Six years of mobile milking at experimental farm Trévarez in France

Valérie BROCARD, Institut de l'Elevage, France

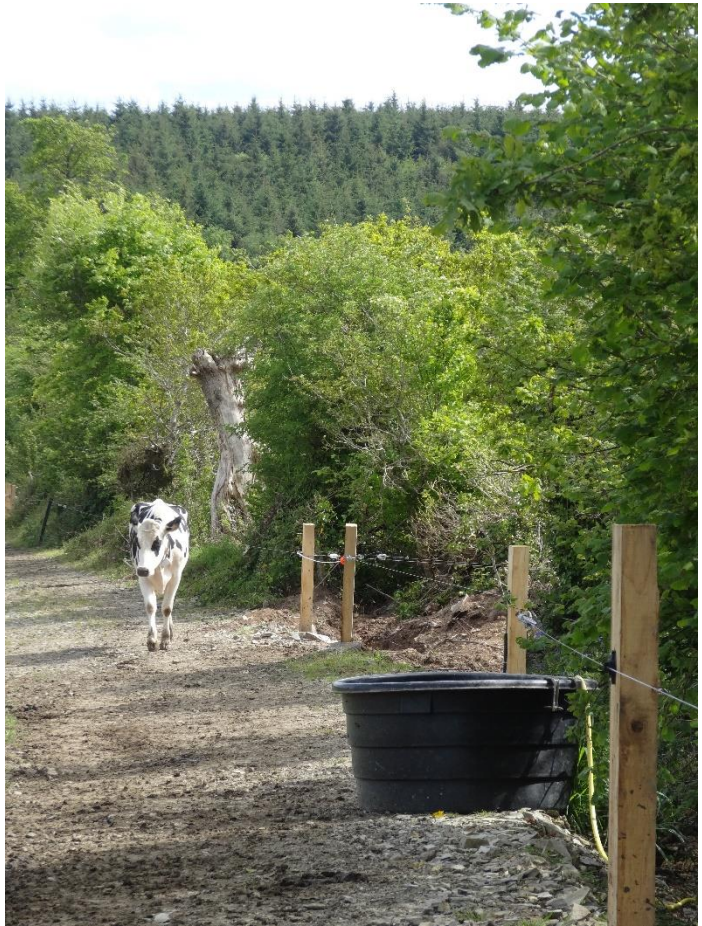
valerie.brocard@idele.fr

Estelle CLOET, Chambres d'agriculture de Bretagne, France

estelle.cloet@bretagne.chambagri.fr

Combining Robotic Milking and Grazing

- in a 100% grazed grass system in organic production
  (Trevarez experimental Farm, Brittany)



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F@RM XP

The base of the farm production system

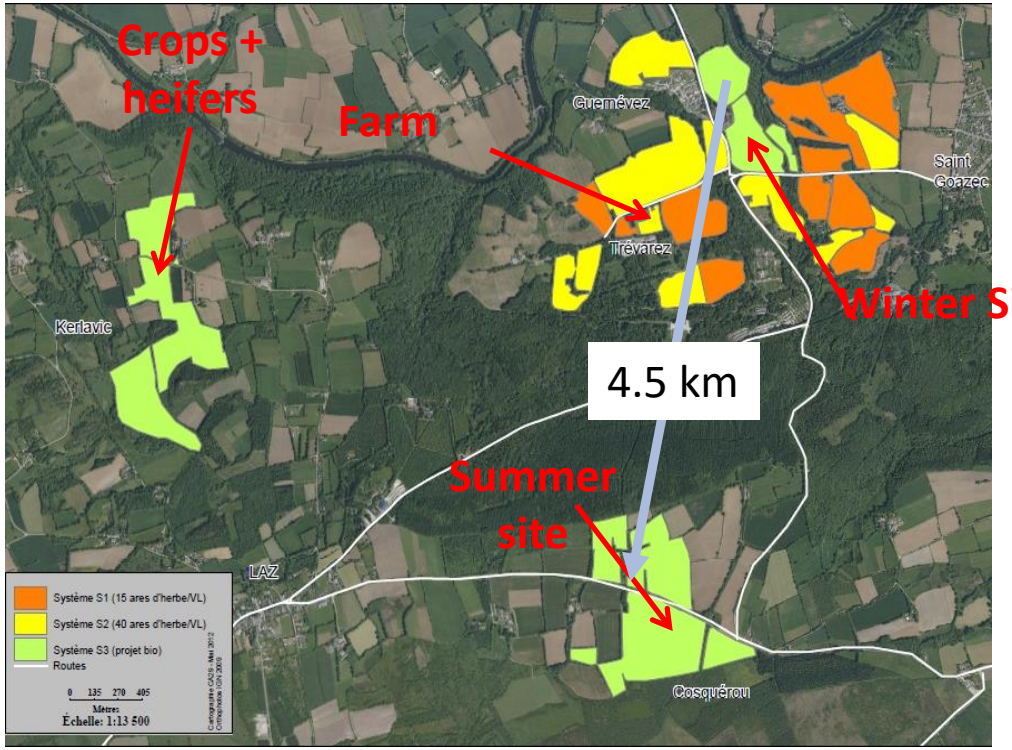
Certified organic since May'15

- 85 ha
- 55 Holstein cows
- Production: 5,200 kg cow^{-1} yr^{-1}
- Crossbreeding in progress
- 2 * 3 months calving periods (spring and autumn)

