

Proposal Title: Nutritional Needs of Lemurs: Finding the Perfect Reinforcement

Abstract

Ringtail Lemurs (*Lemur catta*) are very social primates and live within groups. In human managed care, they can exhibit social behaviors with humans, such as sitting on laps or taking food from our hands, for lemur guest interaction. These social behaviors are trained within human managed care using positive reinforcement. A great reinforcer for lemurs in training are raisins, but they have a high sugar content. Our research aims to evaluate the effect of reducing the sugar intake of lemurs during their training and guest interaction. While finding reinforcement that is lower in sugar is quite easy, many alternatives tend to be higher in iron. The issue is that ringtail lemurs are prone to iron overload disorder (IOD), which can cause liver problems and affect their welfare.

Previous research found a correlation between reducing sugar and decreasing agonistic behaviors, such as chasing, biting, and pouncing. Other researchers reduced aggressive behaviors by lowering sugar content, but they didn't focus on foods or reinforcement with the least sugar. Our study used sweet potato and carrot rotation, along with animal crackers, as reinforcers for the lemurs during live interactions, comparing them to the baseline reinforcement. The baseline was 4 weeks, and the diet reinforcement was 8 weeks. We found a maintained participation and changes in agonistic behaviors with the changes in reinforcements. The overall impact of this research is an evaluation of the reduction of sugar in lemur reinforcements during live animal interaction, while also continuing participation and documenting gut-biome changes.

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