



Assessing ecosystem services provided by livestock farms in the French Massif Central

Jean Zapata, Clémentine Lacour, Stéphane Violleau, Géraldine Duplic, Pascal Faure, René Baumont, Pascal P. Carrère, S. Hulin, Anne A. Farruggia

► To cite this version:

Jean Zapata, Clémentine Lacour, Stéphane Violleau, Géraldine Duplic, Pascal Faure, et al.. Assessing ecosystem services provided by livestock farms in the French Massif Central. Joint Meeting of the "Mountain Pastures, Mediterranean Forage Resources (FAO/SCORENA-CIHEAM) and Mountain Cheese" Network, Institut National de Recherche Agronomique (INRA). UMR Unité Mixte de Recherche sur les Herbivores (1213)., Jun 2014, Lempdes, France. 843 p. hal-02739242

HAL Id: hal-02739242

<https://hal.inrae.fr/hal-02739242>

Submitted on 2 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Assessing ecosystem services provided by livestock farms in the Massif Central

Zapata J. , Lacour C. , Violleau S. , Duplic G. , Faure P. , Baumont B. ,
Carrere P. , Hulin S. , **Farruggia A.**



What were our objectives with DIAM?

- Underline the importance of the **GRASS RESOURCE** and grasslands diversity within farm
- Give a **NEW VISION** of livestock breeding shared with farmer and all the partners



How DIAM works?

Agricultural services

❖ Yield



❖ Production seasonality

At 400 °C 60% of grass are vegetative

At 800 °C 80% of grass culms above 10 cm soil level

❖ Forage nutritive value at 500°C

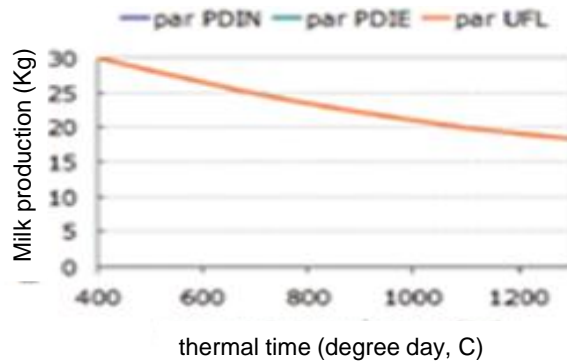


❖ Management flexibility



❖ Allowed milk production

(milk production allowed at grazing, with a diet intake from 16-20 Kg MS/day for a standard dairy cow)



Environnemental services

❖ Carbon storage



❖ Patrimonial interest (botany)



