

Microbiological Quality of Dehydrated Pig and Cattle Ears Commercialized as Dog Treats in Curitiba, Brazil

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INTRODUCTION & AIM

The growing canine population in urban centers, such as Curitiba, Brazil — where there is approximately one dog for every three residents — has led to an increased demand for pet treats, including dehydrated animal by-products. While these products are widely accepted by pet owners, their microbiological quality remains underexplored, posing potential health risks to both animals and humans^[1]. This study aimed to evaluate the microbiological safety of dehydrated pig and cattle ears sold as dog treats. Twenty samples (10 bovine and 10 porcine ears) were collected from four commercial brands, grouped into four sets of five samples each from the same production batch.

METHOD

Twenty samples (10 bovine and 10 porcine) from four distinct brands were analyzed, having been purchased from retailers in Curitiba between March and April 2024. The analyses were performed at the Laboratory of Quality Control and Food Safety (LAQCSA) of the Federal University of Paraná (UFPR). For the enumeration of Total and Thermotolerant Coliforms, the Most Probable Number (MPN) technique was used. Molds and Yeasts were enumerated by plating on Potato Dextrose Agar (PDA). The detection of *Salmonella* spp. followed the BAM/FDA:2016 method, which involves pre-enrichment, selective enrichment, plating on differential agars (XLD and SS), and confirmation by biochemical tests^[2].

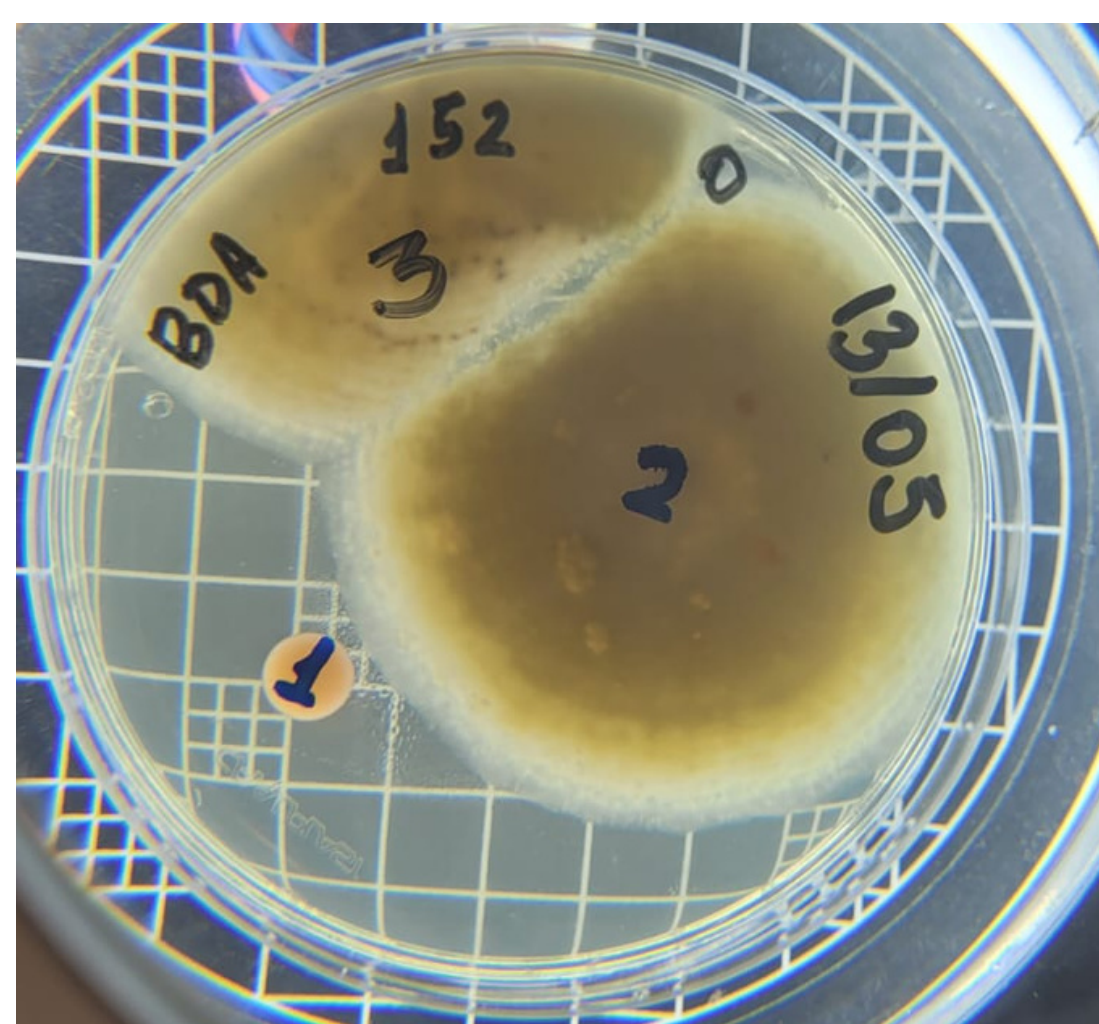


Figure 1. Potato Dextrose Agar (PDA) with the presence of fungal colonies.

RESULTS & DISCUSSION

In 50% of the samples, none of the targeted microorganisms were detected. However, Total Coliforms were present in 25% (5/20), Thermotolerant Coliforms in 10% (2/20), and Molds and Yeasts in 35% (7/20) of the products. Contamination levels varied across brands but were found in both bovine and porcine samples. The presence of indicator microorganisms highlights the need for improved hygienic practices in the production and handling of these products. Such contamination poses not only a risk to animal health but also to human health through potential cross-contamination.



Figure 2. Brilliant Green Bile Lactose broth tubes with gas formation in the inverted Durham tubes, confirming the presence of total coliforms.

CONCLUSION

The findings emphasize the importance of microbiological monitoring of pet treats to ensure food safety within a One Health framework.

FUTURE WORK / REFERENCES

[1] GALVÃO, J. A. et al. Quality and safety of pet treats: Assessment of the microbial safety and quality of pet treats. *Journal of Food Processing and Preservation*, v. 39, n. 6, p. 1201-1205, 2015.

[2] SILVA, N.; JUNQUEIRA, V. C. A.; SILVEIRA, N. F. A.; et al. *Manual de métodos de análise microbiológica de alimentos e água*. São Paulo: Editora Blucher, 2017.