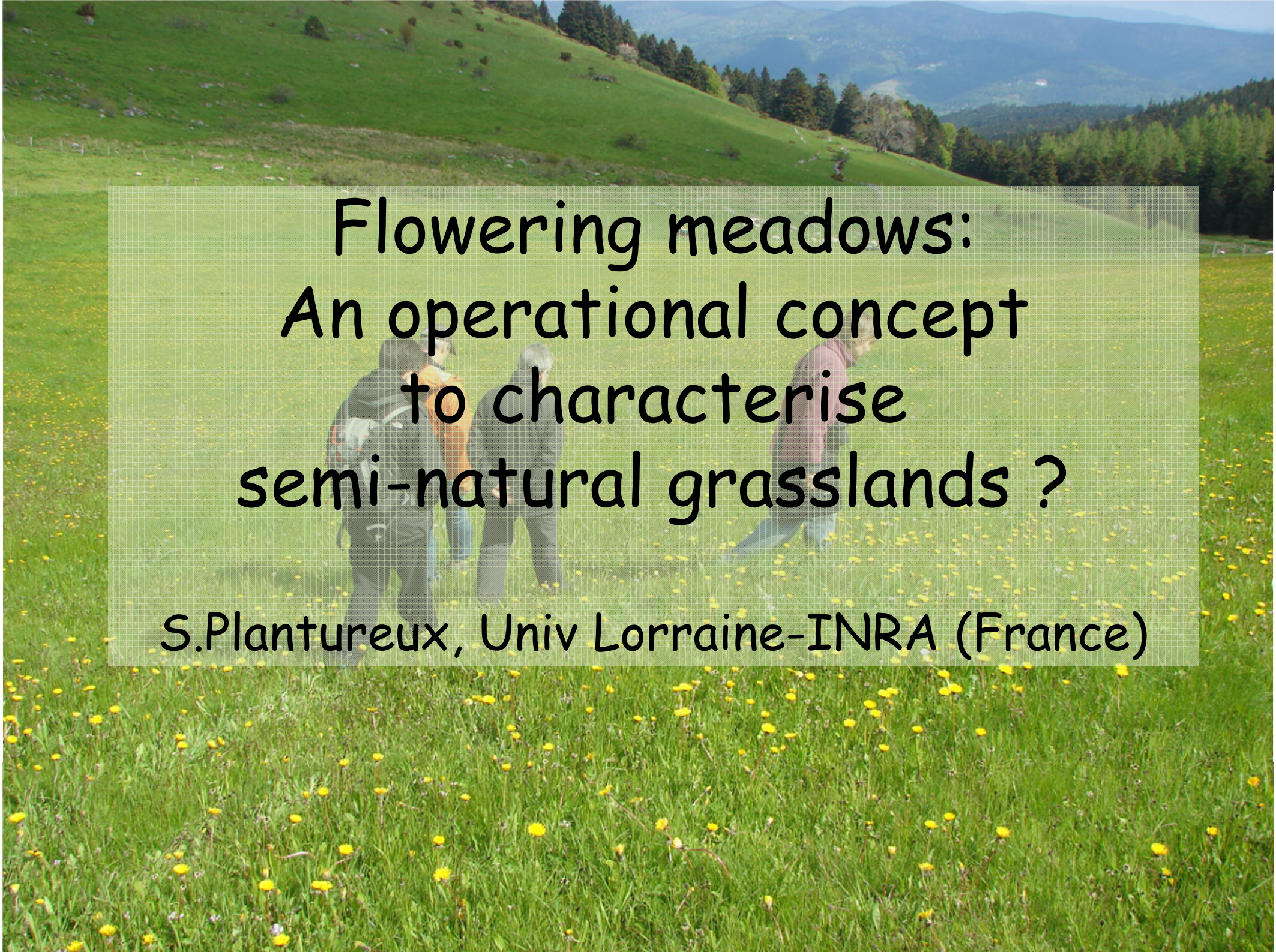
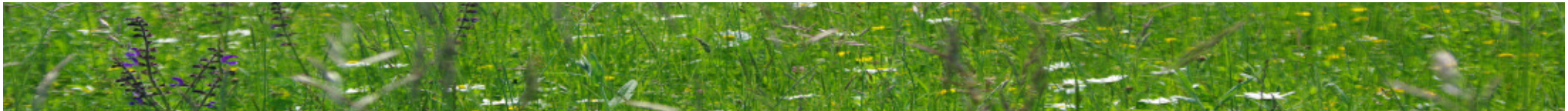


Flowering meadows: An operational concept to characterise semi-natural grasslands ?