Target: maximal feeding and protein self sufficiency (no purchase of concentrate)

- Maximal grass use, minimal concentrate use
- Minimal working time (no fetching of cows)

The background: a fragmented land design for a grass based system



The robot trailer inside the winter shed

The solution: a mobile robot

The tank trailer

The summer location (6 months per year)

The robot on the summer site

The transfer management: not a problem

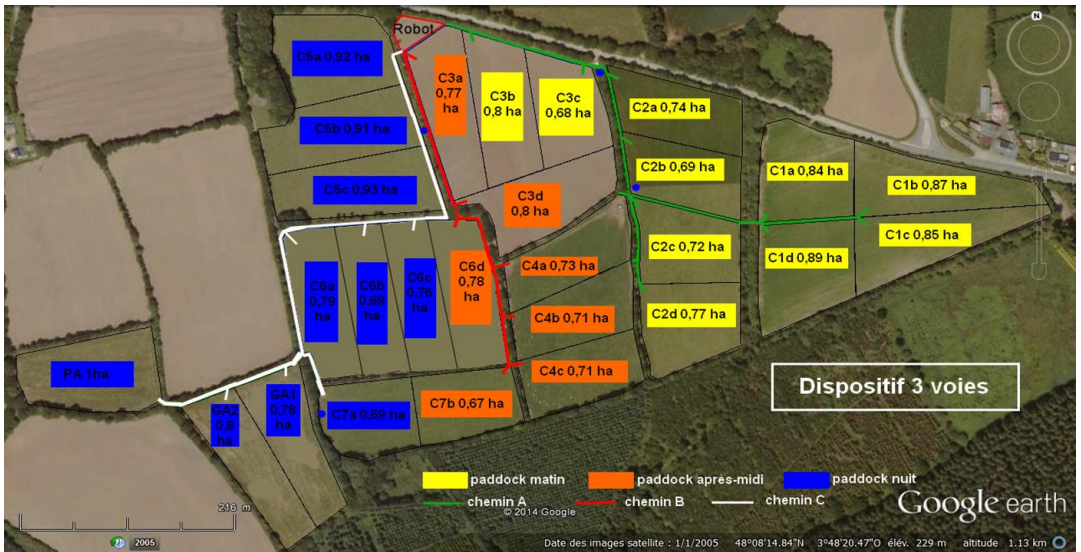
Number of transfers (*2) performed until now	6
Distance winter site-summer site	4.5 km
Time required (human hours)	13-17 h (3 to 4 people)
Transfer of	Cows, tank, robot, drafting gate
Robot stopped	3-4 h

