

Challenging land fragmentation thanks to a mobile milking robot: statement of two cases of implementation (Liège and Trévarez experimental farms).

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Grazed grass has always been the base of the forage system in many west European regions because of its low production cost and high availability either under oceanic climate (like in Western France) or in regions with permanent grassland like in the Ardennes. The recent development of milking robots in these dairy basins is followed by a change in the production systems with a lesser resort to grazing. The increase in herd sizes also accounts for a reduced area of grazed grass per cow near the buildings. It is though necessary to find solutions to graze current “non grazeable areas” to better integrate robotic milking and grazing. A mobile automatic milking solution might be the opportunity to graze big blocks of paddocks located on the other side of a busy road or far from the current milking parlour. This is why two experimental farms, Liège in Belgium and Trévarez in Brittany, France, chose 5 years ago to design a mobile milking robot and to use it inside a building during the winter period and on a grassland summer site 6 months per year. This paper will describe precisely: the technical data used in the call for tenders to design the two prototypes of mobile robots and tanks, the grass management systems tested during grazing season and their influence on cow flows and milking frequency (one vs two paddocks per 24h), the grass valorisation and the dairy production, the milk quality parameters, the herdsmen working time and the feeding cost reached compared to the winter “indoor” period. The two experiences show that it is now possible to design and implement a mobile robot milking solution and that the grass management with two paddocks per 24h system improves cow flows with limited human interventions. Moreover, the grass valorisation reached is high, and few limited technical problems appeared since the start of the two units. Though the relatively high investment cost of such solutions, in particular if no infrastructure at all pre-existed on the summer site, remains a restraint that has to be reduced by a low feeding cost.