



Dairy goats grazing plantain: milk performance and consequences on gastro-intestinal parasitism

The development of grazing increases the risk of gastro-intestinal nematodes (GINs), particularly in goat systems. One lever to limit the negative impacts of parasitism is to use plants with bioactive secondary metabolites (BSM) such as plantain. Plantain contains aucubin, and positive effects of aucubin on animal resilience and its anti-parasite effect have been demonstrated in ewes and lambs. The aim of this study was to evaluate milk performance and consequences on parasitism of grazing plantain in dairy goats.

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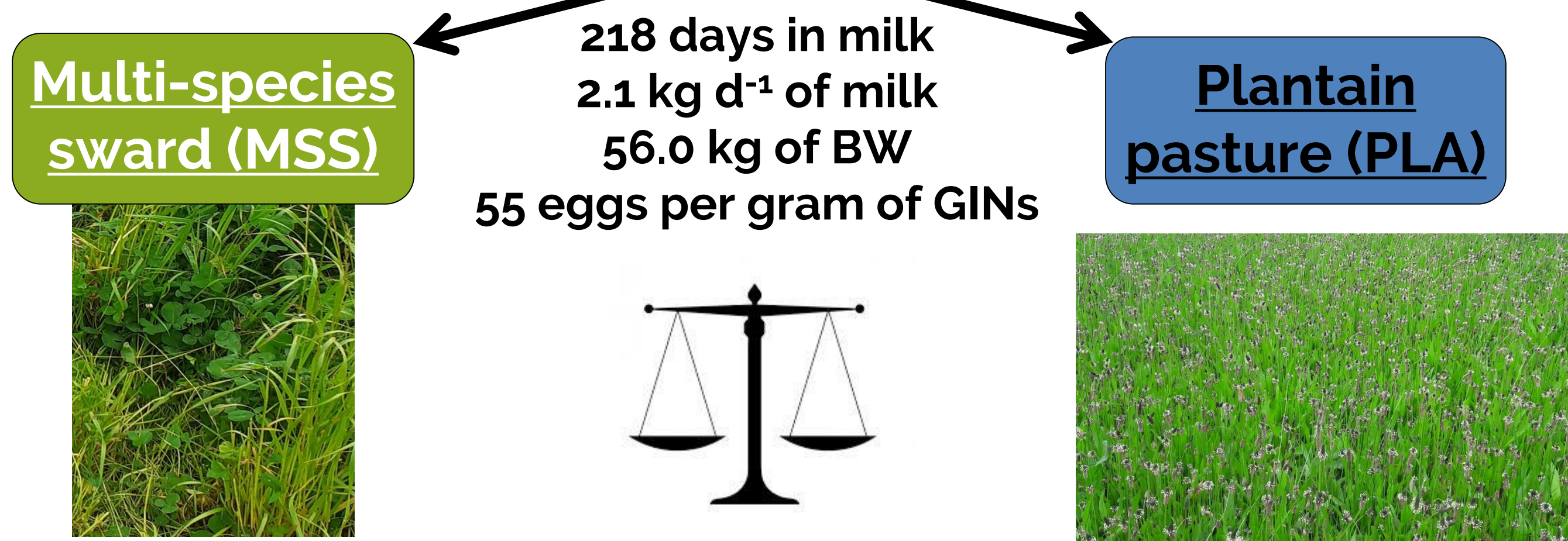
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Experimental design

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→ 2 x 25 Alpine goats (incl. 11 primiparous) milked once a day



