Condensed Tannins in the Gastrointestinal Tract of Cattle after Sainfoin (Onobrychis viciifolia) Intake and Their Possible Relationship with Anthelmintic Effects

Condensed tannins’ (CTs) fate along the digestive tract of ruminants may account for the variable efficacy of CTs against gastrointestinal nematodes. We analyzed CTs in the digesta of cattle fed sainfoin. With the acetone-butanol-HCl assay, the total CTs concentrations in the digesta were close to those in the diets (6.3 and 1.5% of DM in experiments 1 and 2, respectively); thus, CTs remained potentially largely undegraded/unabsorbed. With the thiolysis assay, CTs concentration was much higher in the abomasum (2.3% of DM; expt 1) compared with the rumen and intestines, along with higher mean size and prodelfphinidins percentage, corroborating CTs efficacy reported only against Ostertagia ostertagi in the abomasum. In expt 2, the dietary levels of CTs were probably too low to demonstrate anthelmintic effects in the rumen. Overall, the level of CTs accessible to thiolysis is favored under the acidic conditions of the abomasum, which seems critical for anthelmintic activity.

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