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Effect of sainfoin (*Onobrychis viciifolia*) on cyathostomin eggs excretion, larval development, larval community structure and efficacy of ivermectin treatment in horses

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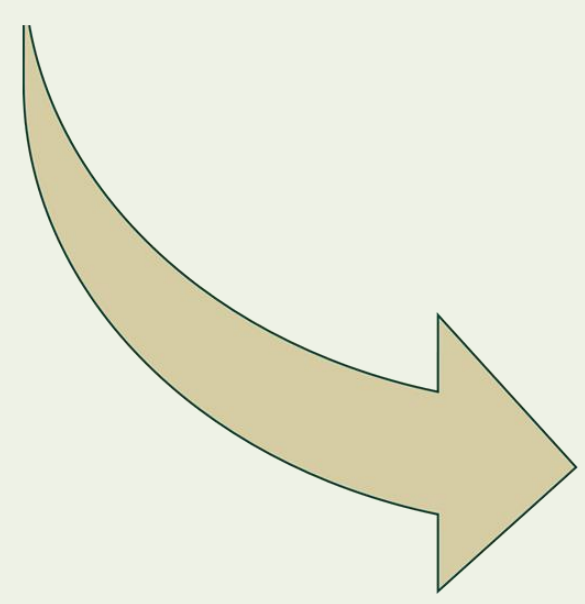
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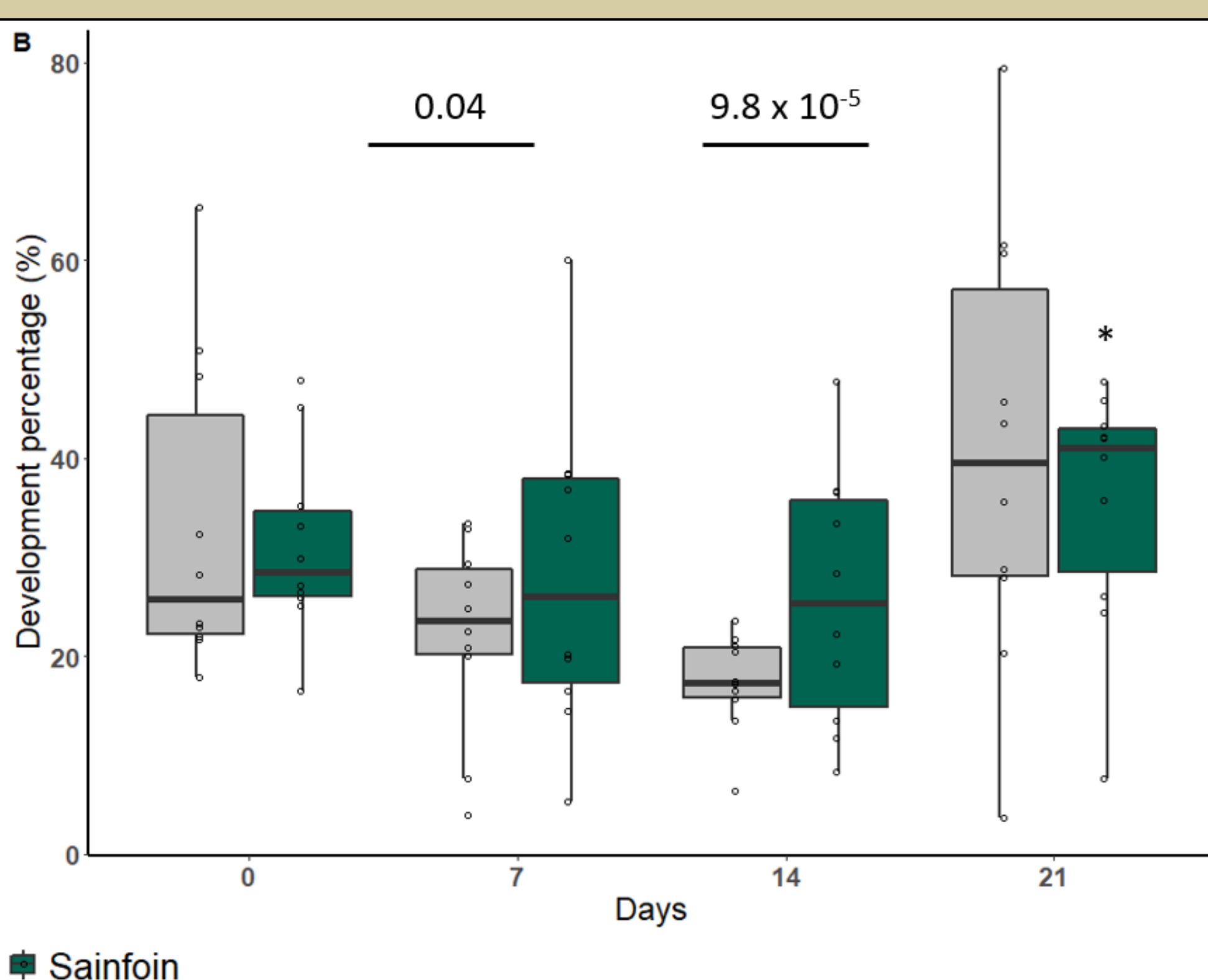