→ 7 days of adaptation + 12 days of individual measurements

Methods

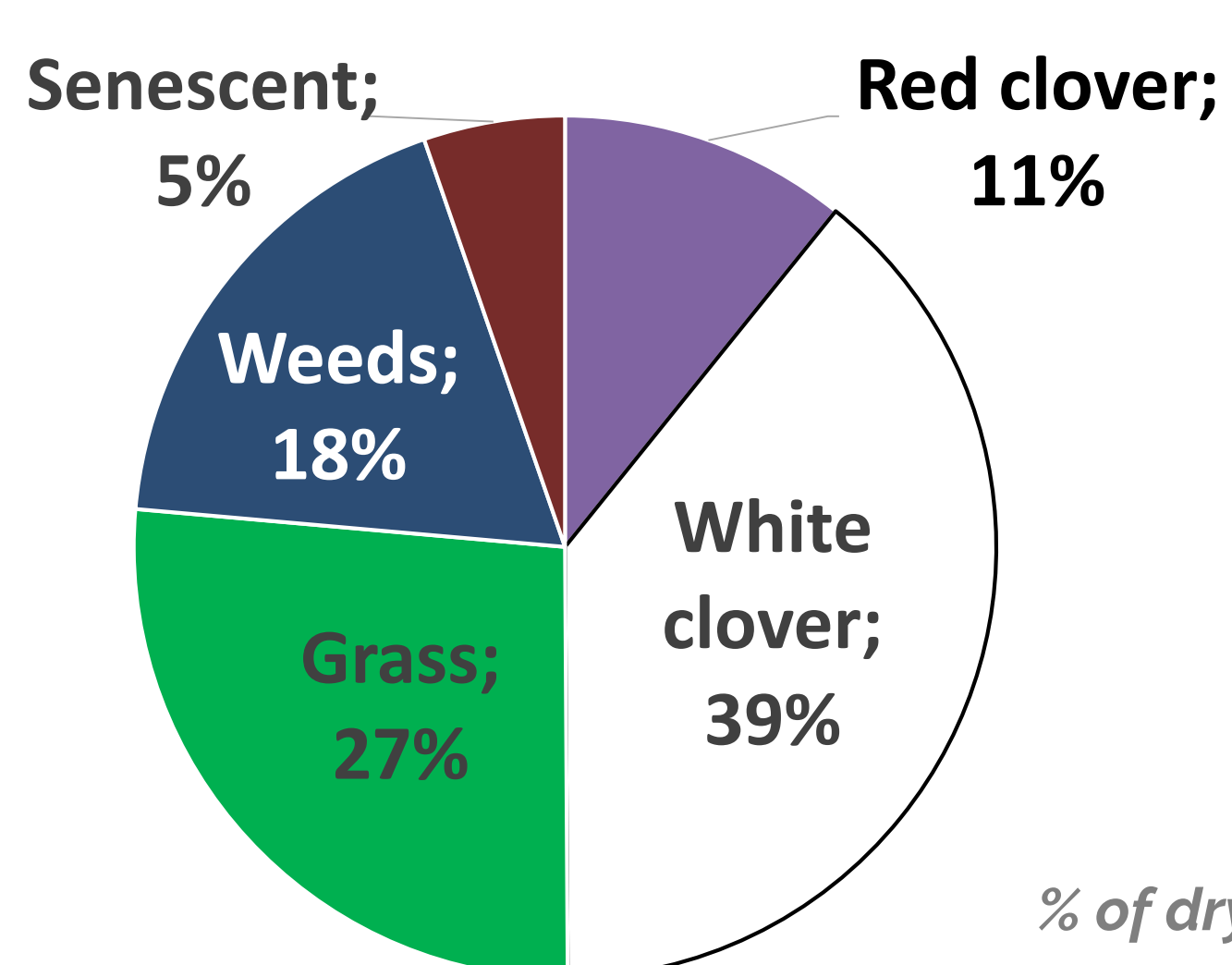
Strip-grazing system

- ✓ Daily pasture allowance: 2.1 kg DM goat⁻¹ > 5 cm
- ✓ Daily pasture access: 09:00 to 17:00
- ✓ Hay supplementation: 182 g DM goat⁻¹ day⁻¹
- ✓ Concentrates supplementation: 730 g DM day⁻¹ goat⁻¹

