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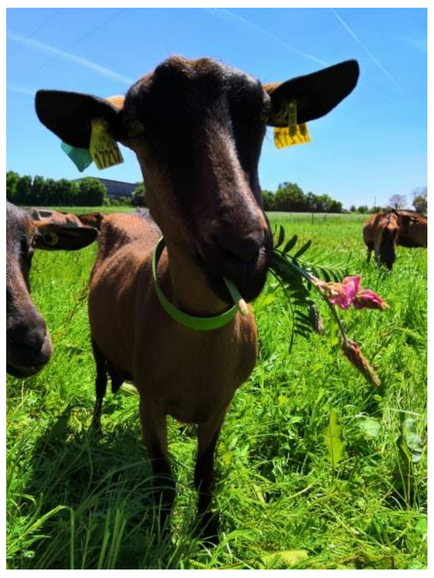

Sainfoin grazing by dairy goats to manage gastro-intestinal parasitism and improve milk performance

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Optimal use of **grazing pastures represents a solution for improving goat production** and ensure protein self-sufficiency within more sustainable. However, in dairy goats grazing systems, infections with **gastro-intestinal nematodes (GINs) remain a major threat** for goat's health and welfare. The usual mode to control these GINs has relied on chemical anthelmintics (AHs). However resistance to AHs is now a worldwide issue. **Sainfoin** (*Onobrychis viciifolia*) is a **forage legume** containing tannins which **represent a solution to limit GIN infections** and the development of AH resistance.

Experimental design

- **INRAE– system-experimentation Patuchev**

➔ 2 x 30 Alpine goats (incl. 5 primiparous) milked twice a day

Multi-species pasture (C) ⟷ **Sainfoin pasture (S)**

55 days in milk
3.5 kg d^{-1} of milk
57.2 kg of BW
321 eggs per gram of GINs

➔ 7 days of adaptation + 12 days of individual measurements

Methods

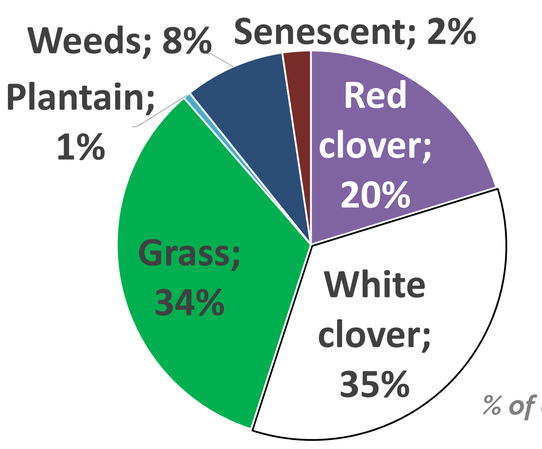
• Strip-grazing system

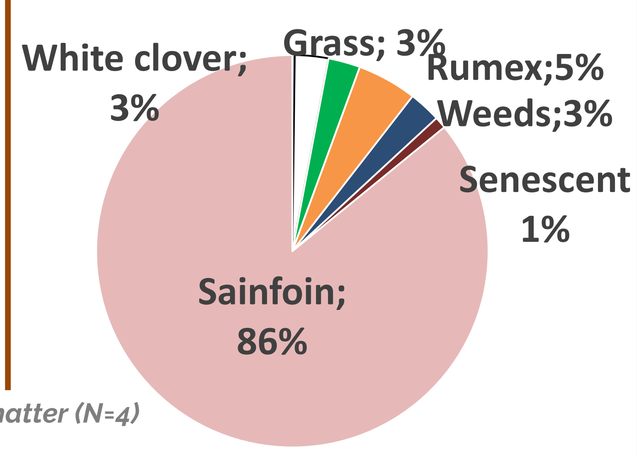
- ✓ Daily pasture allowance: **2.5 kg DM $goat^{-1}$ > 4.8 cm**
- ✓ Daily pasture access: **10:30 over 2 sessions**
- ✓ **No forage supplementation**
- ✓ Concentrates supplementation: **675 g DM d^{-1} $goat^{-1}$**

• Pasture characteristics

Multi-species pasture
- Crude protein = 15.6%
- NDF = 41.7 %
- Ash concentration = 9.2%