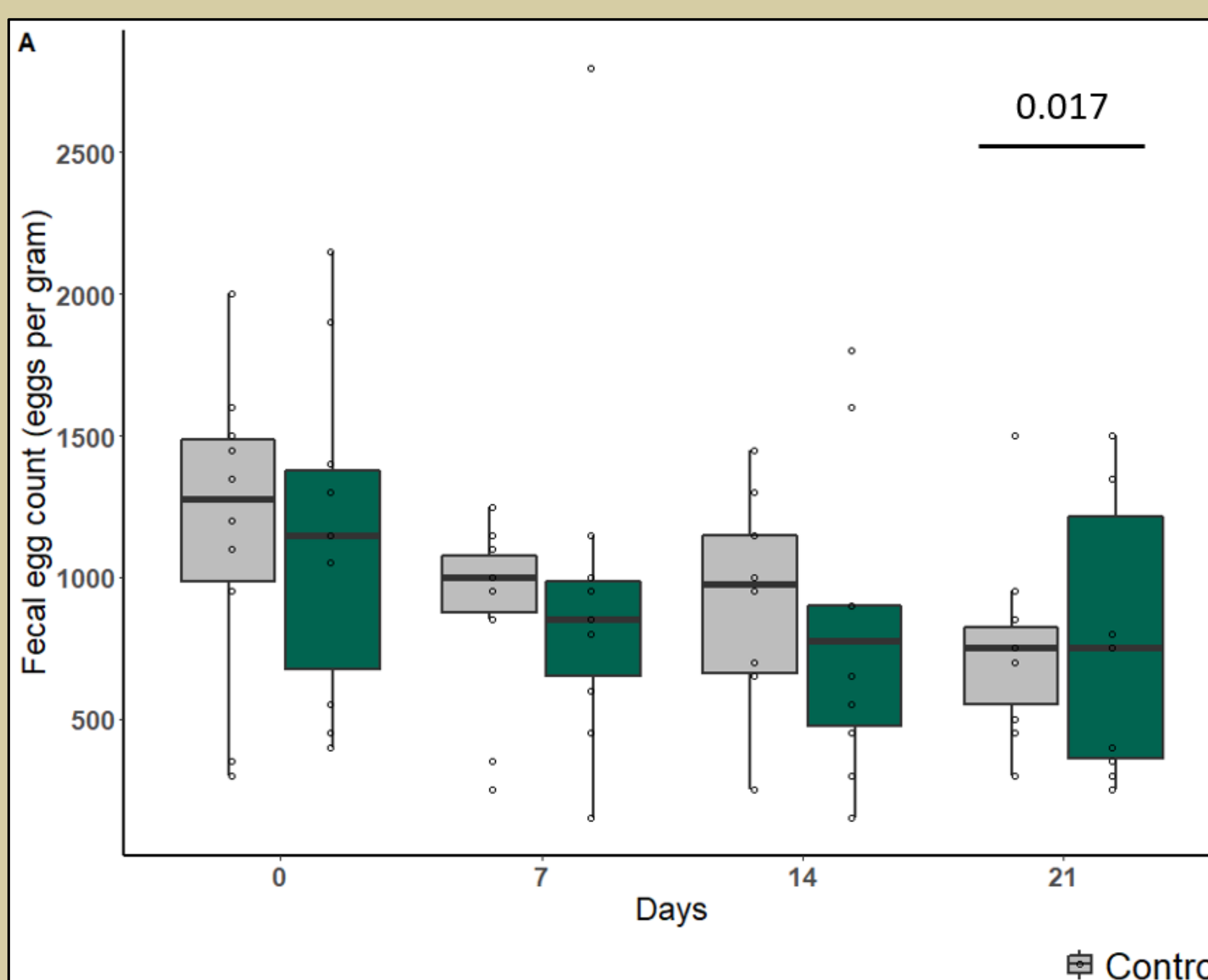
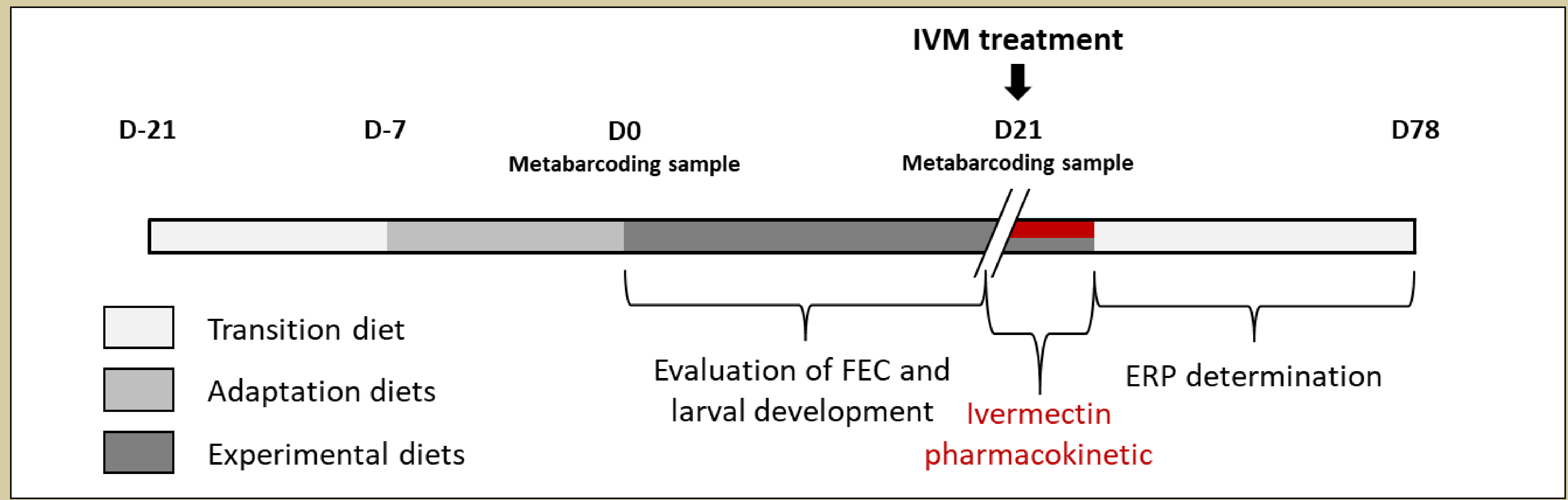
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Sainfoin from plant to pellet



