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Pasture Utilisation in a self-contained organic dairy grazing system

in northeastern France

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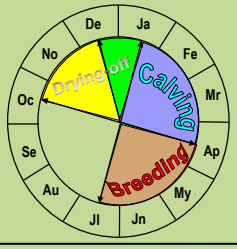
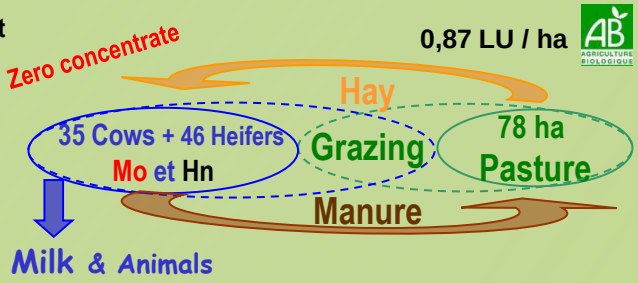
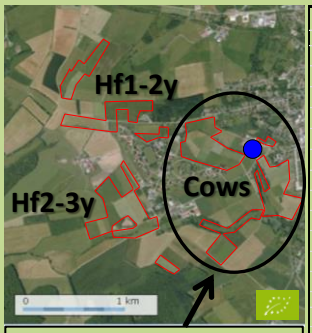
An exclusively grass-fed dairy herd farmed from permanent pasture over 11 years…

Dairy Herd Management

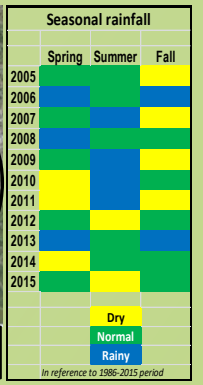




Long-term experiment, Rotational grazing, 252 Grazing days per year (from Mr to No) 1,35 Cow / ha, 540 Kg DM hay / cow at grazing (6y /11) [*vs* 1482 Kg], 6070 Kg Milk / ha

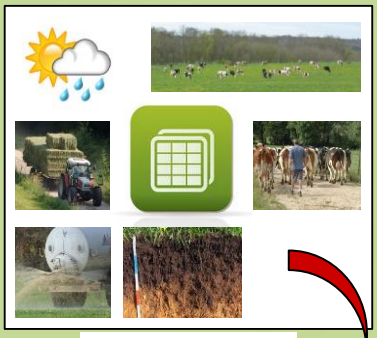


22 pasture plots / 34 ha



How to sum up the pasture utilisation experience issued from 11 years and 22 pasture ?

➔ **Describe jointly spatial and temporal variabilities of grass utilisation** (assessed by 'HerbValo model' - Delagarde *et al.*, 2017) **according to the specific plots features, climatic variations, grazing management and hay harvesting**



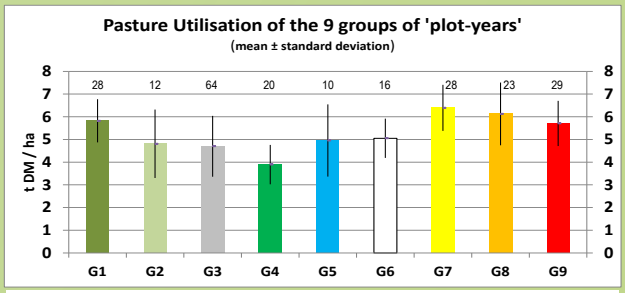
230 'plot-years'

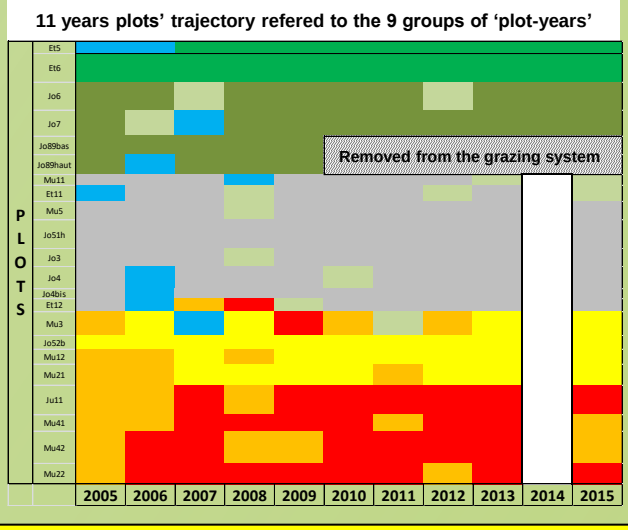
MCA

HCA

Multivariate analysis and clustering provide a synthesis of the 'plot-years' diversity: **9 groups of units** to pool the plots with a same grazing function

- Only grazed -cut for refusals if any-
- Early grazed, cut then grazed
- Cut for hay then grazed





Overall mean PU over the 11 years was **5.28 ± 1.38 t DM ha^{-1}**.
Across plots and years total PU ranged **from 2.26 to 9.07 t DM ha^{-1} year^{-1}**.
Half of the 'plot-years' stands a grass intake larger than 80% of their PU: they were **just grazed** but some were **cut for refusals** after grazing.
The other plots were both **grazed and cut for hay**.

G1, G3, G7 and G9 gather 65% of the 230 'plot-years' and give an accurate idea of the **two main ways of pasture use**: G1 and G3 were **only grazed** plots with eventually cuts for refusals whilst G7 and G9 were **mainly cut for hay then grazed**. The latter were spread with manure accordingly to the implemented fertilisation strategy.

From year to year **the plots nearly kept the same place inside the grazing management** except in 2014 which was such a very special year that 16 out of 20 plots consist in a specific group.

Such a look at the pasture diversity could provide the farmers better skills for grazing management capitalising on the experience of variability

27th European Grassland Federation General Meeting, Cork