Methane mitigation in dairy cattle with 3-nitrooxypropanol in an on-farm trial

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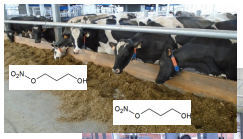
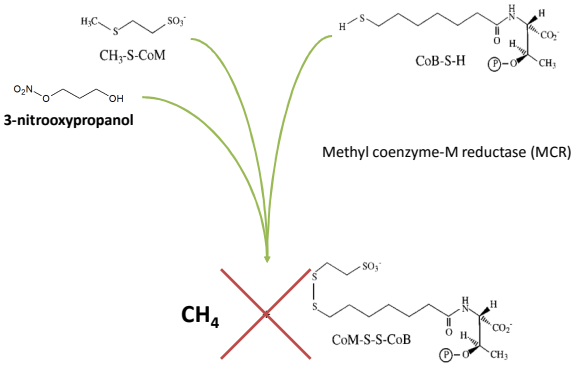
Introduction



IN = non-edible fiber-rich feeds

OUT = human-edible foods, e.g. milk

Introduction



Ermler et al., 1997; Duin et al., 2016

Material and Methods

Animals	Diet (on DM basis)
10 Holstein cows	34% maize silage
86 ± 31 DIM	27% grass silage
34 ± 6 kg milk/day	7% pressed beet pulp
21 ± 3 kg DMI/day	32% concentrates

Treatment
1,7 g 3-NOP/cow/day for 8 cows
Placebo for 2 reference cows
3-NOP and placebo mixed with soybean meal and soybean oil

Material and Methods

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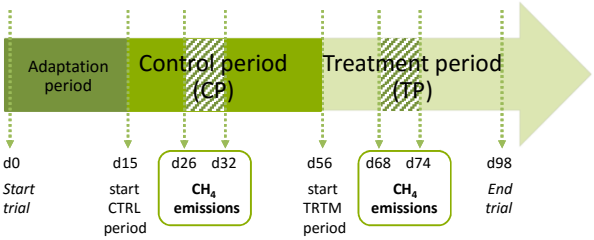
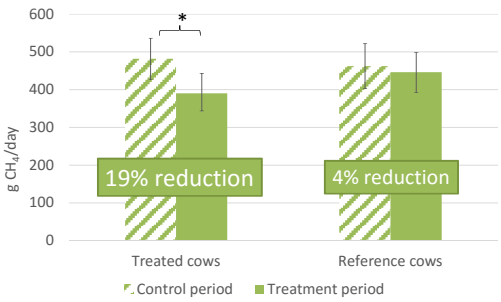


Results



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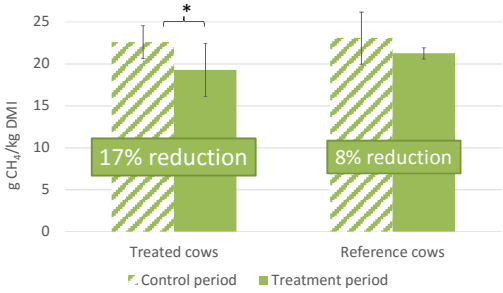
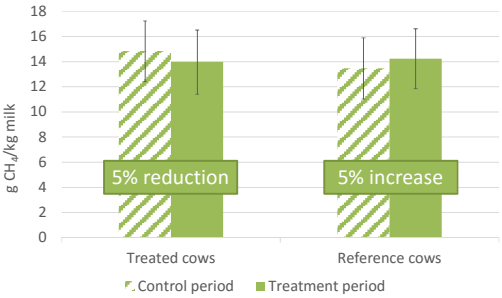
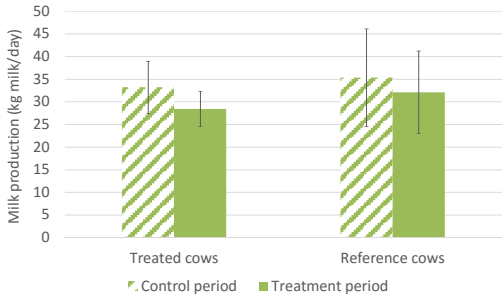


Results



Results



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Discussion

- Confirmed potential of **3-NOP** to reduce methane emissions
  - Previous research:
    - 30% reduction (Hristov et al., 2015)
    - 6-10% reduction (Reynolds et al., 2014)
  - Way of administration might be important

Conclusion

- **3-NOP** has great potential to reduce methane emissions
  - Reductions between 15 and 9%
    - -15% for absolute CH_4 emissions
    - -10% for g CH_4/kg milk
    - -9% for g CH_4/kg DMI

Thank you

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