

Scientific evaluation of rhino diets improves ZOO

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White rhinos close to Waterberg National Park, Namibia. Credit: Wikipedia/GFDL 1.2

A recently published study in the journal *Pachyderm* highlights the ongoing effort of accredited zoos to address challenges and improve the

sustainability of endangered species populations in their care. The study, co-authored by scientists from San Diego Zoo Global and Mars Hill University, evaluated fertility issues in captive-born southern white rhinos and determined that diets including soy and alfalfa were likely contributors to breeding challenges.

"The captive southern white rhinoceros (SWR) population is not currently self-sustaining, due to the reproductive failure of captive-born females," said Christopher Tubbs Ph.D, San Diego Zoo Global and lead author of the paper. "Our research into this phenomenon points to chemicals produced by plants present in captive diets, such as soy and alfalfa, as likely causes."

Soy and alfalfa are commonly included in feeds for many herbivorous animals under human care, however these diets have high levels of phytoestrogens that disrupt normal hormone functions in some species. The study reviews historical data on the reproductive success of southern white rhinos in zoos in North America. These studies discovered that female rhinos born in captive environments showed lower reproductive levels. At the San Diego Zoo Safari Park, animal care staff switched to a low phytoestrogen [diet](#) for southern white [rhinos](#) in their care in 2014. The nutritional change appears to be an effective means of addressing the challenge.

"Following our diet modification, routine monitoring of the reproductive status of our female SWR suggested that the diet change was having a positive impact," said Tubbs. "Two females that had previously not reproduced have now become pregnant and successfully given birth to healthy calves."

Provided by Zoological Society of San Diego

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