

Title: Tanniferous forage plants with anthelmintic properties: The example of sainfoin (*Onobrychis viciifolia*)

Introduction: Sainfoin is a high-quality condensed tannin containing forage plant. The knowledge about anthelmintic effects against sheep nematodes and about the influence of plant preservation (e.g. ensiling) on the anthelmintic activity is limited.

Method: 36 parasite naïve lambs (6 groups of 6 animals each) were infected with *H. contortus* (7,000 L3) and *C. curticei* (15,000 L3). From day 28 until day 44 p.i., groups A1, B1 and C1 received fresh, dried or ensiled sainfoin. Groups A2, B2 and C2 served as respective tannin-free controls. Individual faecal egg counts on a dry matter basis (FECDM) were performed every 3-4 days. On day 44, all animals were slaughtered and adult worm populations were determined.

Results: The consumption of sainfoin was associated with a reduction of adult *H. contortus* (35% (P<0.1), 47% (P<0.05) and 49% (P<0.1) for fresh, dried and ensiled sainfoin, respectively) but had little effect on adult *C. curticei*. Compared to the controls, *H. contortus* specific FECDM was reduced by 62% (P<0.05), 58% (P<0.01) and 48% (P<0.1) for fresh, dried and ensiled sainfoin. FECDM specific to *C. curticei* were decreased by sainfoin hay and silage (hay 81% , silage 74%, both tests P<0.001) but were unchanged when fresh sainfoin was administered.

Conclusion: For *H. contortus* the FECDM decrease seemed to be due to a nematocidal effect towards adult *H. contortus*. In contrast for *C. curticei*, the reduction in FECDM appeared to be a result of a reduced per capita fecundity. The use of conserved tanniferous fodder offers promising perspectives as a complementary control approach against nematodes in sheep.