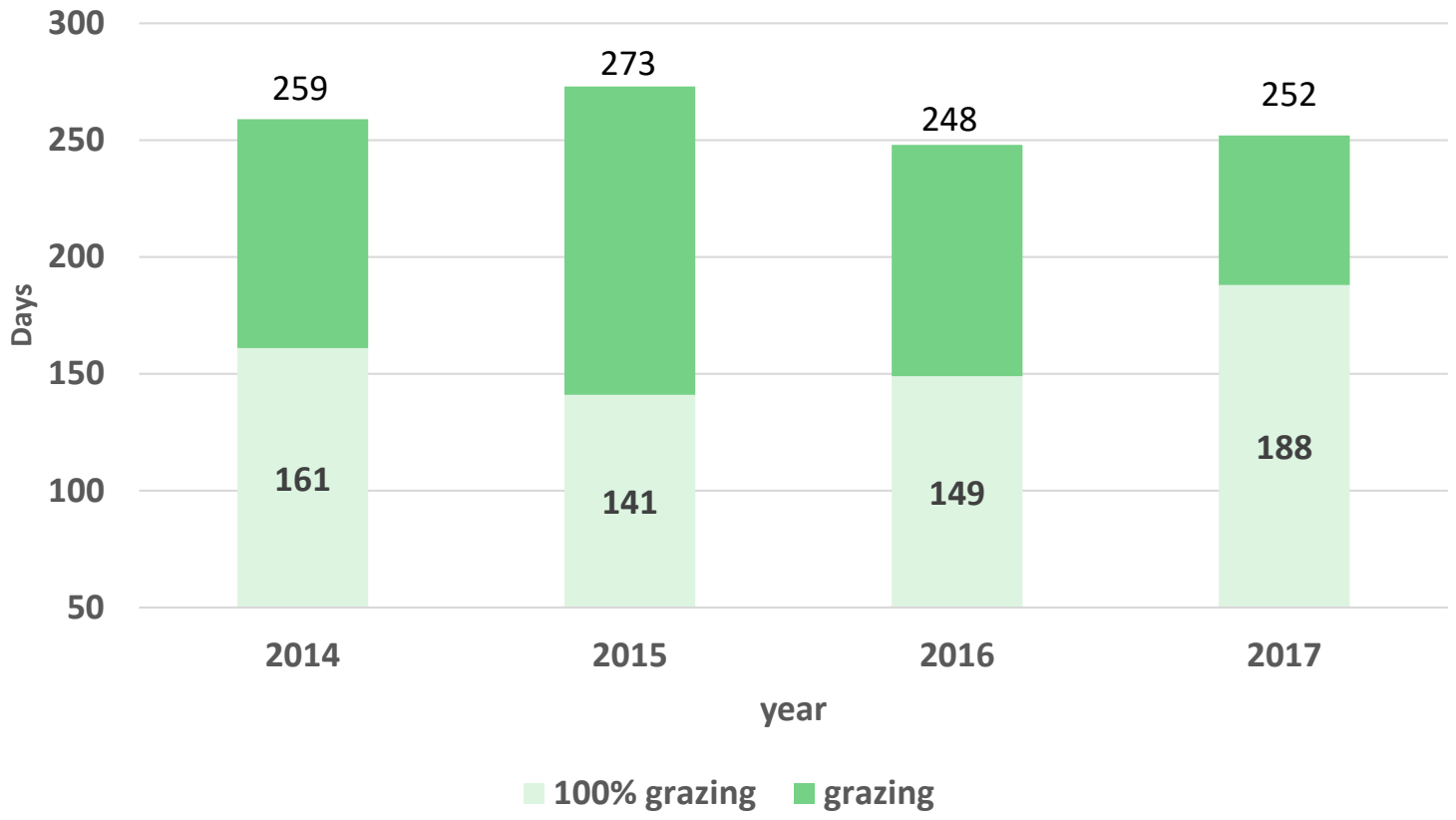
- Does not require presence of AMS retailer
- Duration of transfer = silage organisation

Grass management: the motivation factor for cow flow

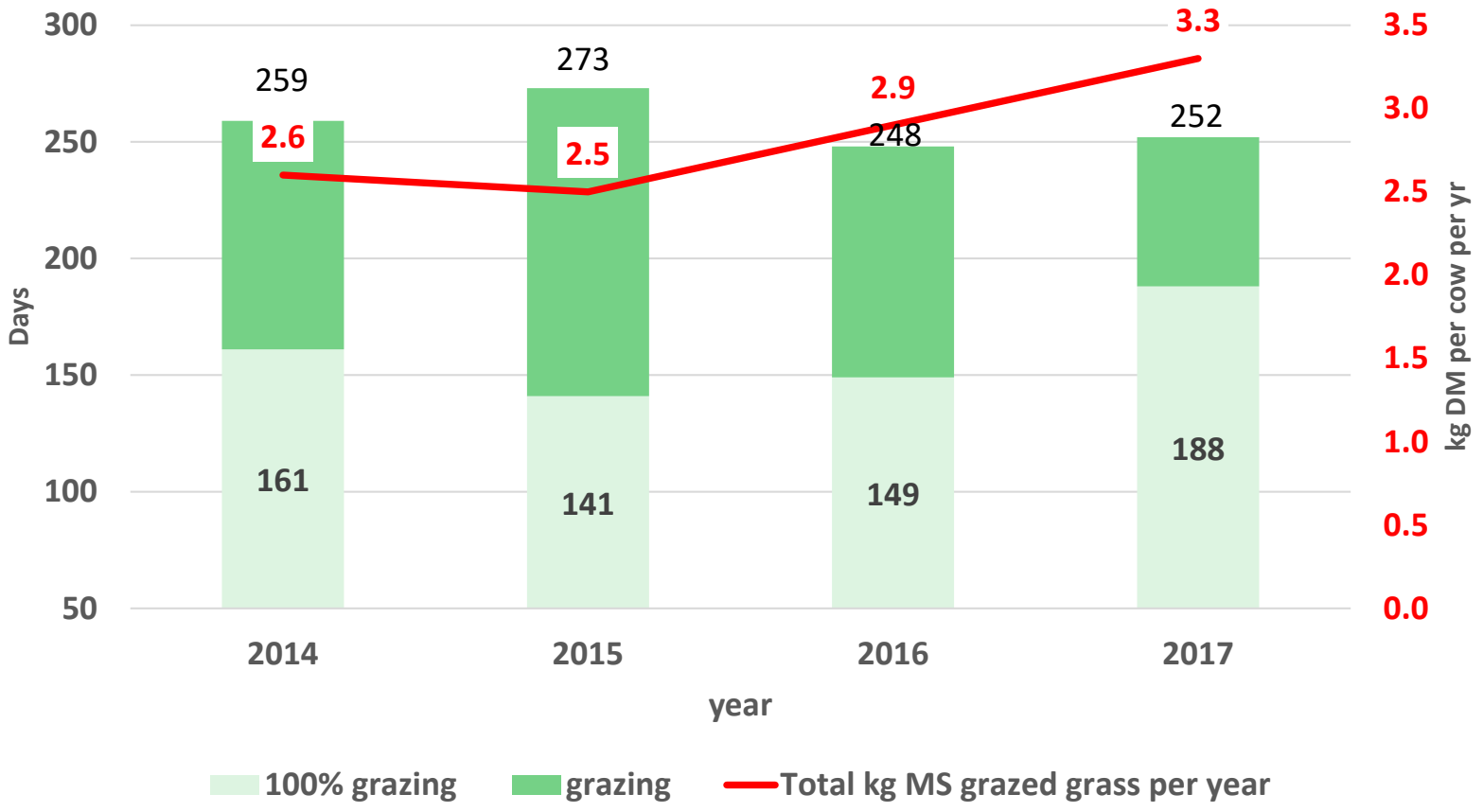
- Rotational grazing with front fence
  Paddocks of 0,7 to 1 ha
- Main tracks stabilized
- Waterpoints located on the tracks
- Grass cover and growth assessed by weekly platemeter measurements
- AB or ABC system (experiments), monitoring with drafting gate.
- <1 kg concentrate per cow per day
- No buffer feed

