

The role of rumen fungi in fiber digestion

ABSTRACT

Since the anaerobic rumen fungi were discovered in the rumen of a sheep over two decades ago, they have been reported in a wide range of herbivores fed on high fibre diets. The extensive colonisation and degradation of fibrous plant tissues by the fungi suggest that they have a role in fibre digestion. All rumen fungi studied so far are fibrolytic. They produce a range of hydrolytic enzymes, which include the cellulases, hemicellulases, pectinases and phenolic acid esterases, to enable them to invade and degrade the lignocellulosic plant tissues. Although rumen fungi may not seem to be essential to general rumen function since they may be absent in animals fed on low fibre diets, they, nevertheless, could contribute to the digestion of high-fibre poor-quality forages.

Keyword: Colonization; Diet; Fiber digestion; Plant cells; Review; Rumen fungi