Successful economic management differs between intensive and extensive dairy farms

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Intensification is a great economic, environmental and social issue and dairy producers will take different directions regarding it in the future, impacting a lot of farm components. The objective of the study was to highlight the management success factors of extensive and intensive dairy system based on field data. A total of 2,554 accountings collected from 476 producers of the Southern part of Belgium between 2007 and 2014 were used. Intensification was defined as the maximisation of the most limiting factor, the agricultural area. Therefore, milk production per hectare of forage area was used to divide the dataset in 4 classes with 7,500; 9,500 and 11,500 litres per hectare as benchmarks. In the most intensive (INT) and the most extensive (EXT) classes, the correlation between economic results variables (ERv: gross margin per cow (GMc) and income per cow) on the one hand and management variables (MANv) on the other hand was calculated. GMc showed different relationships with MANv depending on the intensification classes. The percentage of multiparous cows in the herd was more correlated with GMc for EXT than INT (r_{EXT}=0.22 vs r_{INT}=0.11), the number of calvings per cow was correlated with GMc for EXT but not for INT (r_{EXT}=0.16). Considering feed, GMc was correlated with concentrates consumption and the percentage of area for meadow, corn silage and forage silage only for EXT (r_{EXT}=-0.14, r_{EXT}=0.29, r_{EXT}=-0.29, r_{EXT}=-0.09). This shows an interest for extensive producers in accentuating their system. Regarding fixed costs, buildings value was negatively correlated with GMc for EXT but positively correlated for INT, suggesting the interest in investing in the living space for cows in intensive system but not in extensive one (r_{EXT}=-0.13, r_{INT}=0.10). The number of cows per worker was negatively correlated for INT (r_{INT}=-0.15) but not correlated for EXT. The factors highlighted in this study could allow advising producers regarding their management practises depending on the intensification level of their dairy system.

What drive the environmental performance of dairy farms?

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Understanding what drive the farms' environmental performance can help the animal sector to deal with global socio-ecological issues. We analysed the data of 47,211 dairy farms from the 2010 French Agricultural Census using ordered probit models to study the correlation between farm's internal and external factors and farms' environmental performance. The environmental performances are approached by an individual score based on the adoption of nine agri-environmental practices. First, we tested the role of farm's internal factors related to the characteristics of the farmer, farm's structure, and governance. Second, we tested the role of external factors related with commercial and regulatory followed by spatial features. The results show that internal factors like contracting agri-environmental insurance, the share of family working force, the size and the corporate legal status of the farm are negatively correlated with the environmental performance. The age of the farmer, the share of land in property, the use of specialized technical software and farm diversification are positively correlated with the score. The knowing of the successor, the educational level and the gender of the farmer is not correlated with the score. In terms of external factors, the statistical analysis highlights the strong positive correlation of positioning on alternative markets, short circuits, organic products, or quality markets with the environmental score. As the literature commonly suggests, our results also show that environmental regulations are positively correlated with the environmental performance. The results also show the central role of the spatial environment of the farm and, more specifically, the environmental score of neighbouring farms as a major driver of the environmental performance. Finally, polices to promote locally farmer's experience exchange, to supporting diversification, high quality products and short circuits can bust the environmental performance of dairy farms.