

## **Abstract**

*Acacia karroo* Hayne is the dominant invading species in semi-arid savannas of South Africa and is an ecological threat of our modern era. This study investigated the preference and intake rates by goats when fed *A. karroo* coppice sprouts of different basal diameter sizes, viz. 3 mm, 4 mm and 5 mm. A study was also conducted to determine the digestibility and performance of goats when fed *A. karroo* coppices and commercial feed pellets. Nitrogen content varied among the sprout sizes. The larger sprouts had the highest nitrogen content, but the acid detergent fibre, neutral detergent fibre and hemicellulose did not differ among sprout sizes. There were no significant differences in preference of the different sprout sizes. Intake rate of the sprout sizes was significantly different; small sprouts were consumed at the highest intake rate compared to medium size sprouts, but not compared to the larger sprouts. Nguni goats had higher bite rates compared to Boer goats. However, intake rates of the Boer goats and the Nguni goats were not significantly different. Goats fed *A. karroo* had a higher average daily gain compared to the goats fed the pellets. Average daily gain differed between the two goat breeds. Apparent digestibility of dry matter and crude protein for *A. karroo* and pellets also differed. It is concluded that both Boer and Nguni goats have the potential to utilize smaller *A. karroo* sprouts. These animals can therefore potentially be used to control bush encroachment.