❖ Floewing color diversity



❖ Pollinisation impact



❖ Fauna interest



Cheese quality services

❖ Organoleptic potential

Color

4/4

Flavor

1/4

❖ Nutritional potential

Antioxydes

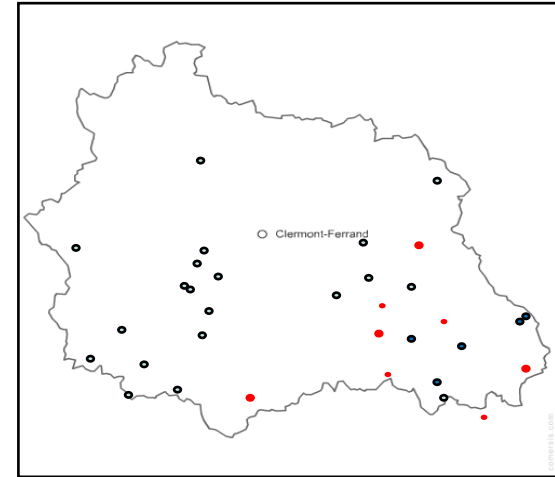
3/4

insaturated fatty acids

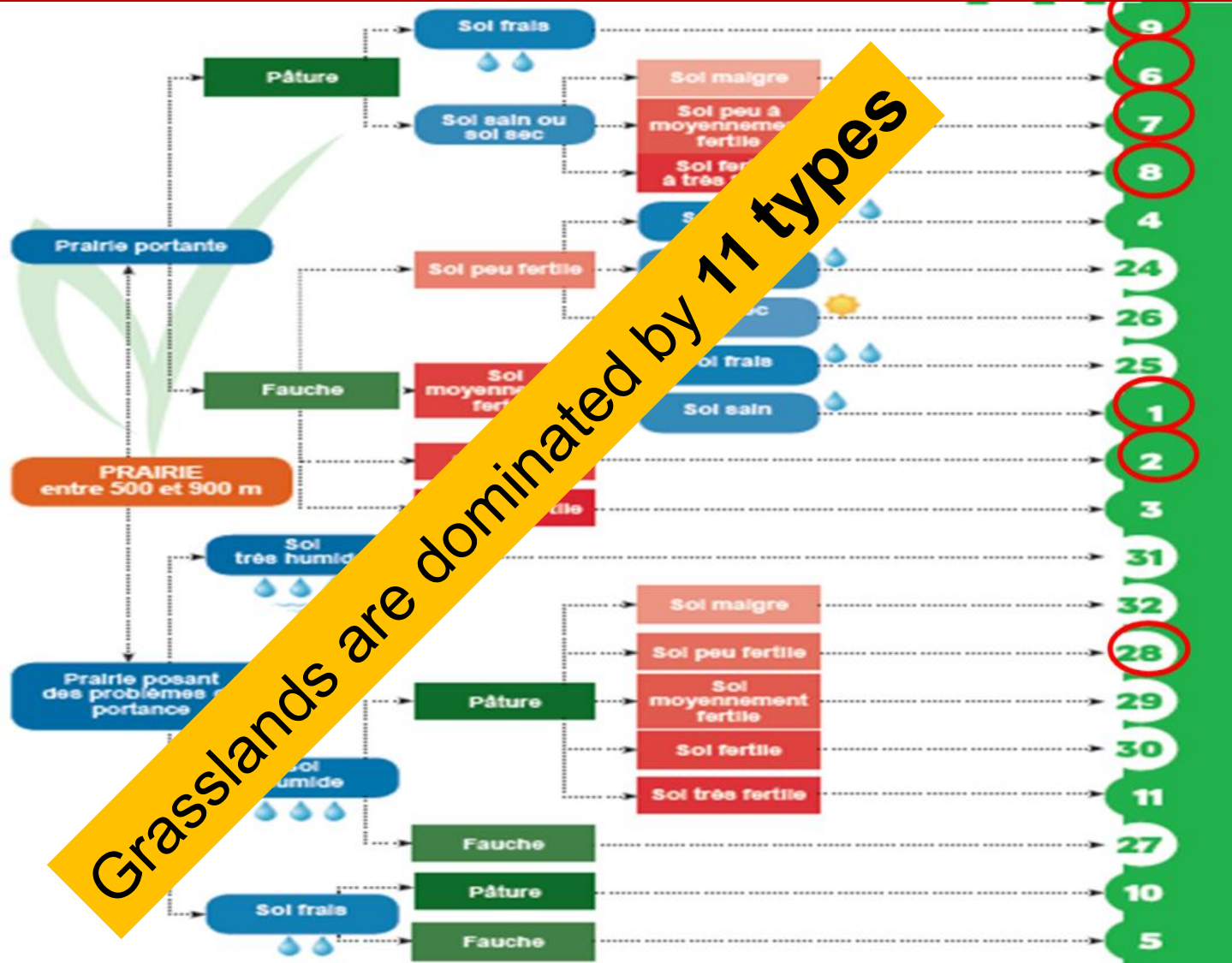
3/4

DIAM has been tested on a group of 36 farmers

- Half are engaged in **local food supply chains**
- A quarter are **organic farmers**
- Two third of the farms are **oriented towards dairy cows**
- All are **grass-based** systems



