THE USE OF AGRI-FOOD BYPRODUCTS IN THE DIET OF LAYING HENS TO PRODUCE EGGS WITH FUNCTIONAL PROPERTIES

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Abstract

Economic, ecological and social sustainability can be improved by using agro-industrial by-products, especially those not intended for human consumption, as alternative to conventional feed in animal nutrition, resulting in the production of animal products without competing for land or causing competition between food and feed. These products are also known to be rich in several bioactive compounds and can improve the health and well-being of laying hens. The potential of agro-industrial by-products such as: winemaking by-products, tomato proces-sing by-products, distillery grain by-products, olive oil industry by-products, pomegranate by-products and their derivatives as functional feed for laying hens, as well as the potential limitations of the use of agro-industrial by-products in the nutrition, are elaborated in this study. The ways in which agro-industrial by-products can improve the productivity and health of laying hens are also analyzed. We suggest eliminating potential hazards, such as mycotoxins, from agro-industrial by-products, by establishing appropriate legislation and also by correctly applying control measures. The use of agro-industrial by-products in the nutrition of laying hens is supported by modern processing means and by appropriate development strategies. This study analyzes agro-industrial by-products as feed, not only for their nutritional value but also for their role as sustainable practices.

Key words: *laying hens, antioxidants, fruit waste, bioactive compounds, poultry, egg quality*