

# The Effect of Supplementing Fermented Soybean Meal on The Growth Performance in Animal

Cindytia Selvina Bernas<sup>1</sup>, Jia-Hsin Guo<sup>2</sup>



<sup>1</sup>International Master's Degree Program in Food Science,  
National Pingtung University of Science and Technology, Taiwan

<sup>2</sup>Department of Food Science  
National Pingtung University of Science and Technology, Taiwan

## Abstract

Soybean meal (SBM) is a by-product of the production of soybean oil. SBM can be used as a protein source in livestock and fish because of its high Lysine content, excellent nutrient availability, favorable palatability, and relatively low price. However, a variety of anti-nutritional factors (ANFs) has limited the application of soybean in diets. Fermentation has been known to reduce or eliminate ANFs in soybean and to increase digestibility leading to its improved nutritional quality. Four research papers were reviewed to compare the different effects of supplementing fermented soybean meal (FSBM) on the growth performance in different animals, such as calves, pigs, chickens, and fish. The results showed that milk intake was significantly lower in calves fed with SBM at 3 weeks of age because some calves in the SBM group had diarrhea; thus, FSBM appeared to be effective in decreasing diarrheal incidence. Pigs fed FSBM alone also tended to have increased average daily gain (ADG) on body weight and average daily feed intake (ADFI) compared with pigs fed the control diet. Fish fed on a diet of 40g/kg protein from FSBM had a lower feed consumption ratio (FCR) and had higher final body weight than the control group. FSBM diets had no effects on ADG and ADFI in chickens but had positive effects on the increase of relative weights of thymus and bursa of Fabricius, thus improving their immune function. Based upon the results, plant by-products, blended with fermentation was more efficient in generating low-cost and healthy feed.

**Keywords:** Soybean, fermentation, feed, growth performance

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