

CARDOON FEED SUPPLEMENTATION IN RABBITS: REFLECTIONS ABOUT A PUTATIVE IMMUNITARY EFFECT

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Waste2Value

INTERNATIONAL
CONGRESS

17th november 2021

Introduction

The inclusion of the by-products of cardoon in animal diets produced in the region of the plantation is an alternative feeding strategy that could enhance the sustainability of animal production while reducing the environmental burden and the economic cost associated with the disposal of these by-products. Moreover, the use of cardoon might allow the production of healthier animal. Rabbit animal models have been used in research studies not only to the mechanistic studies of human diseases but also to the development of therapeutic compounds, devices, or techniques for therapeutics.

Objective

The present study intended to hypothesize about putative effects in immunity of rabbits feed with cardoon.

Material & methods

Hyplus strain
individually housed

20 male rabbits

Randomly
distributed into 2
groups of 10 animals

Control Group

Ad libitum
fattening feedstuff

Treatment Group

Control plus 250 g of
cardoon/day



- 3 animals, randomly selected from each group, were sacrificed by cervical dislocation, slaughtered and eviscerated
- Blood samples were taken for analysis and spleens were weighted.
- Evaluation the influence of cardoon intake on hematological parameters and spleen weight
- Independent samples t-test ($\alpha=0.05$)
- IBM SPSS v16.0 software.

Results

	Control Group	Treatment Group	Sig.
Spleen weight (g/kg BW)	0.46±0.05	0.61±0.03	0.010
Total white blood cells (cells/L x10⁹)	5.67±5.17	7.27±3.31	0.675
Monocytes (cells/L x10⁸)	5.33±5.13	6.33±3.06	0.786
Granulocytes (cells/L x10⁹)	2.23±2.22	3.63±1.65	0.430
Red blood cells (cells/L x10¹²)	4.82±3.53	5.29±1.47	0.840
Hemoglobin (g/dL)	11.23±8.23	12.20±3.53	0.861
Mean corpuscular volume (fL)	82.47±1.53	79.77±5.89	0.514

Considering the importance of the spleen in cellular immunity and humoral immunity, as well as in hemodynamic activities and even though no histological study was performed, the fact that in rabbits feed with cardoon spleen was heavier than their control group suggests more ability of cardoon to increase immunity as well as to ameliorate the production of red blood cells.

Conclusions

This preliminary study inspires to a reflection of the effects of cardoon ingestion on immunity. Nevertheless, more robust studies should be performed to consolidate these putative effects of cardoon on rabbits' immunity and to find out if this animal model is a suitable candidate to study the effect of cardoon consumption on human health.

Acknowledgments

Thanks are due to the Polytechnic Institute of Viseu and to FCT/MEC for the financial support to the research units LAQV-REQUIMTE (UIDB/50006/2020), CITAB (FCT UIDB/04033/2020), CECAV and CERNAS-IPV, through national funds, and the co-funding by the FEDER, within the PT2020 Partnership Agreement and Compete 2020. The authors thank the financial support of the Waste2Value project (PDR2020-101-031828, Partnership n. 94 / Initiative n. 189) through national funds and FEDER, within the PT2020 Partnership Agreement.



Rabbit eating
cardoon (video)

