Abstract WAAVP 2007

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.