Access to new paddock after robot





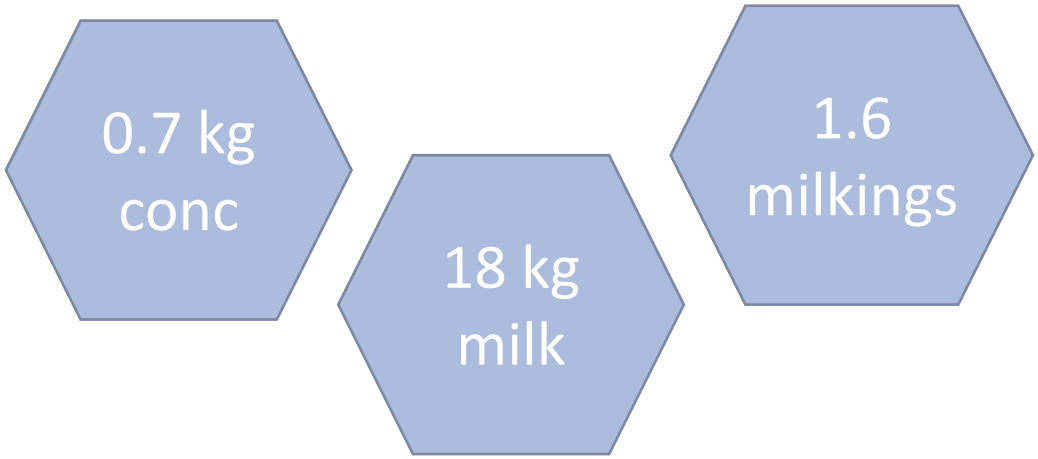
- 250 days grazing, 5 to 6 months 100% grazing



- 250 days grazing, 5 to 6 months 100% grazing
- Grazed grass intake increased up to 3.3 t DM per cow per yr

Daily performances on the summer site

YEAR	2014	2015	2016	2017
Grazing system	**AB**	**ABC**	**ABC**	**AB**
# milking cows	46	52	52	46
Milk per box (kg per d)	867	911	914	*786*
Production per cow per day (kg)	**18.6**	**17.6**	**17.7**	**17.1**
Milking frequency (per cow per day)	1.8	1.8	1.7	1.5
Concentrate (kg per cow per day)	**0.9**	**0.7**	**0.7**	**0.7**



Conclusion: Mobility = Technically realistic

- Mobile robot robust, no technical issue until now
- Transfers = not a problem
- Grass use = 4 times higher than regional average for AMS farms
- Herd performances satisfactory for organic system
- Key factor for success: a well stabilized waiting area

Summer site versus winter site

Feeding cost = -75 %

Working time = -2 h per day

Animal welfare
Health
Image
Environment

Thank you for your attention

estelle.cloet@bretagne.chambagri.fr

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