S.Plantureux, Univ Lorraine-INRA (France)

Background (1/2)

- ✓ Grasslands can provide various and important environmental benefits
- ✓ In agriculture, the primary role of grasslands is to feed livestock and meet farmers various expectations
- ✓ Farmers are necessary to maintain grasslands but their management can dramatically reduce environmental benefits (too much intensification or extensification / abandonment)
- ✓ European and national agri-environmental policies aim to strike an (impossible?) balance between agronomical and ecological value



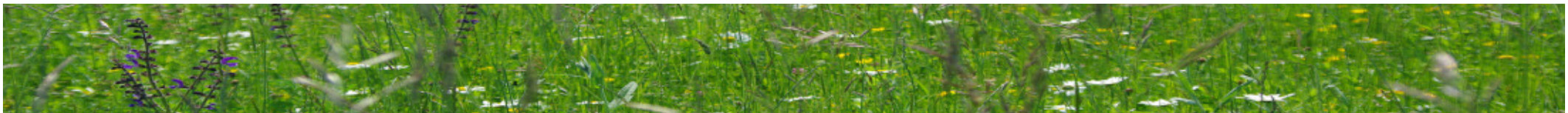
Background (2/2)

Two initiatives in France

- Two result-oriented agri-environmental measures proposed to farmers since 2007
- A national competition « Flowering grasslands »

→ Elaboration of an evaluation method to assess the agri-ecological value of grasslands

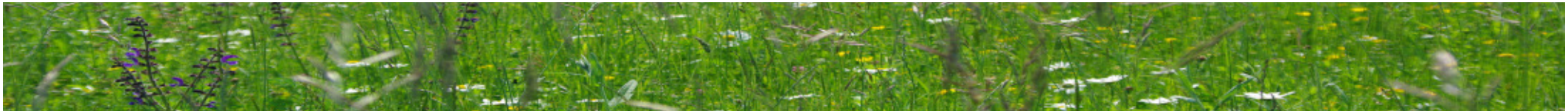
Is it an operational concept to characterise semi-natural grasslands?



The french result-oriented agrienvironment measures for grasslands and rangelands

