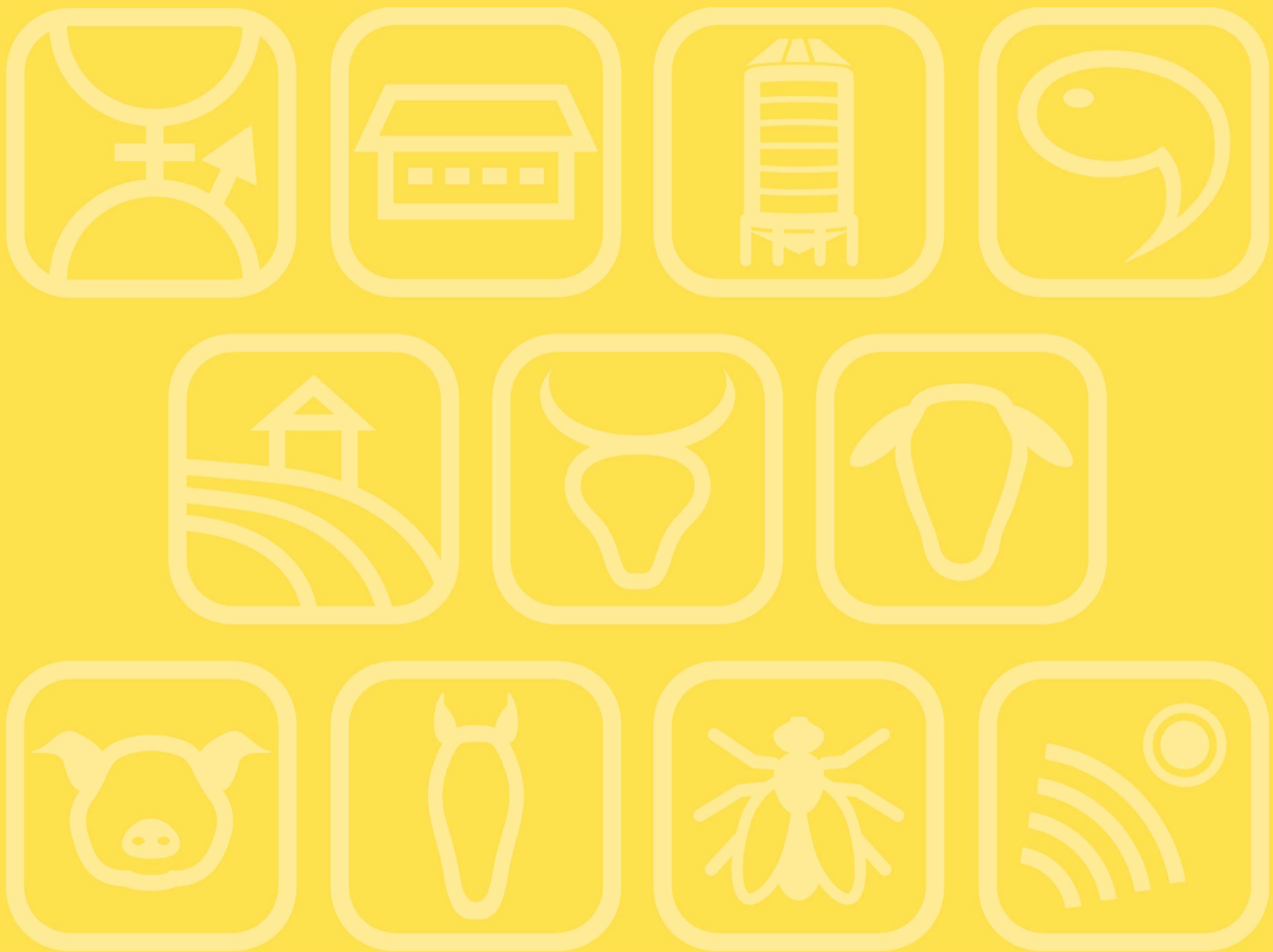


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Dairy calves suckled by their dams: which compromise between animal performances and welfare?*M. Bouchon¹, A. Nicolao^{1,2}, E. Sturaro², B. Martin¹ and D. Pomies¹**¹Université Clermont Auvergne, INRAE, Theix, 63122 Saint-Genes-Champanelle, France, ²DAFNAE, University of Padova, 35020 Legnaro, Italy; matthieu.bouchon@inrae.fr*

