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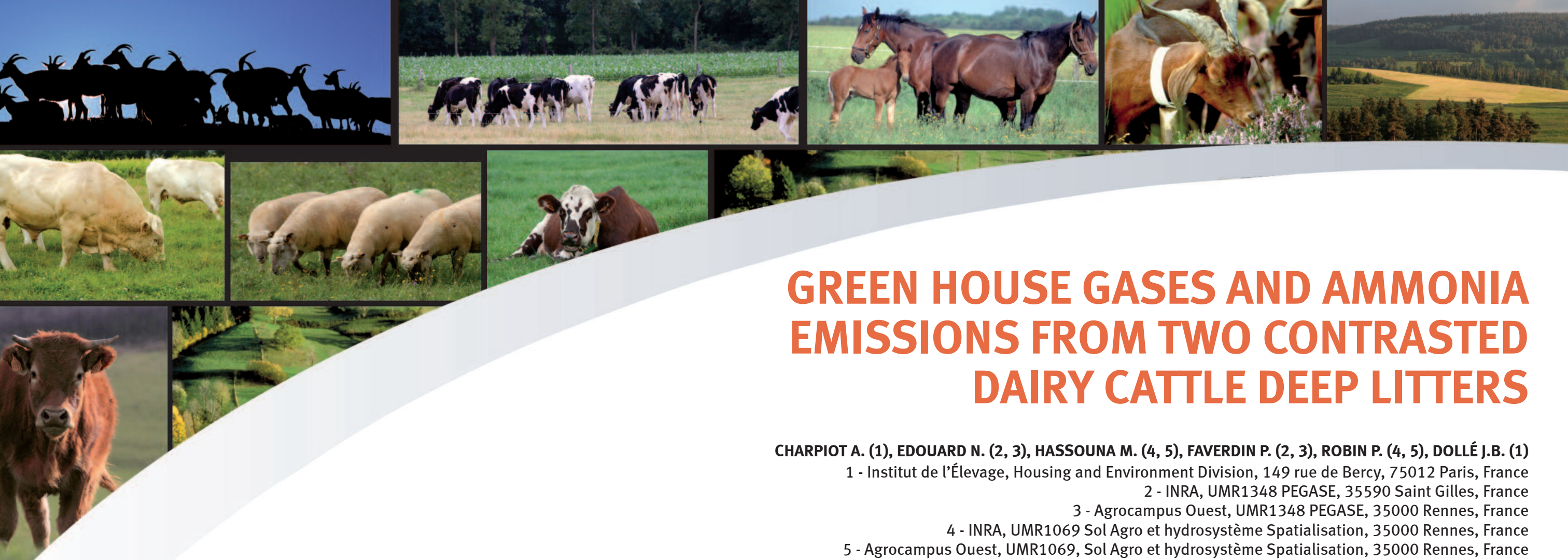
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GREEN HOUSE GASES AND AMMONIA EMISSIONS FROM TWO CONTRASTED DAIRY CATTLE DEEP LITTERS

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The aim of this study is to provide knowledge on Green House Gases (GHG) and NH₃ emissions of deep litters in order to propose mitigation options.