Herbe 07: conservation of plant species richness of semi-natural grasslands

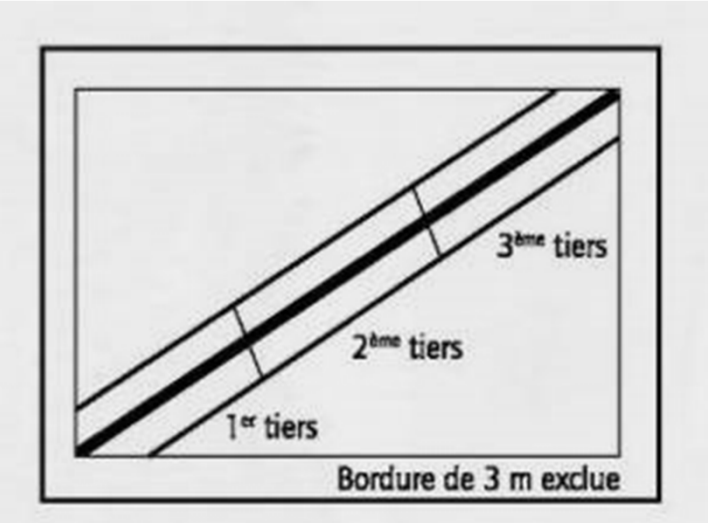
Herbe 09: Pastoral management



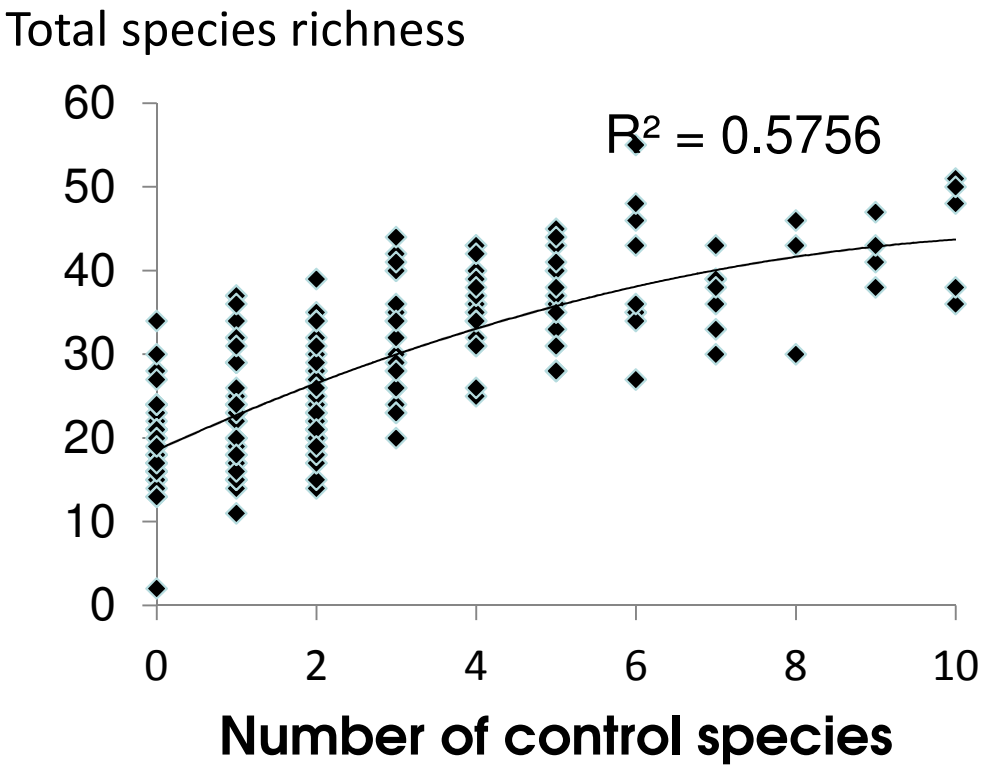
The french result-oriented agrienvironment measures for grasslands and rangelands

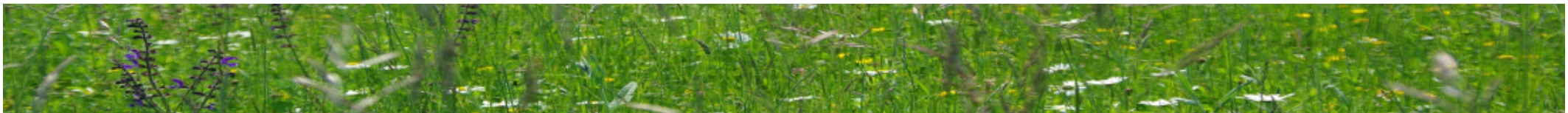
Herbe 09: control = effective implementation a managament plan by farmers

Herbe 07: control = at least 4 « indicator species » in 3 thirds of a diagonal crossing the field



4 indicators species: a guarantee of naturality?





