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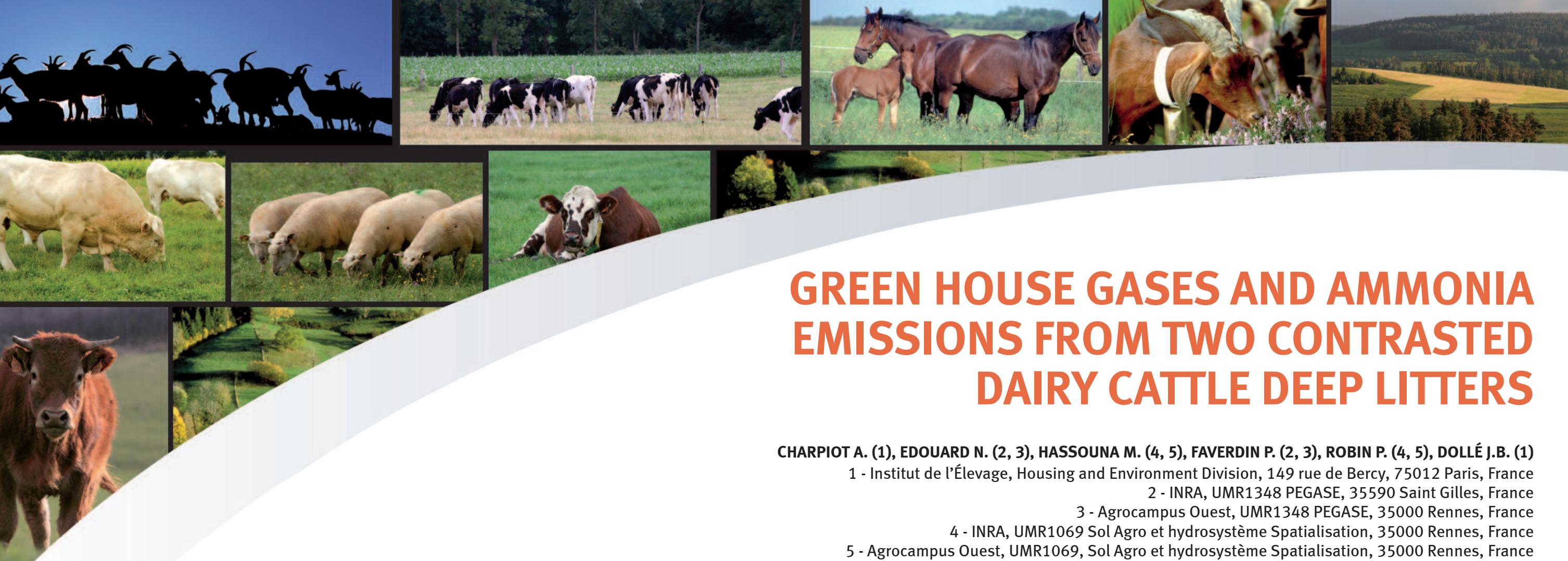
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# GREEN HOUSE GASES AND AMMONIA EMISSIONS FROM TWO CONTRASTED DAIRY CATTLE DEEP LITTERS