Pasture characteristics

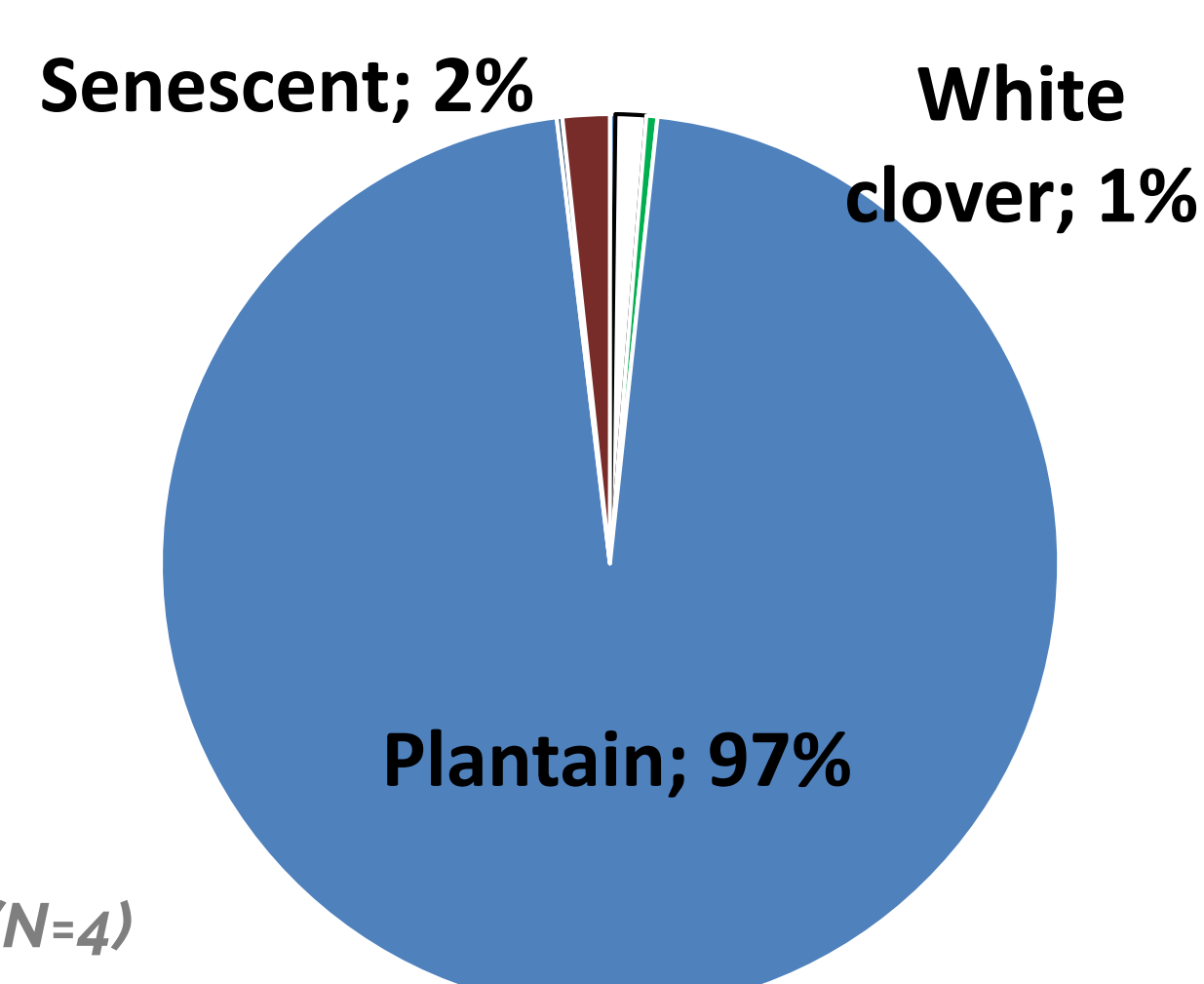
Multi-species pasture

- Crude protein = 17.0%
- NDF = 38.9 %
- Ash concentration = 10.0%



Plantain pasture

- CP = 10.2%
- NDF = 48.3%