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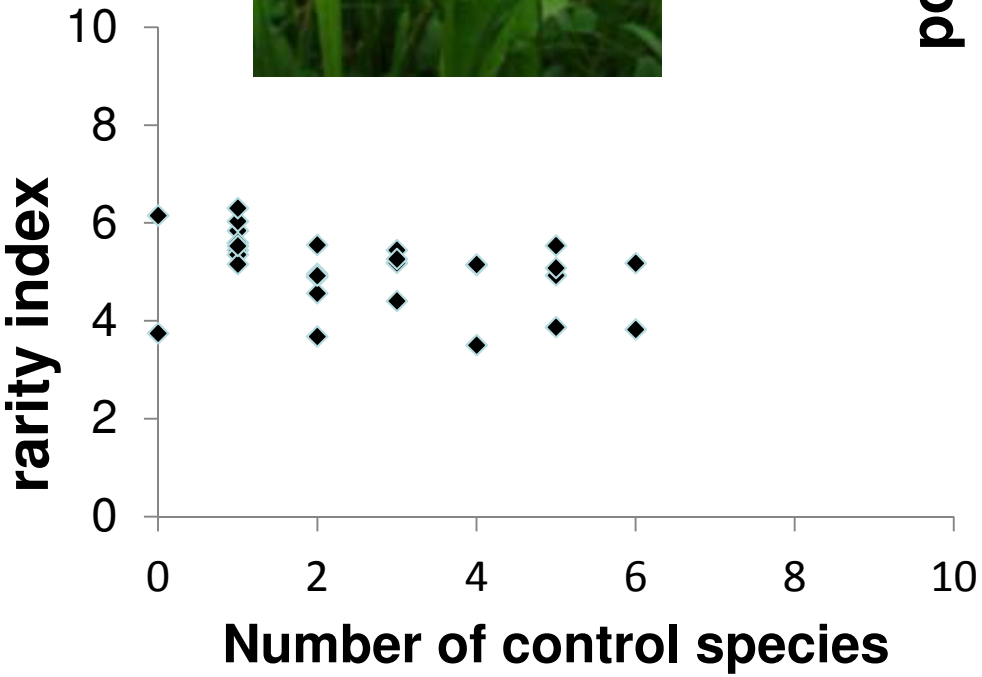
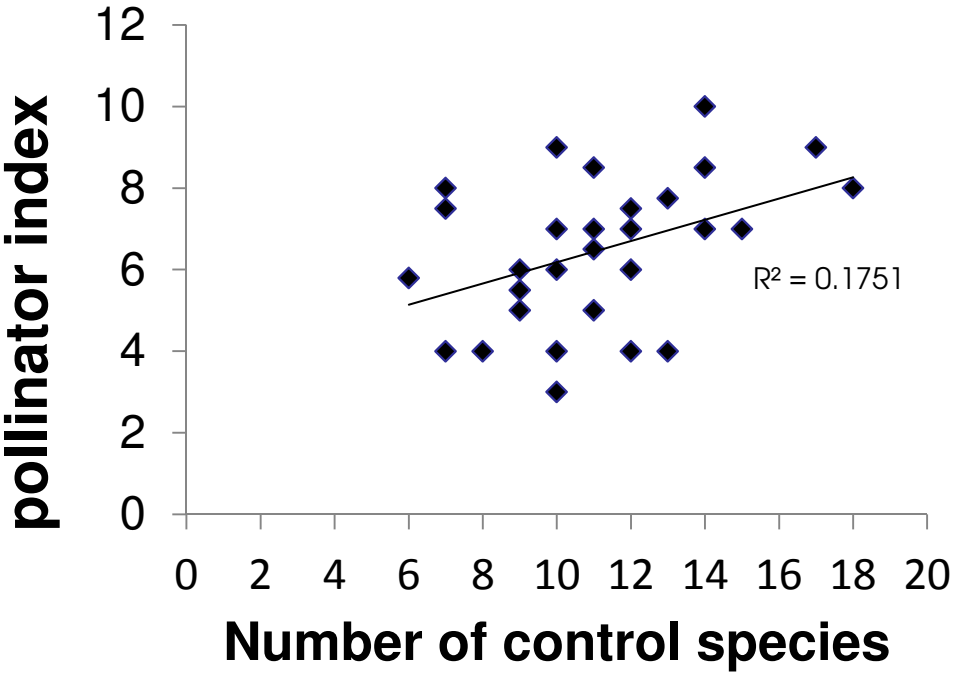
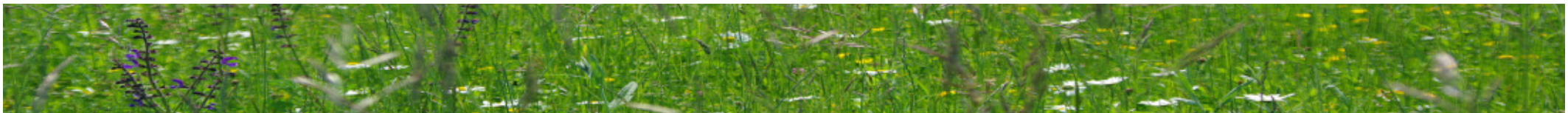




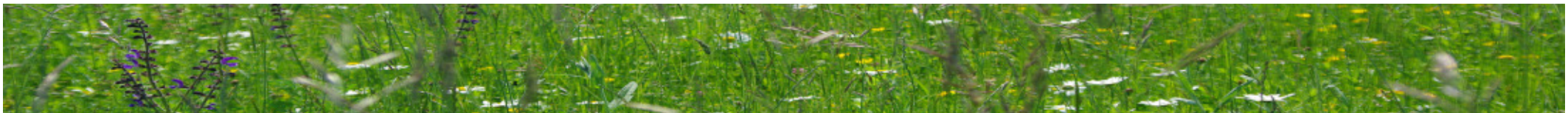


4 indicators species: a guarantee of naturality?