In dairy farms, early separation of cows and calves is increasingly questioned by consumers. Two trials were set up to test dairy farming practices that allow cow-calf contact, while limiting milk losses, and improving calf growth and animal welfare. In trial 1, a group of 14 male and female calves were maintained with their dam (n=14; D1) between morning and evening milkings until weaning (± 11 weeks). In trial 2, a group of 14 calves were maintained with their dam (n=14; D2), until weaning for 9 female calves and sale at 3 weeks for 5 males. In another group (M), 9 female calves and 5 male were kept with their dam (n=14) for 3 weeks, when males were sold and females were fed with an automatic milk feeder. These groups were compared to a control group (C) of 14 cows and 14 calves, separated at birth and fed with an automatic milk feeder. Until weaning, D1 and D2 cows produced less milk than C cows (-40% and -35%), with higher protein content (+1.3 and +1.0 g/kg) and lower fat content (-5.8 and -4.0 g/kg). Cows in group M had intermediate results between those in groups D and C (-32%, +1.6 g/kg and -0.9 g/kg, respectively), but on a shorter period. No difference was observed between groups on milk SCC. All groups returned to the same milk production and milk composition as group C, from 2 weeks after weaning (D2) to 5 weeks after separation (M). Calves D1 and D2 had faster growth (+9.4 kg at weaning, on average), while calves M had similar growth to group C. Stress at separation/weaning was assessed by counting vocalizations during daytime. All calves vocalized at weaning, up to 7 days, but D1 and D2 calves vocalized longer than C calves. M calves vocalized at dam separation and 7 weeks later at weaning. We also showed that D calves were able to express a more natural repertoire of behaviour and had more social relationships than C calves, due to the presence of other calves and adult cows in the barn. For farmers, these practices should be compensated by a higher milk price, based on a possible 'ethical' label. Further research is needed on the possibility of making separation/weaning more gradual and reducing the level of stress for animals in these critical phases.

Economic weights for beef production traits in three different fattening systems in Switzerland*J. Gearing, S. Kunz and P. Von Rohr**Qualitas AG, Chamerstrasse 56, 6300 Zug, Switzerland; qualipra.qualipra@qualitasag.ch*

The goal of a breeding program is to improve the biological potential of a population in order to increase efficiency of production and optimise economic returns. This is achieved by selecting for multiple traits that contribute economic merit, simultaneously. Selection for an index which gives proper weight to several traits is more efficient than selecting for individual traits. One method for this involves defining a breeding objective that comprises the values for the respective traits into one single selection criterion by weighting the genetic value of each trait with its economic value. The economic value of a trait depends on the amount of profit it is expected to generate for each unit of improvement of that trait. Selection indexes that weight the genetic merit of traits with their economic values are valuable in livestock breeding. However, due to the large range of factors that influence the economy of beef cattle production, a major challenge that remains in determining an appropriate selection index is the weighted assessment of the economic values of the different traits. The aim of this study is to calculate the economic values for growth, carcass and functional traits in three beef production systems in Switzerland. A bio-economic model is used to estimate economic values for Limousin cattle traits, with an emphasis on carcass conformation, carcass fat covering and carcass weight. Calculations are evaluated separately for veal, Natura-Beef and classical beef fattening systems. The structure of the cow herd is calculated using Markov chains. The marginal economic value of a trait is defined as the partial derivative of the profit function with respect to the trait mean in the population. All parameter values pertaining to income and expense for determination of the profit function were collected according to Swiss fattening systems and input into the software ECOWEIGHT for calculation of economic values.