- AC = 9.2%

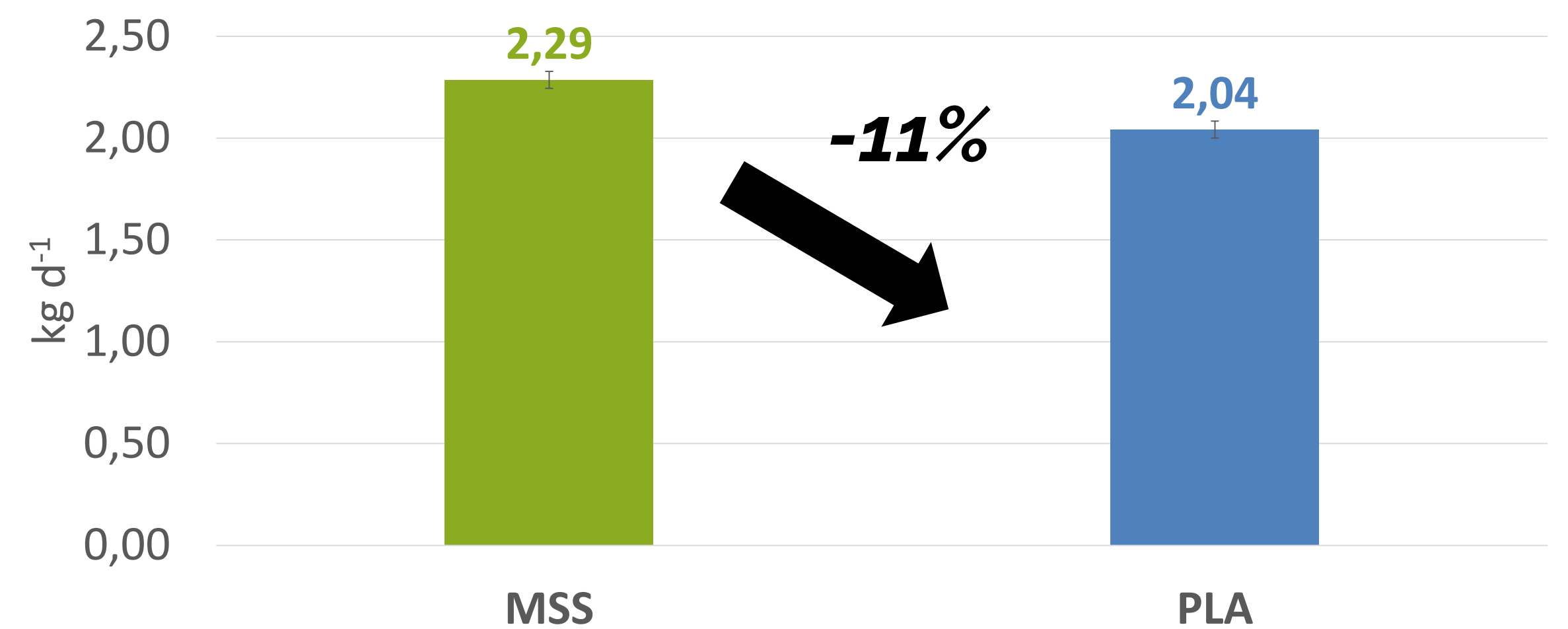


Measures

- Milk performances during 4 days every week.
- Individual faecal egg count and body weight at day 0 and day 20 of the trial.