- ✓ An operational criteria to estimate grassland total plant species richness
- ✓ Not reliable for the evaluation of the overall flora and fauna biodiversity

→ A more complete evaluation required to assess a good agri-ecological equilibrium

→ A method elaborated in the « flowering meadows » competition

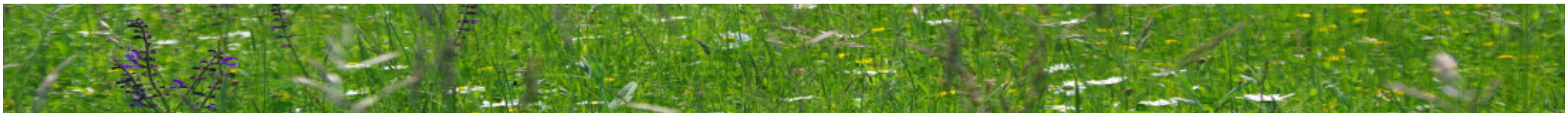


The french competition « flowering meadows »

Inspired by the pioneering experience of the German Land of Baden-Württemberg (Oppermann and Gujer, 2003)

Objectives:

- ✓ reward the best agroecological balance found in species-rich grasslands and pastures managed by livestock farmers
- ✓ promote a new style of cooperation between nature managers, agricultural bodies and public authorities



Values
conveyed by the flowering meadows competition

Sharing the perspective on permanent meadows and farming

Landscapes: (Re)cognition of a permanent "farming" heritage

Species-rich permanent meadows and their associated environment (hedges, orchards, low walls, watercourses, margin lands...) enrich the remarkable landscape of the Parks.

Ecology: Biodiversity shared!

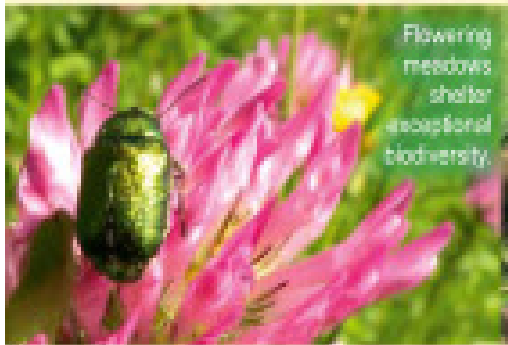
The concept of flowering meadows is based on a universally accessible method to measure the biodiversity of permanent meadows: the observation of indicator flowers that are easy to recognise!

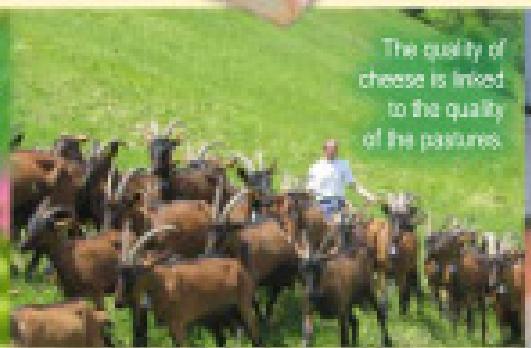
Environmentally-friendly farming: Permanent meadows are shaped by livestock farmers

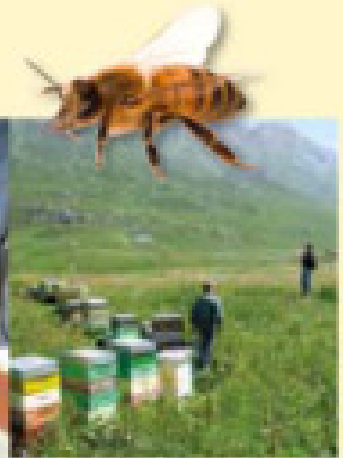
While farming is too often perceived as being an activity that pollutes, the competition seeks to raise awareness of the positive role that farmers play in the preservation of permanent meadows and their environmental functions.

