Simplifying herd management in cattle farms

Farming practices often have to be simplified due to the increase in herd sizes. The simplification process hinges on the adaptive capacities of animals.

The increase in herd sizes while human workforce remains stable makes it necessary to simplify herd management, by lightening the workload tied to time-consuming activities such as feeding or milking animals. Downside risks in terms of growth performances, milk production and reproduction need to be controlled at different time scales. Ways to simplify herd management have been analyzed by the Joint Technical Unit SAFE, which federates Idèle and INRA (UMRH, UEMA, UMR METAFORT) teams.

The provision of mixed and partially-crushed winter diet can increase animal food intake, especially with coarse roughage. Mixing the various concentrates provided to lambs has little effect on their food intake or their growth. In contrast, distributing silage every other day or alternating the provision of silage and concentrate on different days can lead to lower feed conversion efficiency. The composition and size of the animal groups may enhance or mitigate these effects. Extending the winter grazing period by using up stocks of grass mobilizes body reserves in pregnant cows but does not hamper their future production if they do not lose body condition. Once-a-day milking reduces dairy cow milk production by 10 to 30%, with a residual effect that is even stronger if applied in early lactation or for long periods. This practice leads to a decrease in roughage intake.

Simplifying herd management is thus a feasible option but should be targeted to moderately-productive animals. Simplified practices may lead to more competition between animals but will engage their adaptive capacities in terms of social (competition between animals) or ingestive (e.g. increase in intake speed) behavior as well as digestive and metabolic processes. All these adaptations are determined by the robustness of the animals.

It is necessary to better describe and understand the adaptive capacities of animals in order to define the conditions under which herd management can be simplified.