Sainfoin pasture
- CP = 19.1%
- NDF = 40.3%
- AC = 7.9%





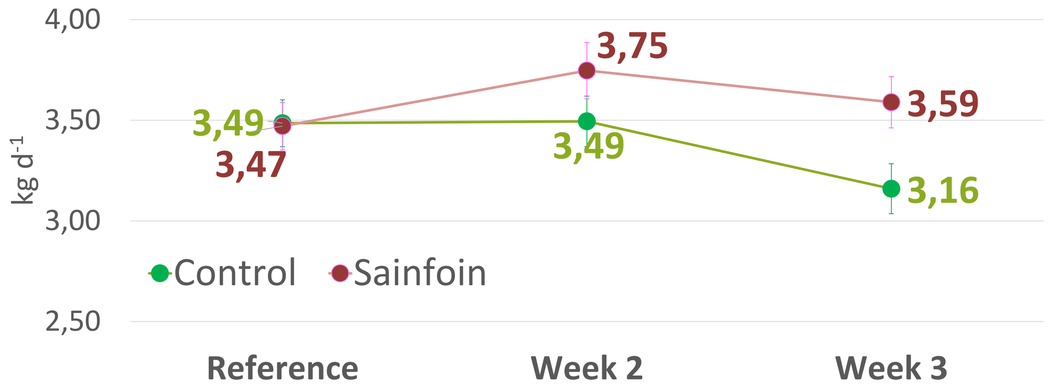
% of dry matter (N=4)

• Measures

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

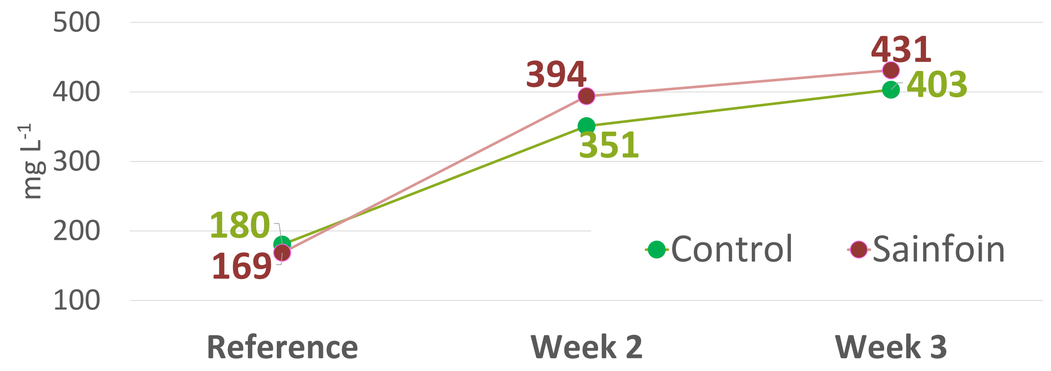
Results

➢ 3.5% fat-corrected milk production



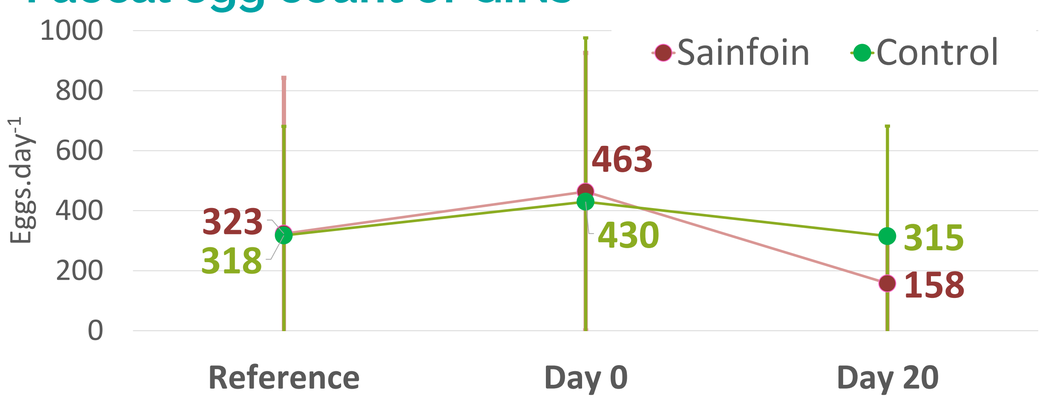
*Sainfoin grazing was associated with a higher milk production by **+ 14%** in experimental week 3 ($p < 0.05$).*

➢ Milk urea concentration



*Milk urea concentration was greater in experimental week 1 in Sainfoin group than Control (**+ 12%** ; $p < 0.05$).*

➢ Faecal egg count of GINs



*The FEC in the Sainfoin group decreased between day 0 and day 20 (**- 66%** ; $p < 0.001$) unlike the control group.*
At day 20, the FEC was not different between the groups ($p = 0.072$).

Conclusion

Sainfoin is a very palatable forage for dairy goats and **milk production was maintained** despite the plant's stage evolution. **Pure sainfoin grazing** in spring does seem to be **an interesting forage to limit GIN infestation level.** The impact on GINs under natural conditions remain to be further explored to use this alternative solution to AHs.

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