Food: The taste of honey and cheeses depends on the quality of the meadows!

The richness of flora in pastures supports quality agricultural production, especially in terms of taste and the nutritional value of local cheeses and honey.





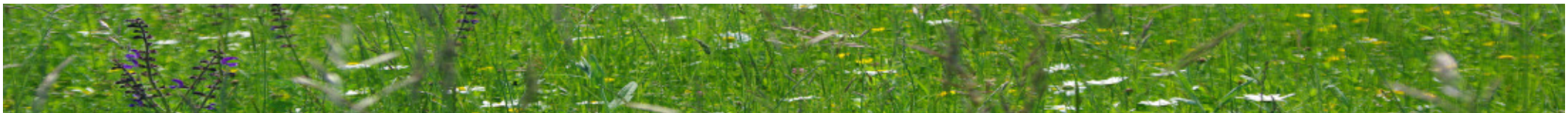


The french competition « flowering meadows »

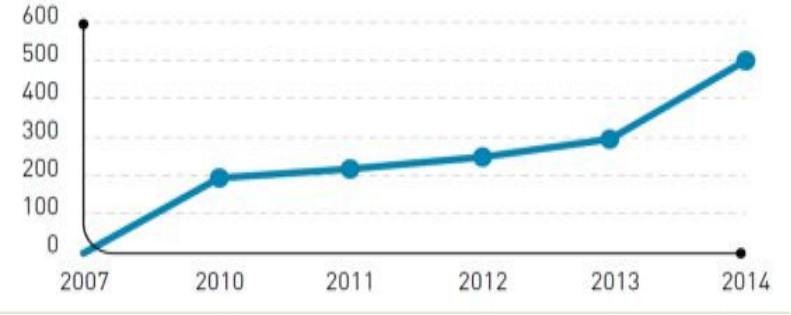
A local committee: agronomists, ecologists, bee keepers, …

A common evaluation tool

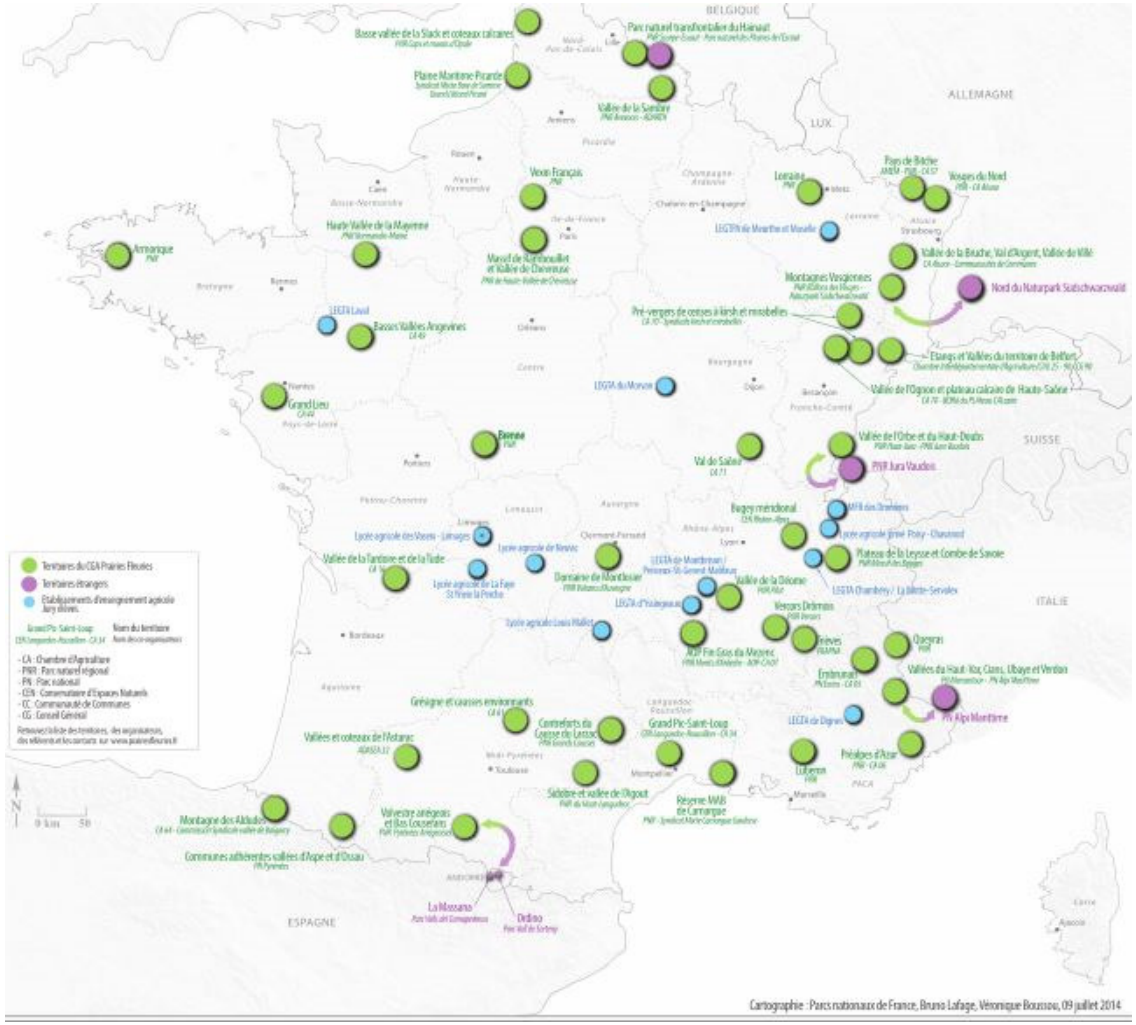
A national committee with prices (Agricuture show in Paris)

