RESEARCH ABSTRACT
ANIMAL SCIENCE

Title: Aspects of yeast-based products in enhancing animal production – **NPB #05-134**

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Abstract: A literature review on yeast and yeast-based products as potential alternative feed additives to enhance animal production was conducted. This review includes a description of the yeast compound and specific components relevant to yeast product processing. The process of drying yeast, controlling the growth environment of yeast, and yeast cell fractionation is discussed, and products from these procedures such as active dried yeast, yeast-based mineral products, yeast culture, yeast glucan, yeast mannanoligosaccharide, yeast glucomannan, and yeast nucleotides were taken into account. Considerations in developing a challenge model for assessing yeast-based product efficacy were reviewed, and a listing of challenge models currently utilized for this purpose is provided. Market analysis of the different yeast-based products was performed, and a database of yeast-based products marketed locally is presented. In addition, an electronic patent intelligence search on data from the yeast-based product market analysis was accomplished, and patents and patent applications that claim any elements relating to yeast-based products, existing patents relating to yeast-based products, and patent applications that describe similar elements of patented inventions conflicting with the results presented were compiled. This manuscript may serve as a valuable reference material for swine producers interested in understanding the potential role of yeast and yeast-based products in enhancing swine production and as a starting point for basic and applied swine research studies. Understanding and determining possible options to further process an existing yeast product or develop other potential yeast-based products will allow swine nutritionists to better position these products and optimize their use in the feed industry.

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