

Micorbial colonization and digestion of feed materials in cattle and buffaloes II. rice straw and palm press fibre

ABSTRACT

Degradation of rice straw was observed to be higher ($p < 0.01$) in the buffaloes than in cattle. At 48 h, the dry matter (DM) loss of straw for buffaloes was $53.6 \pm 0.8\%$ and that for cattle was $48.7 \pm 2.6\%$. Palm press fibre (PPF) was poorly degraded in the rumen of both animal species. A loss of about 21% DM was observed in both cattle and buffaloes after 48 h of incubation in the rumen. The pattern of bacterial and fungal colonization of straw and PPF seemed to be similar in both cattle and buffaloes. Microbial colonization was restricted by plant structures like the silica crystals in both straw and PPF. The predominant bacteria colonizing both straw and PPF fragments were the rods. Eroded zones and digestion pits were pronounced in straw fragments after 1 h of incubation. The PPF fragments appeared undergraded even after 6 h of incubation. Fungal colonization of straw was rapid and extensive in both cattle and buffaloes. The sporangia observed in straw were mainly spherical or oval in shape, but fusiform sporangia with acuminate tip were predominantly seen in PPF fragments.

Keyword: Straw; Palm press fibre; Digestion; Microbial colonization; Cattle; Buffaloes