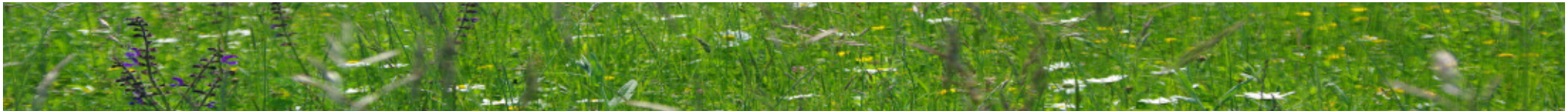


The french competition « flowering meadows »



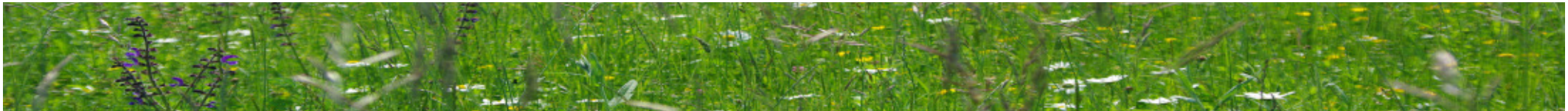
1500 farmers
since 2007
in 50 territories





The french competition « flowering meadows »

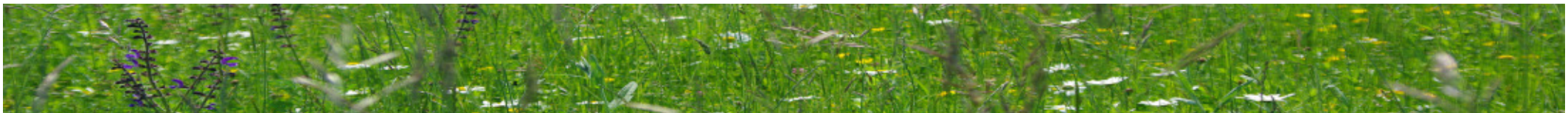
A web site (in french!): www.prairiesfleuries.fr and a film
http://prairiesfleuries.espaces-naturels.fr/index.php/communication/version-anglaise-english-version



The french competition « flowering meadows »

Notation system 2010

Agronomic value	Productivity (depending on climatic conditions) (2 points)
	Flexibility (2 points)
	Forage nutritive value (2 points)
	Functionality (potential range of use, environment quality for herd) (2 points)
	Control of vegetation dynamics (renewal of food resource) (2 points)
Ecological value	Ecological functionality for flora (2 points)
	Ecological functionality for wild fauna (2 points)
	Control of vegetation dynamics (risk of habitat degradation) (2 points)
	Presence and ecological value of patrimonial species (2 points)
	Value for honey bees and honey production (optional)