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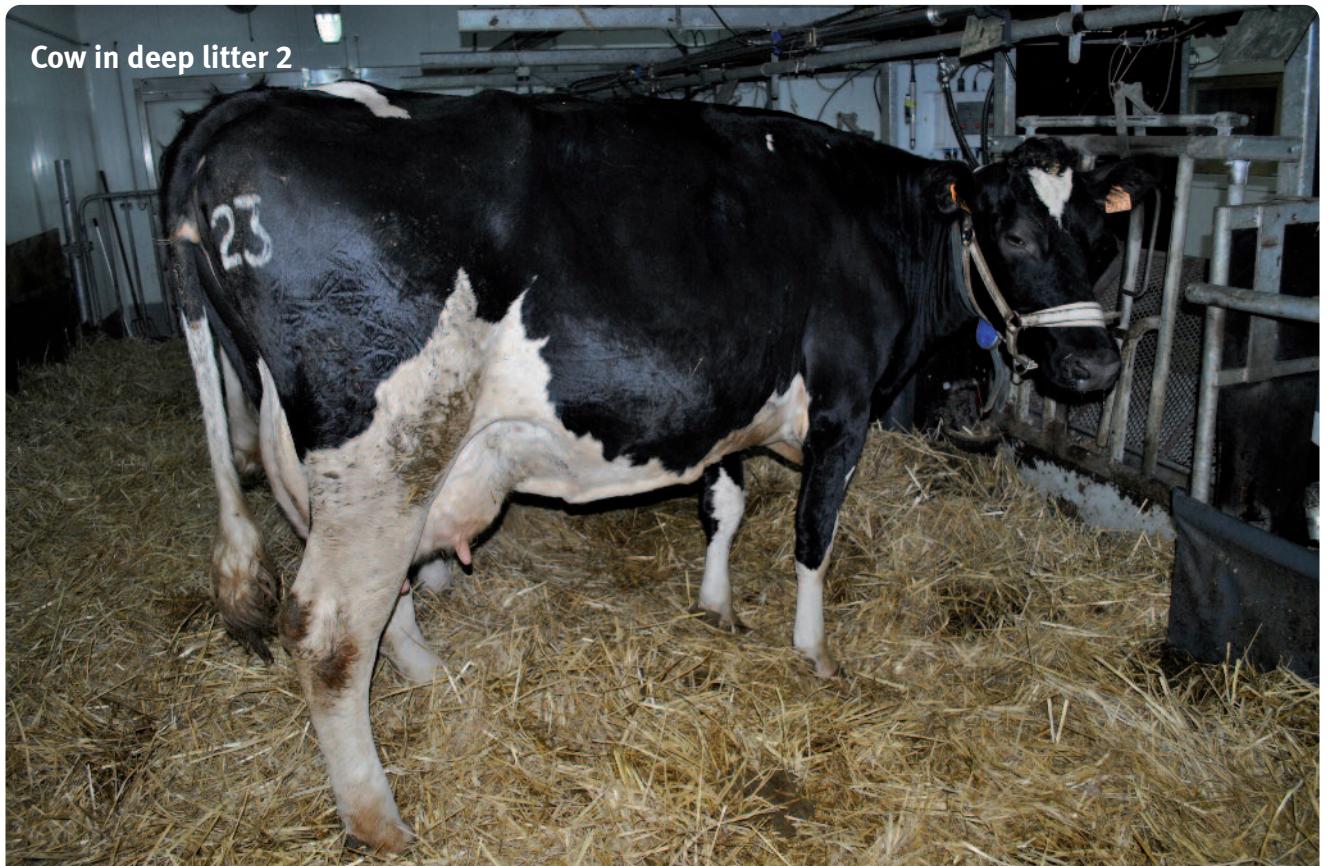
5 - Agrocampus Ouest, UMR1069, Sol Agro et hydrosystème Spatialisation, 35000 Rennes, France

**The aim of this study is to provide knowledge on Green House Gases (GHG) and  $\text{NH}_3$  emissions of deep litters in order to propose mitigation options.**