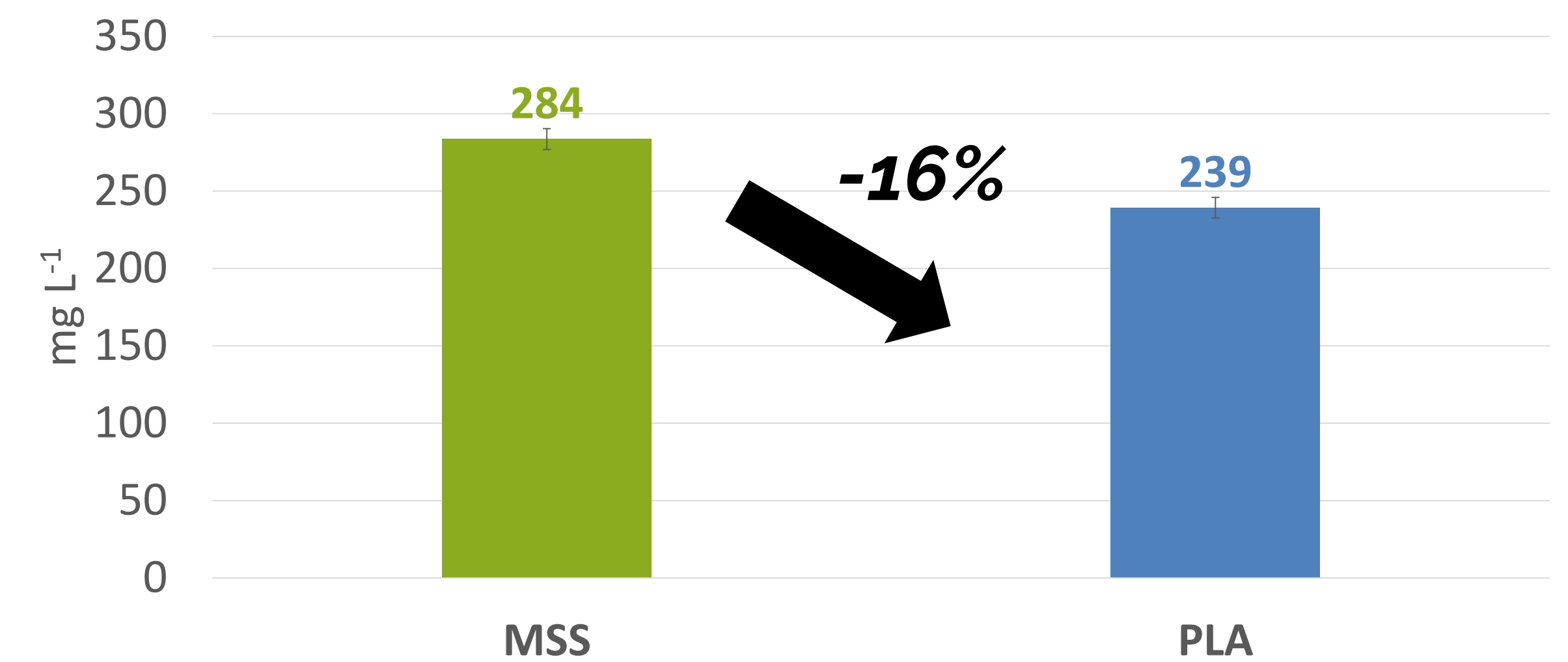
Results

3.5% fat-corrected milk production



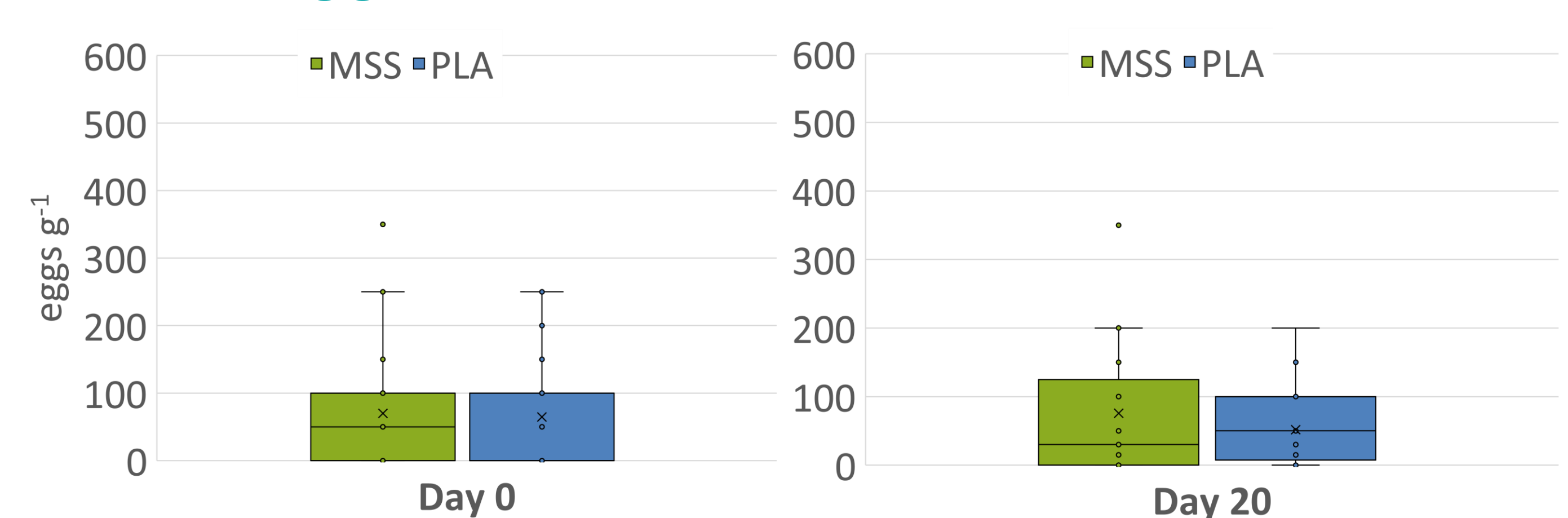
Milk production was lower ($p < 0.001$) for PLA than for MSS.

Milk urea concentration



Milk urea concentration was lower ($p < 0.001$) for PLA than for MSS. No effect on milk protein concentration and somatic cells count.

Faecal egg count of GINs



No effect of sward type on FEC level and body weight.

Conclusion

Although it had no impact on the weight of the goats and allowed a decrease in the milk urea concentration, grazing pure plantain during 23 days in spring did not show any interest with regard to the loss of milk production. Moreover, its effectiveness in the management of gastro-intestinal parasitism in low-infested grazing dairy goats has not been proven.

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