

Submission to IFOAM Animal Husbandry Alliance pre-conference

Theme 2. Sustainable livestock rearing and breeding systems

Performance and health status of dairy calves reared with nurse cows, a 2-year study involving 3 cohorts

Constancis C¹, Hellec F², Brunet L², Brisseau N¹, Lehébel A¹, Chauvin A¹, Bareille N¹, Chartier C¹, Ravinet N¹

¹ BIOEPAR, INRA, ONIRIS, 44300, Nantes, France

² ASTER, INRA, 88500, Mirecourt, France

The agro-ecological transition is based on “bottom up” innovation processes developed by agricultural stakeholders. The role of researchers is now to accompany this process by working closely with them. Since the 90s, groups of dairy farmers have been set up in many developed countries to exchange information about intensive grazing management. Within these groups, organic dairy breeders have experimented new cow-calf rearing practices, in which a specific batch of lactating cows is constituted in order to nurse and raise 2-4 calves each (usually replacement heifers) for several months on pasture. The objective of our study was to assess effects of this innovative rearing system on growth and health of the calves, with a focus on the risk of grazing parasite (gastrointestinal nematodes).

On an experimental organic farm located in East of France, we designed a cow-calf rearing system in collaboration with farmers experienced on this practice. A 2-year study of 3 cohorts of 9, 16 and 23 calves was conducted from 2016 to 2019. We weighed, recorded all health events and measured different parasitic indicators at key times of the grazing season.

Calves showed a fast and steady growth during the 2 years of follow-up, allowing a calving at 24 months old. Parasitic risks were low, with nurse cows playing a protective role towards infection. In addition, early immunity against gastrointestinal nematodes was developed in calves. Throughout the study, the calves did not receive any antibiotic nor anti-parasitic treatments. Only one calf died due to ruminal tympany.

Rearing calves with nurse cows seems to be of real interest for their growth and health, and in particular the management of parasitic risks. Further studies in other farms are needed to validate these results.