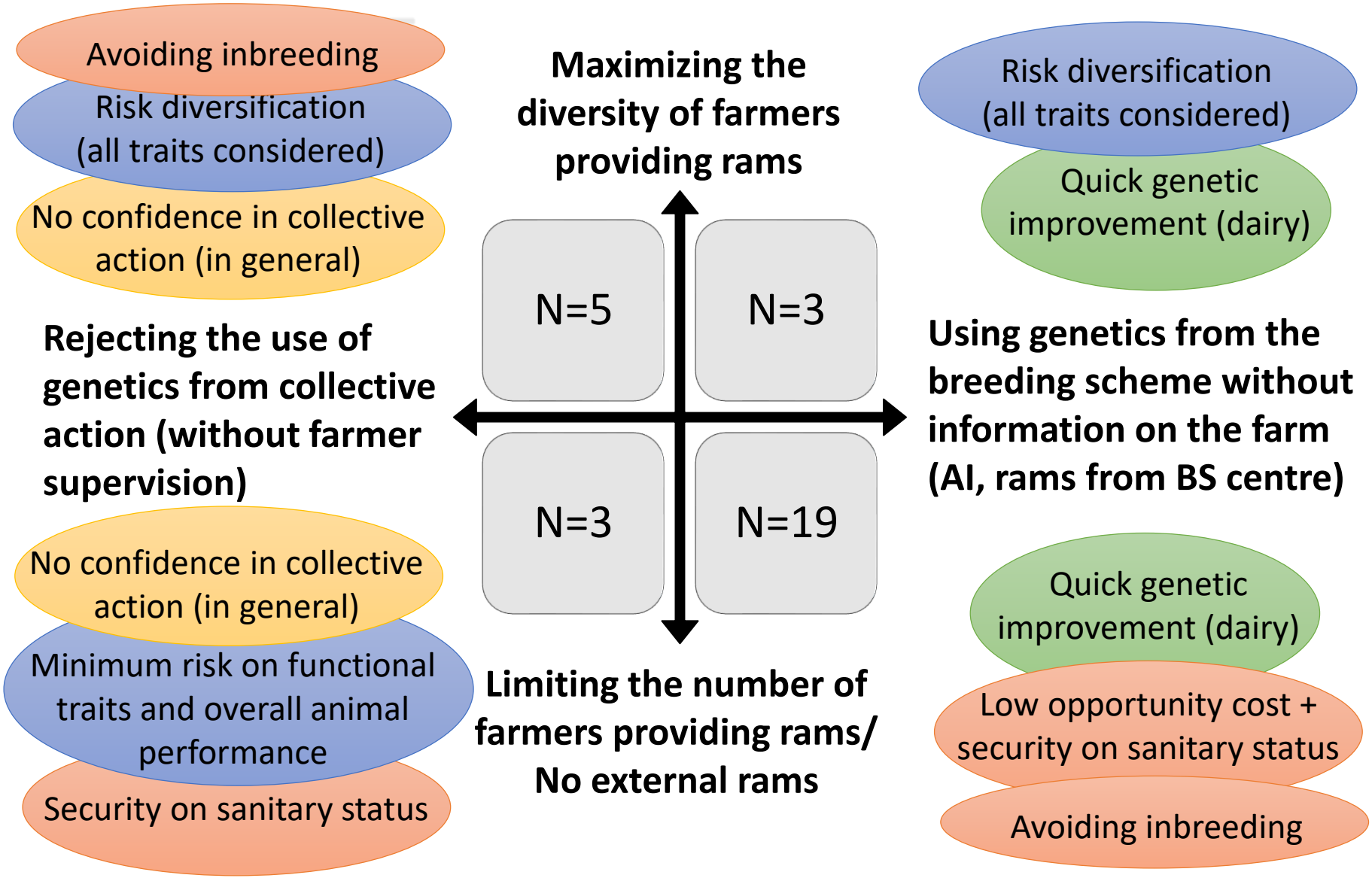
Linking forage offer variation … to variability of RC rates

Replacement and culling rates are **not a source of flexibility** in case of variations of forage offer



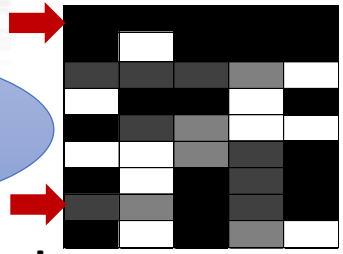
From the most pastoral … towards the less pastoral ones

Use of external rams



Linking trade-offs on selection criteria … to flexibility of replacement rate and male supply

Risk diversification (all traits considered)

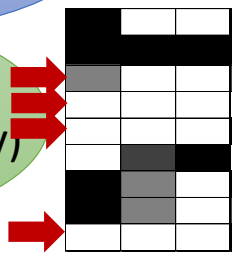


No flexibility of replacement rate if hazards or opportunities

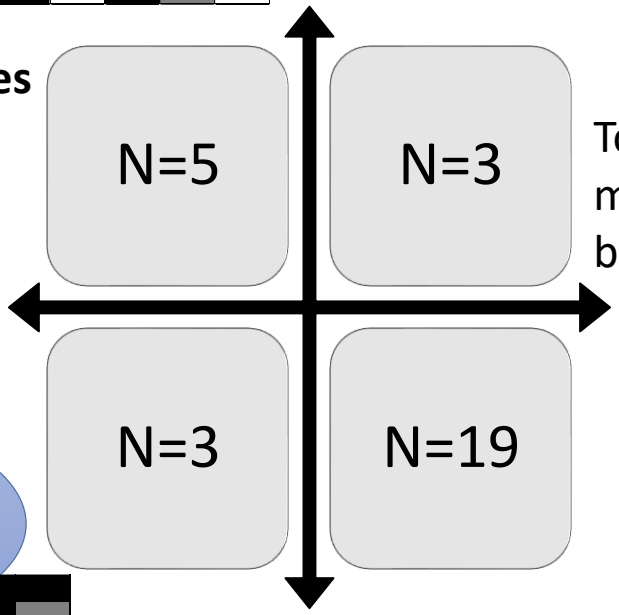
Exigence on twinning and milking ease

Risk diversification (all traits considered)

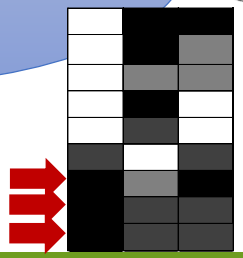
Quick genetic improvement (dairy)



Tolerance on sensitivity to mastitis, deseasoning, twinning, breed standard



Minimum risk on functional traits and overall animal performance



Exigence on milking ease, breed standard

Quick genetic improvement (dairy)

All types of trade-off
Replacement rate can be flexible or not

How sources of flexibility are combined ?

More investigation is needed to understand how the different sources of flexibility are combined at the herd scale :

- **Evidence of a link between modalities of ram supply and trade-offs between traits in replacement practice**

→ Nature and importance of risk associated with external ram supply ?
→ Opportunity to select specific traits in relation with flock performances and perceived "heritability" (farmer's perception) ?

- **A majority of farmers using breeding center genetics as source of flexibility … display different uses of RC rates and trade-offs between traits**

Concluding remarks

→ Culling rates can be highly impacted in case of low forage offer in farms producing hay in dry areas (North-Western Corsica)

→ Replacement rates are sources of flexibility for opportunities ("good ewes", high forage offer) and zootechnical hazards

→ Flexibility on providers and number of farmers supplying rams respond to various motivations

→ Link is not clear between trade-offs performed between traits and modalities or ram supply … but role of external replacement with respect to internal replacement has to be further investigated

Thank you for your attention

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