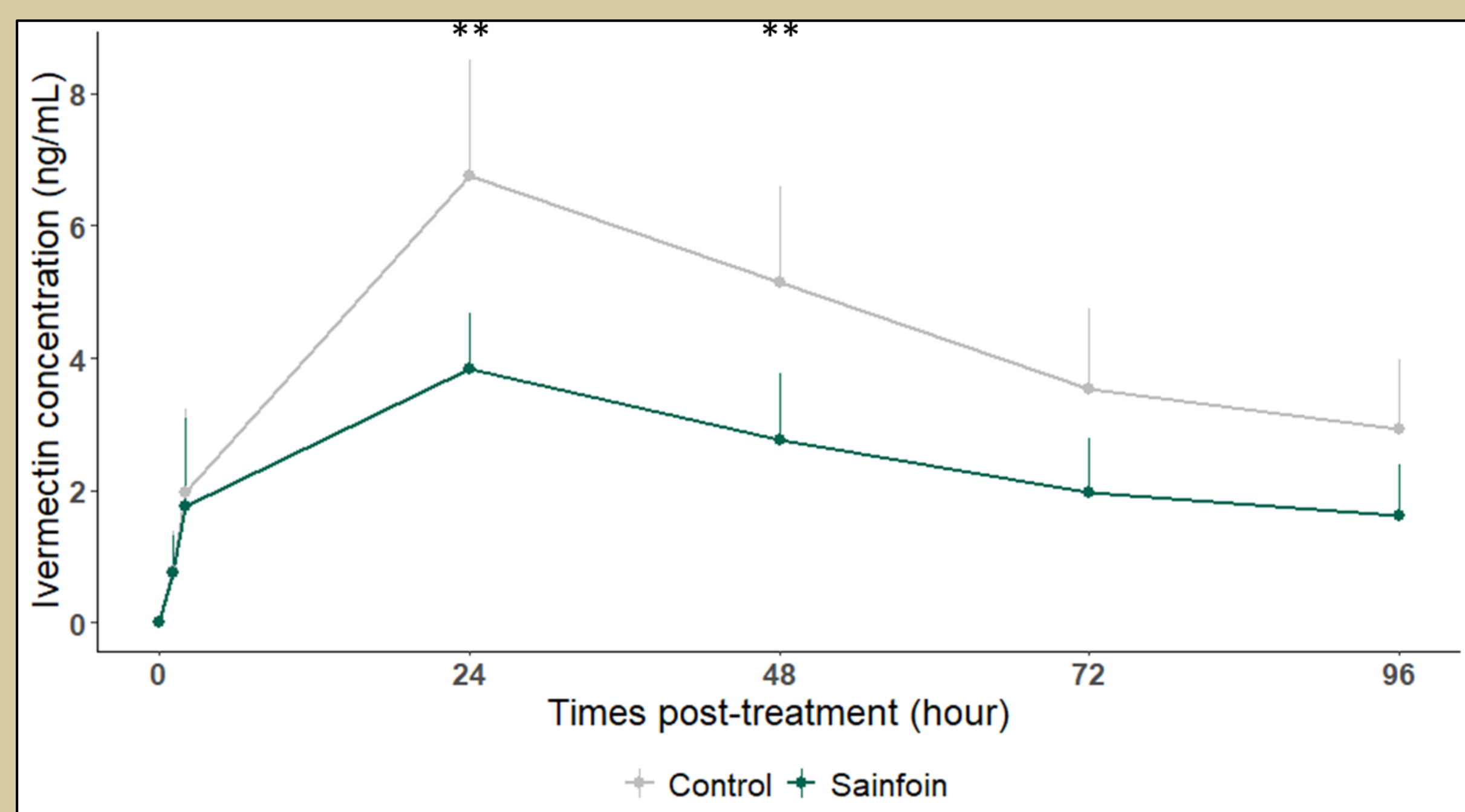
Materials & methods



Arithmetic average of FEC (A) and larval development rate (B) measured over the experimental period

The bars indicate a significant difference in the mean larval development compared to day 0. *Statistically significant difference in larval development rate from day 14 to day 21 between the sainfoin and control groups ($P = 0.02$).

Effect of the diet on ivermectin blood concentration and pharmacokinetic



	Control	Sainfoin
C_{max}^a (ng.mL ⁻¹)	6.8±1.7	3.8±0.8***
T_{max}^b (h)	24±0.0	24±0.0 ^{ns}
$AUC_{0 \rightarrow t}^c$ (ng.h.mL ⁻¹)	419.8±111.9	240.4±77.5***

**Statistically significant difference of average plasma IVM concentration between groups at 24 and 48 h post-treatment ($P < 0.01$).

^{ns}Not significant.