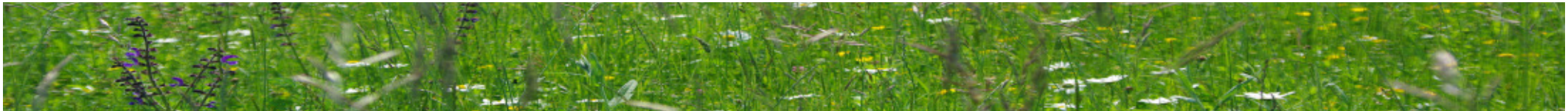


The french competition « flowering meadows »

Notation system

2010
Agronomic properties
Ecological properties

2014
Agro-ecological properties
Contribution of plant diversity to AE properties
Coherence of the management to maintain AE properties



Notation system 2014

Examples of criteria

Agroecological properties	Underlying criteria
Grassland productivity	- Sward density and height - Abundance of large steam grasses - Mixture of legumes and grasses
Forage nutritive value	- Palatability and nutrient value (ie presence of few grasses or shrubs which stimulate ingestion of forage) - Dietetic value (optimum mixture of leaves and stems) - Animal health (ie abundance of antihelmintic plants)
Ecological functionnality	- Species diversity (total species richness, number of indicator species) - Habitat quality for wild fauna (ie conservation of isolated trees, mowing date, …) - Other environmental features (ie ecological corridors, soil protection, …)
Grassland value for honey production	- Meliferous potential of the plot (abundance of meliferous plant species) - Meliferous potential plot margins - Other factors (water supply, climate conditions, ..)

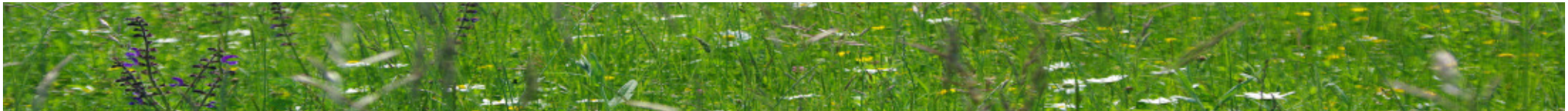
What lessons from the FM competitions ?

- The list of indicator species useful for policy implementation but not sufficient to evaluate a good agro-ecological equilibrium

- A reconciliation between production and nature conservation requires prior efforts to define the desired outcome and to test its capacity to combine the objectives of conservationists and farmers

- The crucial role of the indicator design and monitoring phase and the *contribution* of non-monetary incentives, purely symbolic in our case (an agroecological excellence prize), in the embedding of biodiversity within representations of good farming practice

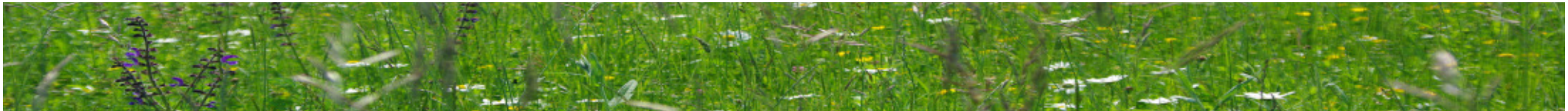
→ Nationally, the competition provided the basis for a proposition to introduce in the French agri-environmental programme of a future measure named "grassland and pasture systems" for application at farm level after 2014



Flowering meadows and semi-natural grasslands ?

- FM and SNG are very close concepts because:
  - share the same idea of identifying the grasslands with high level of biodiversity and naturality
  - both are managed by farmers (not "purely natural areas")
  - aim to preserve wild flora and fauna habitats

- But:
  - SNG connected to european habitat classification
  - Additional concepts in FM: farmer requests, honey-bees, product quality and animal health, contribution of plant diversity to agro-écological properties, non productive elements
  - SNG associated to the type of management and FM to the result
  - A proposition of an evaluation procedure for FM
  - SNG more simple than FM?




Thank you for your attention