KEY 1 - Grasslands between 500 and 900 m



Grasslands are dominated by 11 types



Grasslands diversity characterizes the forage systems

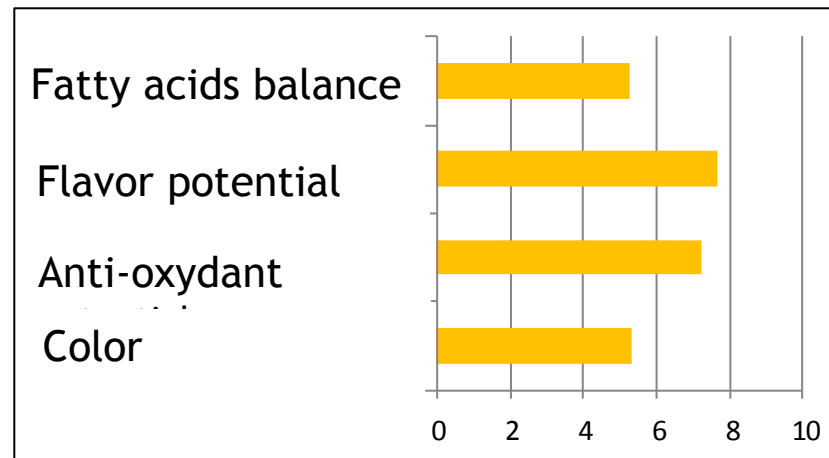
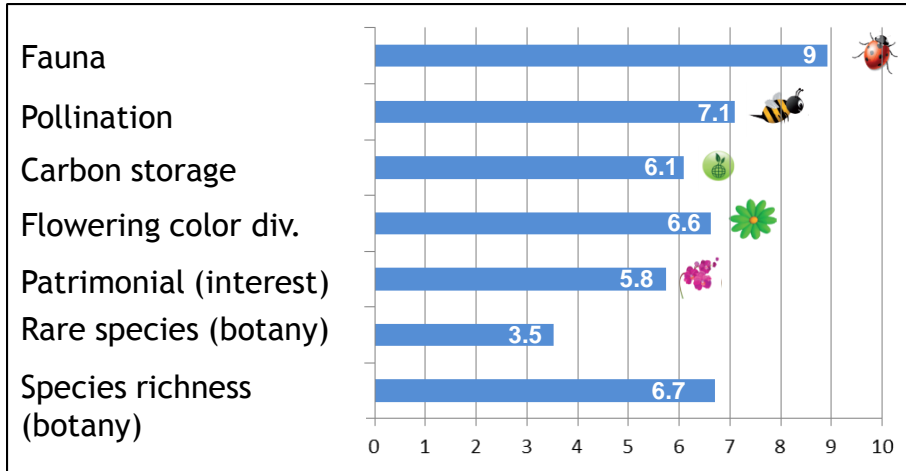
- **10 types** of grassland per farm (**5-16 types**)
- Grasslands that offers assets in terms of **productivity co-exists** with grasslands offering greater management **flexibility**
- But **grazed herbage** is not the main feed