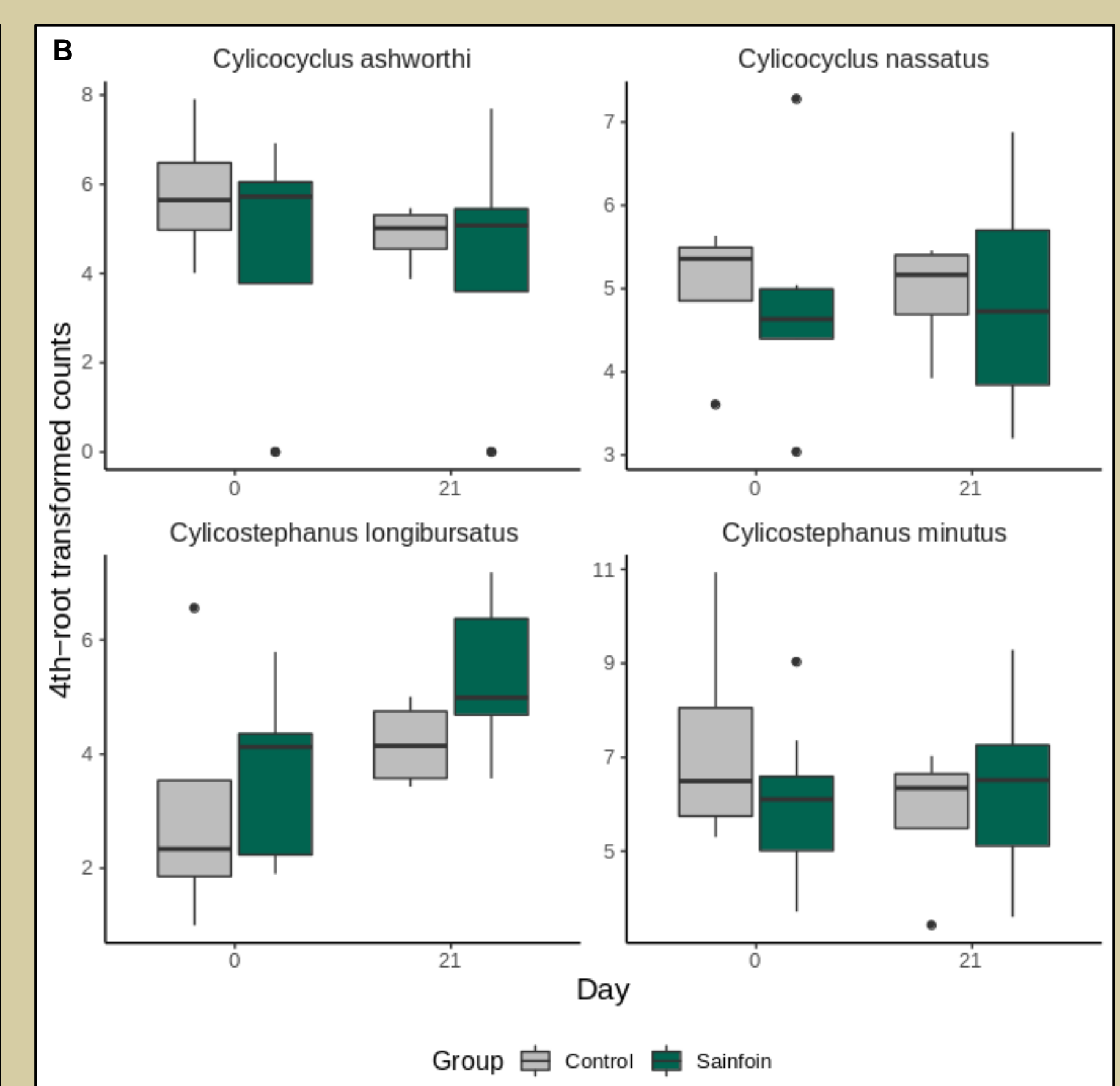
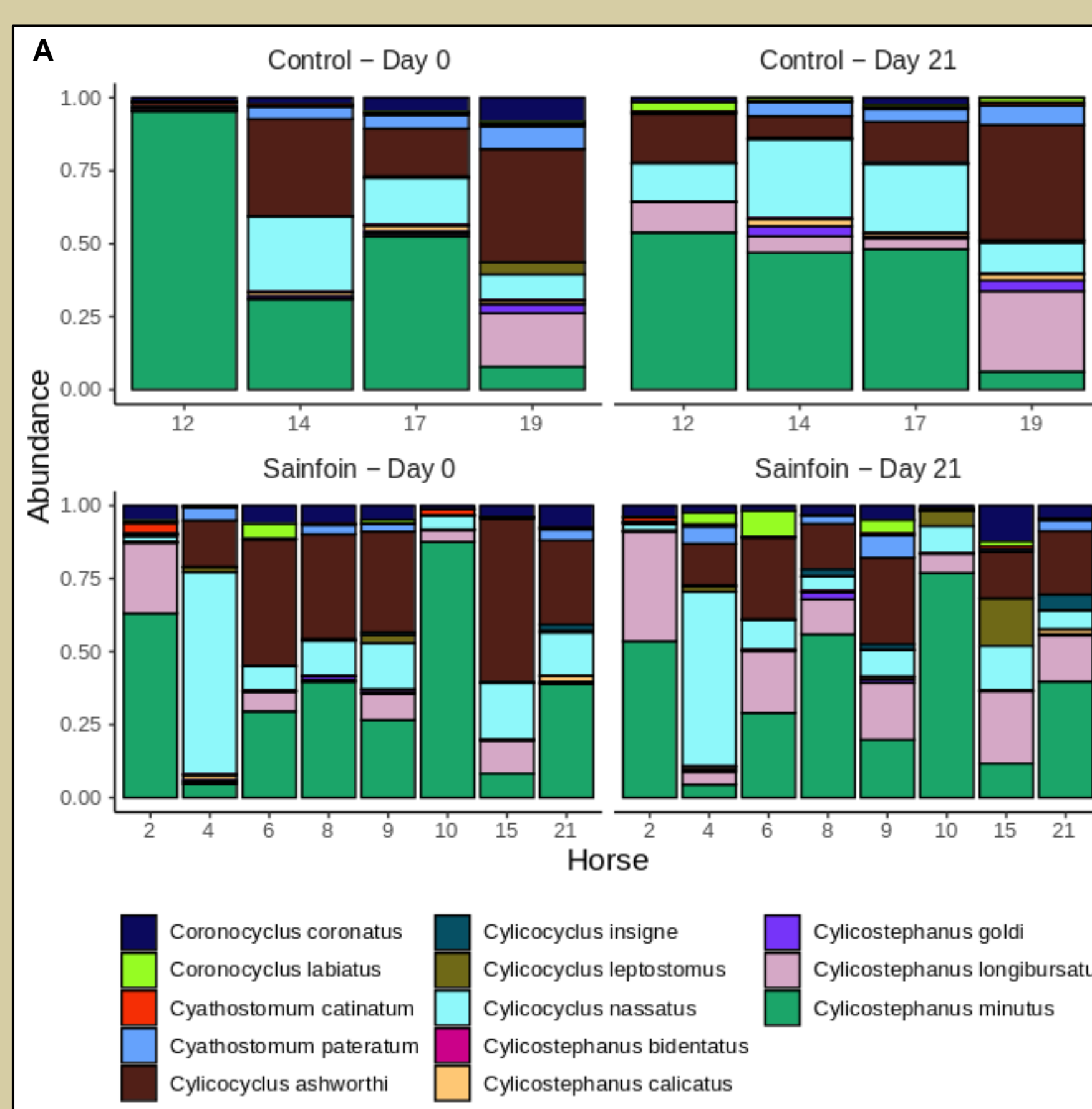
***Statistically significant difference of kinetic parameters compared to control ($P \leq 0.001$).

^aMaximum plasma concentration.

^bTime of maximum concentration.

^cAUC from 0 to the last time point.

Cyathostomin larval community structure (A) and most abundant species (B) estimated using the metabarcoding approach across days and groups



Conclusion

- Absence of *in vivo* effects of dehydrated sainfoin pellets on cyathostomin and larval population structure
- Significant reduction of ivermectin plasma concentration in horses

Multirésistances et Pouvoir Pathogène des Nématodes

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