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## RUMEN CHARACTERISTICS OF RED DEER, FALLOW DEER, AND ROE DEER

R. A. PRINS, Laboratorium voor Veterinaire Biochemie, Utrecht, The Netherlands

M. J. H. GEELLEN, Laboratorium voor Veterinaire Biochemie, Utrecht, The Netherlands

**Abstract:** Rumen, reticulum, omasum, and abomasum contents of 10 red deer (*Cervus elaphus*) and 16 fallow deer (*Dama dama*), collected in the winter of 1967, were analyzed for (1) pH, (2) total volatile fatty acid (TVFA) concentrations, (3) molar proportions of individual volatile fatty acids, and (4) lactate concentrations. Products of rumen fermentation, suggesting increased fermentation rates, seemed greater for fallow deer. More genera of ciliate protozoa were present in the rumina of red deer than in the rumina of the other species. Cellulolytic activity of rumen samples seemed greater for red deer than for fallow deer and roe deer (*Capreolus capreolus*), but amylolytic activity may have been somewhat greater in the smaller roe deer.

Ruminants satisfy a large part of their energy requirements by utilizing end products from fermentation of microorganisms living in the alimentary tract. While the rumen of domesticated ruminants has been the subject of many published investiga-

tions, research on ruminal fermentations in wild animals is limited.

Isolated information on numbers and kinds of microorganisms in the gastrointestinal tract of free-living ruminants has been reviewed on a comparative basis by Gie-