BROWSE from Page 1

African collaborators, all experienced field researchers, identified major food plants (a minimum of 10 species per site) for sampling. Results indicated wide variation in vitamin E levels in fresh rhino browse plants. Leaves contained 2- to 50-fold more alpha-tocopherol than stem fractions of the same plant; mature tissues had higher concentrations than young, growing tissues. Environmental variables appeared to influence vitamin E levels in browse significantly, but were not quantified for this preliminary study. Rainfall, temperature and sunlight effects on alpha-tocopherol metabolism in plants are currently being examined in controlled greenhouse studies.

Whole plants ranged from 4.1 (Acacia drepanolobium) to 420.9 (Scutia myrtinus) mg alpha-tocopherol/kg dry matter [equivalent to 6-630 International Units of Vitamin E activity/kg (1 mg = 1.49 IU)]. Dietary levels of alpha-tocopherol from various locations (unweighted means) did not correlate well with the plasma levels previously quantified from animals in the various sites. For example, the Zambezi Valley plants (n=27) averaged 45.5mg/kg alpha-tocopherol (range 6.4 to 191.8) whereas the Kenyan location from which animals with the lowest plasma alpha-tocopherol had been bled averaged 154.2 (range 21.2 to 420.9). Reasons for this apparent discrepancy are being investigated.

Nonetheless, about 60% of the plants sampled contained vitamin E levels > 50 IU/kg, the current National Research Council recommendation for dietary vitamin E in horses. These data, although limited, should provide excellent guidelines for use in formulating appropriate levels of vitamin E supplementation for zoo rhinoceros. Based on these field observations, diets fed to black rhinos should contain a minimum of 150 IU, and more likely 250 IU vitamin E/kg dry matter.

Future projects will be designed to investigate seasonal and other environmental as well as physical (i.e. fire, grazing pressure) influences on vitamin E in plants, in an effort to refine not only herbivore feeding recommendations, but also plant conservation in relevant locations.

BLACK RHINOS SOLD TO PRIVATE OWNER IN SOUTHERN AFRICA

6777

History was made on June 18, 1990 when the Natal Parks Board auctioned a founder population of five black rhino to a privately owned nature reserve. Lapalala Wilderness successfully bid 2.2 million rand for the two bulls and three cows.

Because the black rhino is so highly endangered, South Africa, like Kenya and Zimbabwe, is turning to controlled breeding in small, discrete reserves to ensure the species' survival. Assessments by the Natal Parks Board and Peter Hitchens, a black rhino specialist, found the 24,400 hectare Lapalala Wilderness to be one of eight private reserves in southern Africa considered suitable for black rhino introduction. It is located in the Waterberg Mountains in the northwestern part of the Transvaal province, a region from which black rhinos have been absent for over 100 years.

The rhinos' 900 kilometer trip to Lapalala Wilderness was supervised by Dr. Martin Brooks of the Natal Parks Board. On August 8, 1990, the animals were immobilized by Parks Board veterinarian, Peter Rogers, at which time body measurements were taken and ears were notched for future field identification. Also at this time, the tip of each rhino's horn was cut off as a precaution against injury to one another. The horn tips will be used in a DNA fingerprinting study being undertaken by Dr. Anthony Hall-Martin of the National Parks Board of South Africa.

Upon their arrival on August 9, they were released into specially constructed burmas within a 10,000 hectare game-fenced section of Lapalala Wilderness to undergo a settling in period before their release. As of October 12, 1990, the rhinos were still being held in the burmas and doing very well. The release process was to begin in late October, 1990, after the rainy season had commenced and the quality of the habitat had improved.

Clive Walker of Lapalala Wilderness admits that there is some controversy about turning black rhinos over to private owners, but he believes most would agree that it is wise and that it will continue to occur. The significance of the event to the private sector can be ascertained from the price that was paid for the privilege of acquiring the five rhinos. As stated by Clive Walker, "This is a great responsibility for us at Lapalala Wilderness. This opportunity arises from the confidence the Natal Parks Board has placed on the private sector in allowing these animals to go onto private land. We are only too aware of what has happened to the black rhino across Africa; southern Africa is their last stronghold and we are happy to be part of their conservation. A great deal will be expected of us and we will have to measure up to those expectations."

The Lapalala transaction was of great economic benefit to the Natal Parks Board because sale proceeds were used to provide important funding for its various conservation management programs. Of even greater significance, however, was the fact that for the first time ever in South Africa, black rhinos were assigned an economic value. This could potentially prove helpful in the courtroom, as judges can now take into consideration a replacement cost in assessing penalties against rhino poachers. Increased fines and stiffer sentences are being called for in the South African judicial system where the current penalty for rhino poaching is only 1,500 rand, or one year in jail.