RANGELAND RUMMY: A GAME TO SUPPORT ADAPTIVE MANAGEMENT OF RANGELAND SYSTEMS

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Rationale:

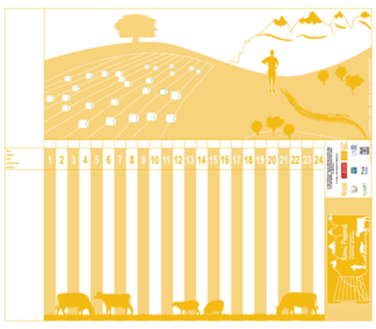
Rangeland-based livestock systems have to deal with the significant instability and uncertainty of the agricultural context (policy changes, volatility of input prices, etc.), and especially of the climatic context. Thus, they are particularly concerned by adaptive management strategies. Existing approaches have failed to support the development of such strategies as for instance, they do not fully address the specific constraints of each farm and the question of farmers' ecological knowledge,

Objective:

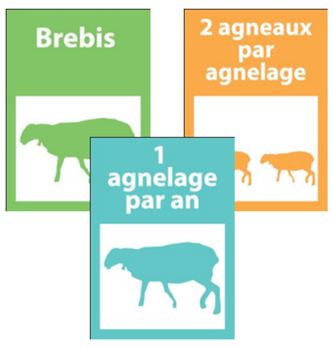
We developed a collaborative board game including a computer model called "Rangeland Rummy". The primary objective of Rangeland Rummy is to promote adaptive management of rangelands by stimulating farmers' discussion and knowledge exchange around the collective design and evaluation of rangeland-based livestock systems.

Rangeland Rummy per se:

The **game board**: land paddocks and their management (upper part) and herd or flock management (lower part)



The **animal cards**: type of animal and physiological descriptors

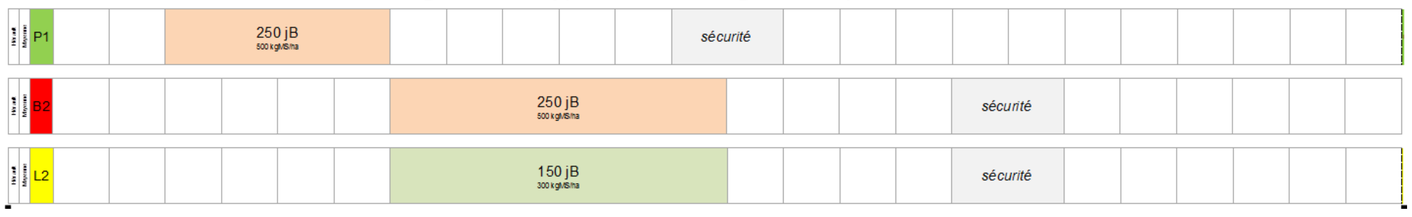


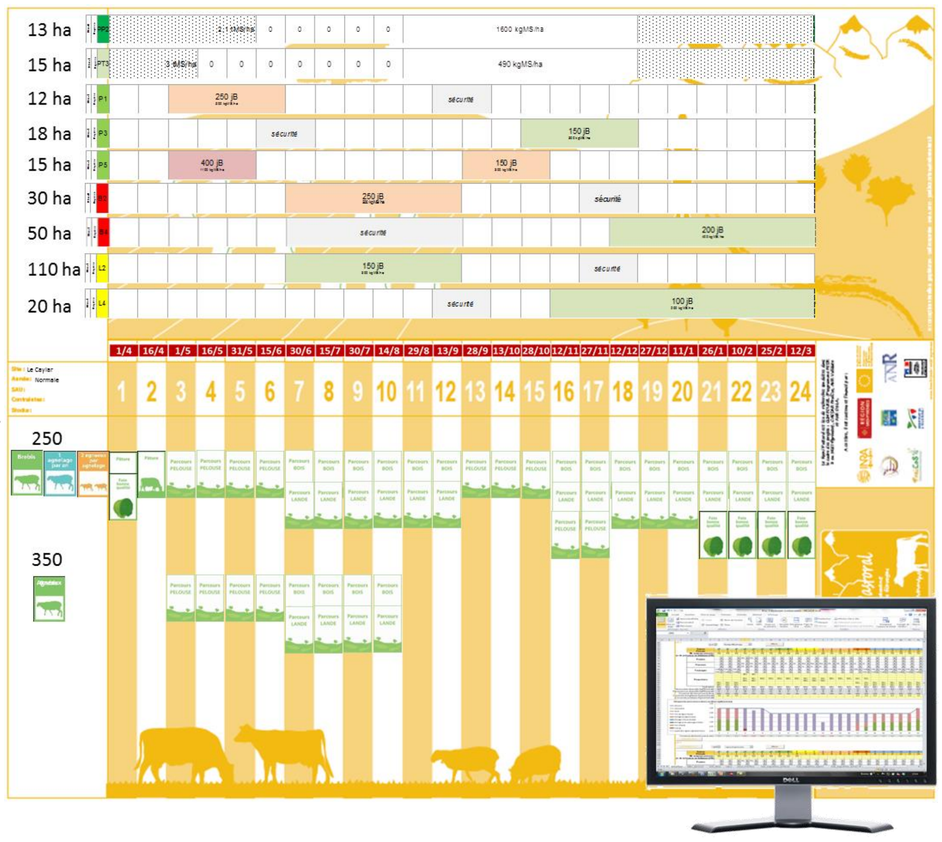
The **diet cards**: type of feed resource

The **calendar stick**: starting date of the game board and dates of the following 15-day periods

1/4	16/4	1/5	16/5	31/5	15/6	30/6	15/7	30/7	14/8	29/8	13/9	28/9	13/10	28/10	12/11	27/11	12/12	27/12	11/1	26/1	10/2	25/2	12/3

The **feed resource sticks**: feed resources available throughout the seasons of one year for combinations between a vegetation type and management practices





5 types of material objects to design candidate solutions ⟲ A computer model to evaluate these solutions

Rangeland Rummy workshops:

1 agricultural consultant / 2 to 4 farmers / About 3 hours
A problem situation defined with farmers prior to the workshop
Collective and iterative design and evaluation of rangeland-based livestock systems, while confronting them with new contextual challenges (e.g. climate change, volatility of input prices) or new farmers' objectives (e.g. being self-sufficient for animal feeding).

Farmers' and farm advisors' feedbacks:

Enthusiastic discussions — User-friendly

Realistic simulations — Promotes reflexivity on own practices

Opportunity to exchange locally-relevant management options

This work has been done with the support of:

* INRA Toulouse
UMR AGIR (Agroécologies, Gestion de ressources, Innovations et Ruralités)
Equipe MAGELLAN (Méthodes pour l'Agroécologie et la GEstion LocaLe des ressources Agricoles et Naturelles)