

PALATABILITY OF BUNKER ENSILED WILLOW AS A WINTER DIET ITEM FOR BROWSING HERBIVORES AT DISNEY'S ANIMAL KINGDOM

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ABSTRACT

Browsing herbivores in zoological institutions may be severely limited in the amount of natural browse offered, especially in winter months, with implications for gastrointestinal and overall animal health. A large quantity of freshly cut willow browse (~6100 kg) was ensiled in June 2010 after chipping the product into a lined 15' x 6' x 6' container with molasses (~4% of willow weight DM) mixed manually. Silage was opened December 2010 and tested for nutrient content, as well as fermentation profile. All initial results as well as results of 10 samplings through April 2011 showed a stable fermentation profile similar to legume and corn silage, with higher lactic acid and lower acetic acid (average ratio = 10:1) and no mycotoxins detected. Silage was offered as approximately 5% of total diet as fed to 1.3 black rhinos, 2.0 okapi, 1.4 giraffe, and 1.1 duikers. After a 4 week transition onto the silage-based diet, silage consumption was measured for 21 days. Black rhinos and the other 3 species tested consistently consumed approximately 100% and 25% of the offered silage, respectively. The nutrient profile of the bunker ensiled willow was comparable to willow silage made in smaller barrels previously. Intake by browsing species was similar to previous years as well, although different individuals were tested among years. Silage made with plant browse in both small and large quantities can be a valid diet item to increase the amount of browse offered in the winter months.

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