## Methods

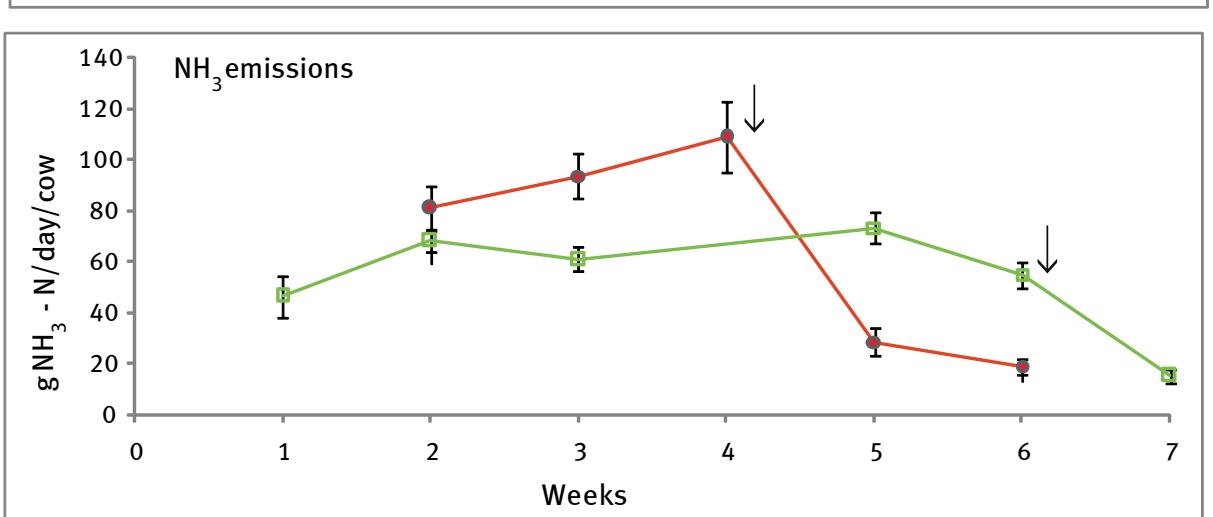
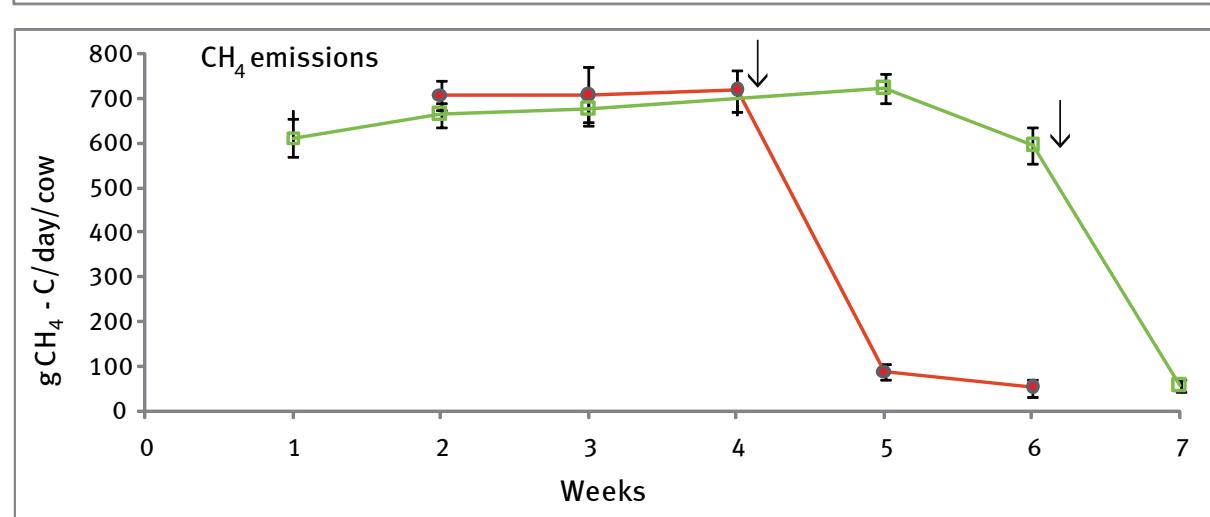
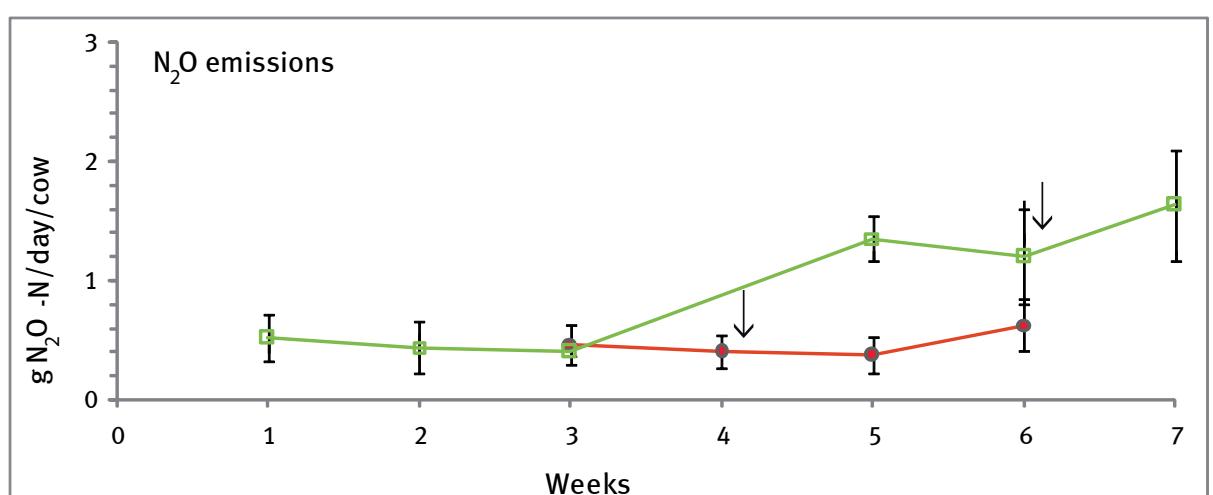
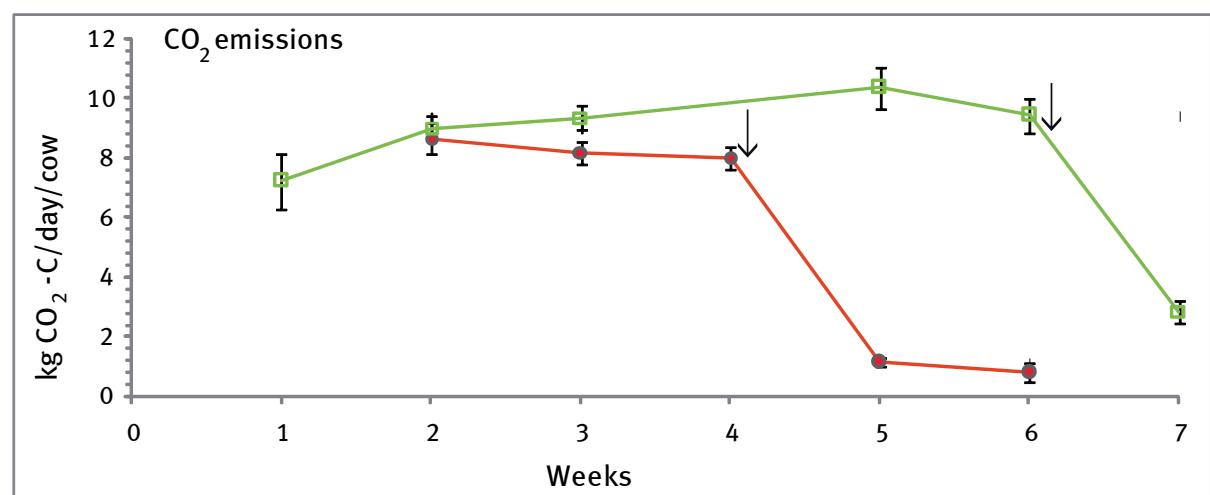
During respectively **4 weeks (Period 1: P1)** and **6 weeks (Period 2: P2)**, two deep litters were accumulated beneath three dairy cows in a mechanically ventilated room, with different animal stocking densities, **9.7 m<sup>2</sup> per cow in P1** and **12.4 m<sup>2</sup> per cow in P2**.

	Deep litter 1	Deep litter 2
Duration (days)	37	49
Beginning of the measurement	14/09/2010	01/11/2010
End of the measurement	20/10/2010	19/12/2010
Duration of accumulation of the litter under the cows (days)	29	44
Number of cows	3	3
Area of the litter (m <sup>2</sup> )	29.24	37.22
Straw supply (kg/day)	37.8	40.00
Farm yard manure dry matter (%)	20.1	27.2



## Main results

The deep litter in **P1** produces less  $\text{N}_2\text{O}$  but more  $\text{CH}_4$  and  $\text{NH}_3$  than in **P2**.



## Conclusions

These results seem to indicate that a non-appropriate animal stocking density on a deep litter could lead to higher GHG and ammonia emissions.

They improve our understanding of emitting processes related to deep litters.

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