Methods

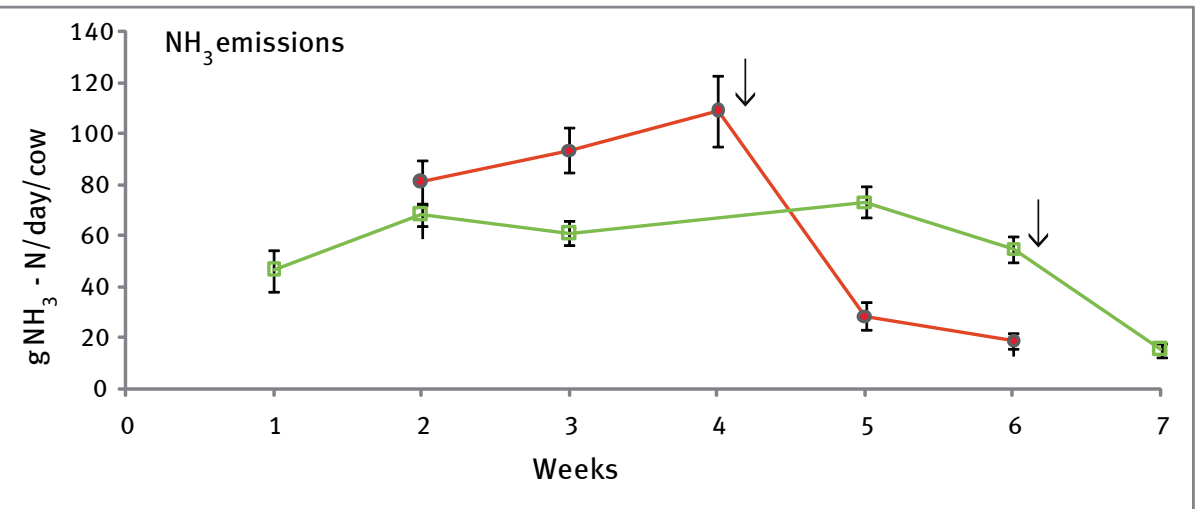
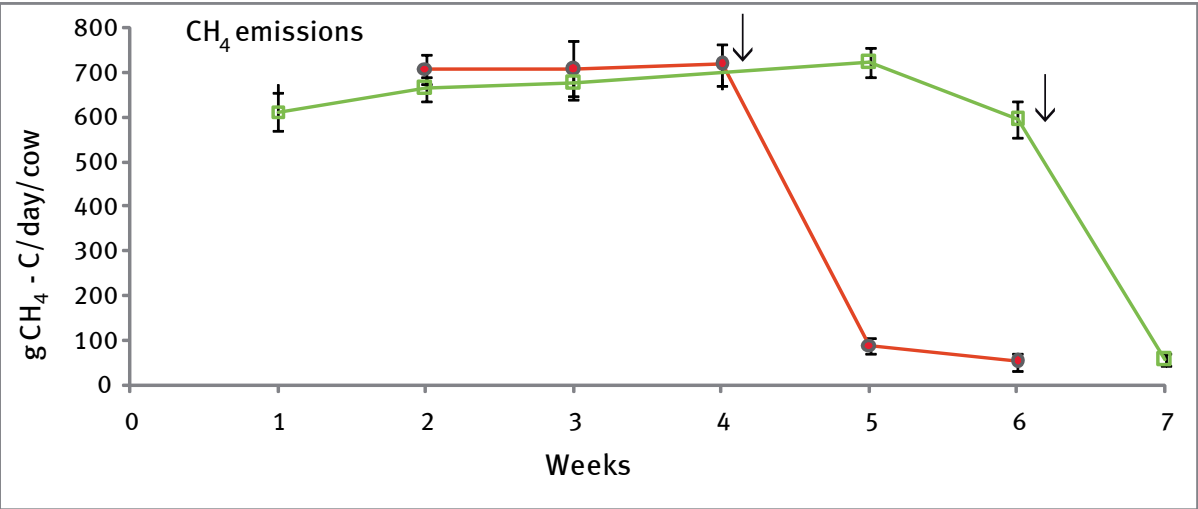
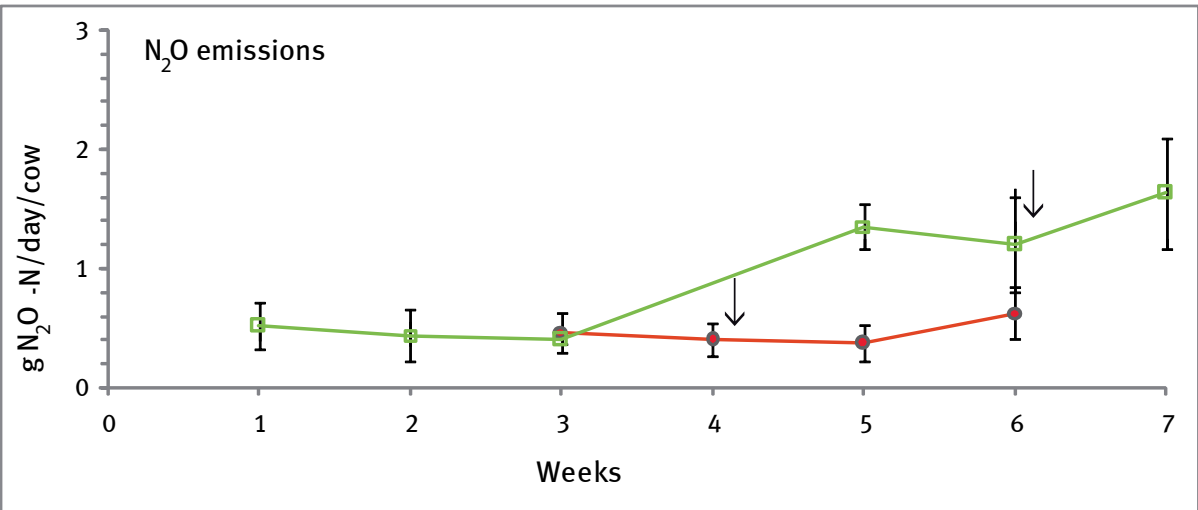
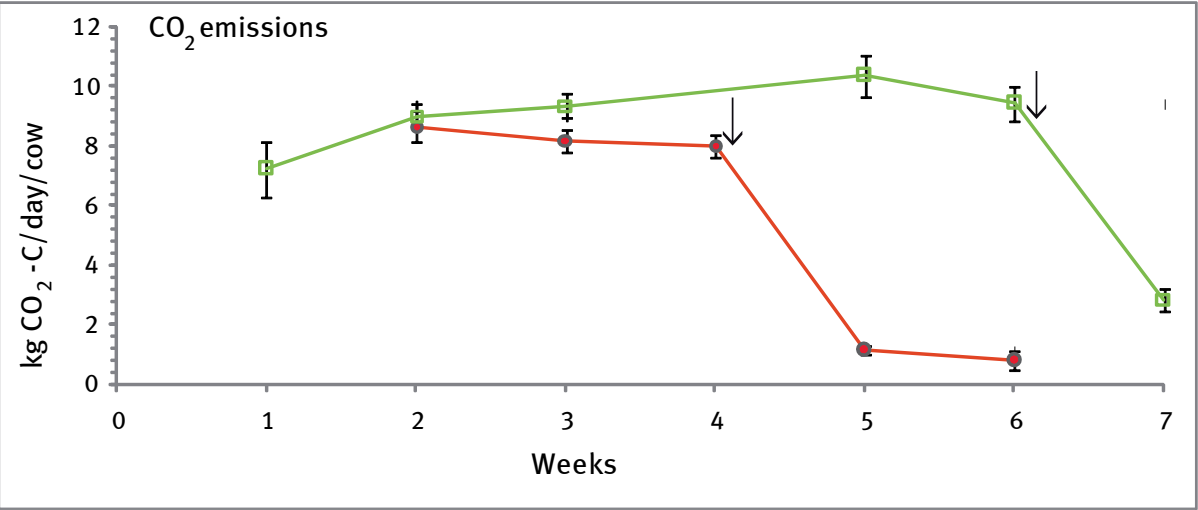
During respectively 4 weeks (Period 1: P1) and 6 weeks (Period 2: P2), two deep litters were accumulated beneath three dairy cows in a mechanically ventilated room, with different animal stocking densities, 9.7 m² per cow in P1 and 12.4 m² per cow in P2.

	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 ²)	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 N₂O but more CH₄ and NH₃ 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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