JMFAOCIHEAM 24-26 June, 2014 Clermont-Ferrand, France



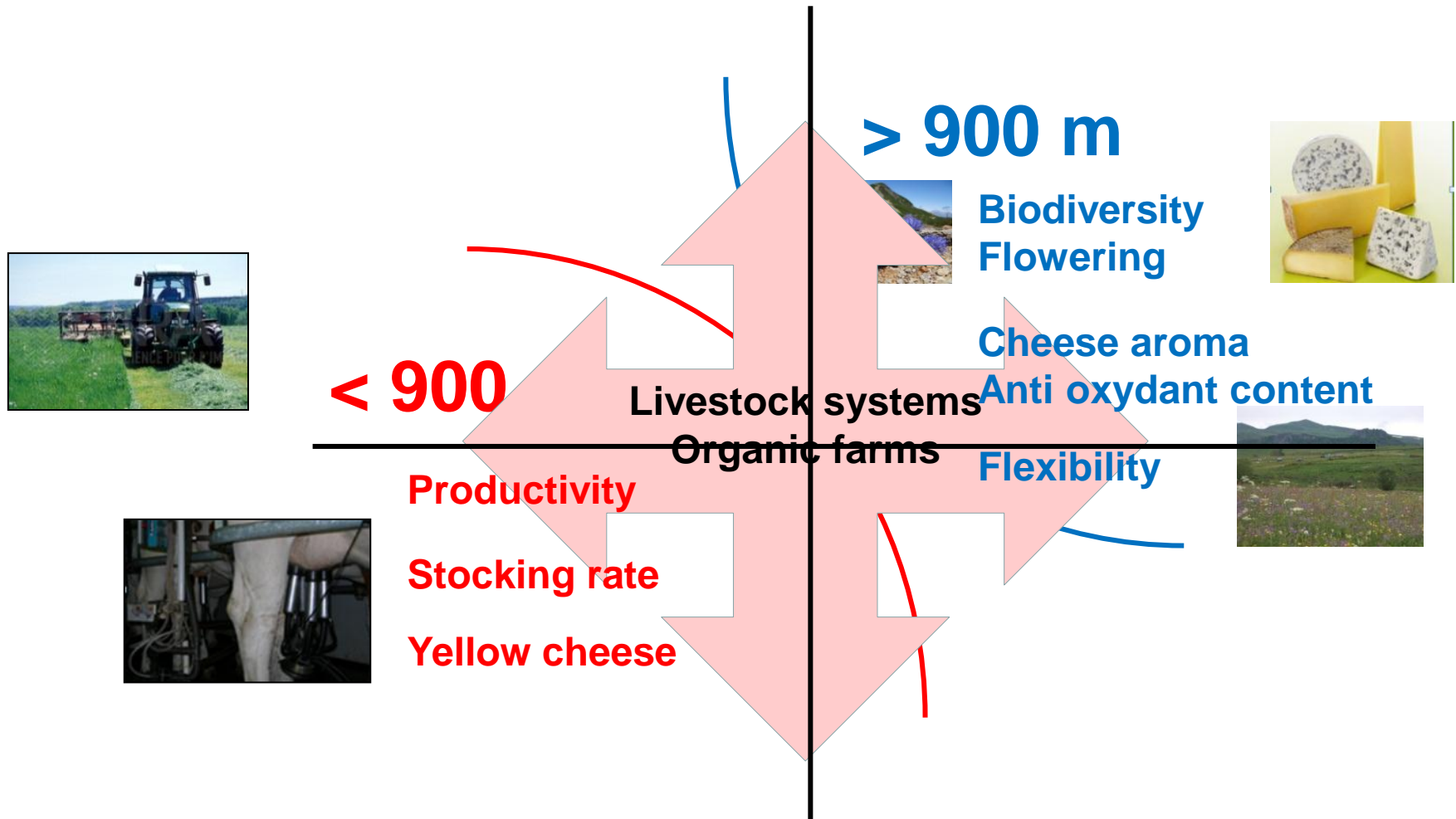
Environmental and « cheese » services provided by a farm



JMFAO CIHEAM 24-26 June, 2014 Clermont-Ferrand, France



A PCA to study the relationships between services and farms



Learnings ...

- ☹ The tool needs an **EXPERTISE** to correctly allocate type to plot
- ☹ Many of the indicators are still **ABSTRACT** for individual farmer, and advisors are still **UNCOMFORTABLE** with the process of reporting the results
- 😊 A **GLOBAL** vision and a **NEW PERCEPTION** on the environment previously experienced as a source of constraints
- 😊 A tool of **DIALOGUE** and exchange with other stakeholders
- 😊 Brings a new **AWARENESS** that there is not just one 'grassland' but a **MOSAIC** of many different grasslands which is a way into **SUSTAINABILITY** in mountain areas

