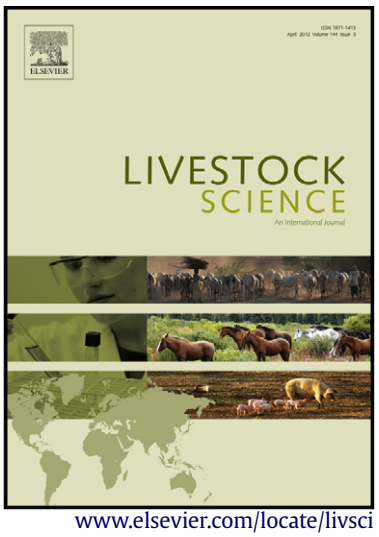

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Voluntary feed intake and digestibility of four domestic ruminant species as influenced by dietary constituents: a meta-analysis

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ABSTRACT

This meta-analysis was performed to evaluate whether voluntary feed intake and digestibility of forage-based diets differ between four domestic ruminant species, *i.e.* sheep, goats, cattle and buffaloes, and secondly, whether dietary constituents, *i.e.* protein and fibre influence the respective variables. A dataset on voluntary feed intake, digestibility and composition of basal diets and supplements of the respective domestic ruminant species was compiled by pooling data from previously published studies. A total of 45 studies were found to meet the required criteria. Data were analysed by mixed model regression methodology. Discrete (domestic ruminant species) and continuous predictor variables (chemical composition of diet) were treated as fixed effects, while different studies were considered as random effects. Significant linear relationships were observed between log-transformed body weight and log-transformed dry matter intake (DMI) for all ruminant species ($P<0.05$). Within species, this scaling factor was lower for sheep and goats than for cattle and buffalo. Crude protein (CP) concentration affected DMI of ruminants positively with variations among the