

# Nutrition and welfare in captive big cats

Faculty of Veterinary Science - June 2024

Bertha Sanchez Arend

The objective of this study is to analyze different scientific articles and then describe general characteristics of the diet related with the welfare in the wild and in captivity of the pantherinae subfamily, to later compare them and propose improvement methods.

## Welfare problems in the wild related with nutrition

The encounter rates and risk of injury are high when hunting the prey, due to its size, aggressiveness, etc.

Competition between them can make injuries and also interfere with the hunting opportunities.

Energy gains/losses will also vary, since it will depend a lot on the availability of prey.

They can acquire certain diseases such as rabies, toxoplasmosis or tuberculosis.

Hunting often involves dizzying chases, where falls from trees or cliffs can result in bone fractures and serious internal injuries.



## Welfare problems in captivity related with nutrition

Diets based only on ground meat have several physiological consequences, such as a reduction of the muscles of the jaw and neck, increased gum problems, plaques on the teeth and focal palatal erosion.

Lack of exercise in captivity is one of the main reasons for obesity. Producing health diseases such as heart problems, diabetes, joint disorders and respiratory difficulty.

A monotonous diet can cause boredom in animals, manifesting itself with repetitive and stereotyped behaviors.

Additionally, they may have stress due to a lack of feeding challenges, as their hunting needs are not satisfied.

## Proposals for improvement in captive conditions

**LIVE FISH:** The live fish increased the variety and frequency of feeding behaviors. Additionally, stereotypic behavior was reduced from 60% to 30% over two days.

**HORSE LEG BONES:** horse bones only increased their frequency of feeding behaviors.

**REMOTE CONTROL DEVICE:** caretakers used a remote control device to simulate prey and stimulate hunting behavior.

**RESEMBLING PREY:** in physical terms such as height, texture and appearance.

**FEEDING POSTS:** these are devices that involve placing a piece of meat at the top of a tall post, requiring the feline to climb to obtain it, stimulating the physical effort. However, they are not suitable for older animals due to the high risk of falls and injuries.

**SPEAKERS AND MOTION DETECTORS:** this can be used to simulate hunting. The speakers played prey vocalizations, causing the animal to follow a path to receive the food.

**CHANGE FEEDING SCHEDULES:** it's an effective and economical method. The feeding frequency was reduced from daily to three times a week. This improved digestibility and reduced body weight.

## Conclusion

As we can see, these animals face significant threats to their well-being both in captivity and in the wild, although these threats are of a different nature. Especially in the case of carnivores, it is difficult to promote successful feeding behavior techniques in captivity, but they are necessary to improve their well-being.

It is not only important for them to have a proper nutritional composition, but they also need environmental enrichment to develop their natural feeding behavior and avoid future health problems. The challenge is that they can become accustomed to these techniques too quickly, so they must be continually adapted to obtain positive results. It is advisable to combine several enrichment techniques.