

## Accepted Manuscript

Title: Use of polyphenol-rich grape by-products in monogastric nutrition. A review

Author: Agustín Brenes Agustín Viveros Susana Chamorro  
Ignacio Arija



PII: S0377-8401(15)30025-0  
DOI: <http://dx.doi.org/doi:10.1016/j.anifeedsci.2015.09.016>  
Reference: ANIFEE 13379

To appear in: *Animal Feed Science and Technology*

Received date: 19-2-2015  
Revised date: 10-9-2015  
Accepted date: 21-9-2015

Please cite this article as: Brenes, A., Viveros, A., Chamorro, S., Arija, I., Use of polyphenol-rich grape by-products in monogastric nutrition. A review, *Animal Feed Science and Technology* (2015), <http://dx.doi.org/10.1016/j.anifeedsci.2015.09.016>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Highlights

- The addition of grape by-products to the diet or to meat inhibits meat lipid peroxidation.
- Polyphenol-rich grape by-products are effective in modifying the intestinal microbiota.
- Grape by-products have great potential as a source of functional feed or additive.

Use of polyphenol-rich grape by-products in monogastric nutrition. A review

Agustín Brenes<sup>a\*</sup> abrenes@ictan.csic.es, Agustín Viveros<sup>b</sup>, Susana Chamorro<sup>a</sup>, Ignacio Arija<sup>b</sup>

<sup>a</sup>Instituto de Ciencia y Tecnología de Alimentos y Nutrición (ICTAN-CSIC). José Antonio Novais, 10. Ciudad Universitaria, 28040 Madrid, Spain

<sup>b</sup>Departamento de Producción Animal, Facultad de Veterinaria, Universidad Complutense de Madrid, Ciudad Universitaria, 28040 Madrid, Spain

Tel.: 34 915434545

## Abstract

Plants and their biologically active chemical constituents present numerous opportunities for improving animal production by inclusion in the diet. In recent years, interest has grown in the antioxidant and antimicrobial properties of a number of polyphenols found in different plants. The by-products of the wine industry (grape pomace, skin and seeds) and wine polyphenol extracts contain a wide range of bioactive compounds. However studies on grape by-products are very limited, despite their richness polyphenolic substances. In this context, the purpose of this review is summarize recent advances of research in grape by-products including the phenolic composition, mechanism of intestinal and hepatic conjugation, plasma transport and elimination in bile and urine, and biological activities such as antioxidant and antimicrobial effect. Given their antioxidant activity, the inclusion of these by-products in feed rations would not only enhance the oxidative stability of the meat and reduce the amount of additives like vitamin E but also improve meat quality through direct addition of these natural antioxidants, thereby helping to meet consumer demand for healthier meat products. With respect to

Download English Version:

<https://daneshyari.com/en/article/8491293>

Download Persian Version:

<https://daneshyari.com/article/8491293>

[Daneshyari.com](https://daneshyari.com)