# Response to Reviewer 3

Reviewer3 made many helpful comments and suggestions, and we thank the reviewer for them. We have taken all these comments and suggestions into account as follows:

1.Response to your comment: “There are no supporting references for many parts. Please revise the whole manuscript.”

After revision, I have deleted a little literature, plus a lot of related literature. The number of references increased to 91 from 71 in the original version.

2.Response to your comment: “Does the method of fermentation affect the final product? Discuss.”

I have added the discussion about "the method of fermentation does affect the final product", please check it.

3.Response to your comment: “Table 2: are Ginkgo biloba leaves energy feed?”

The CP content of Ginkgo biloba leaves is 10.3%. It belongs to energy feed. Please see it in [1]

At the same time, it is reported that fermented ginkgo biloba leaves replace the same amount of wheat bran in the basic diet formula, which shows that it is an energy feed. Because wheat bran is recognized energy feed. Please see it in [2]

4.Response to your comment: “L128-130: not all silage feeds are

suitable for monogastric animals. The final product differs according to the feed used. Ensilage is primarily used for high moisture forages and roughages for ruminant feeding. Please support this part with studies done on monogastric animals and their outcomes."

It is reported that silages could improve the meat quality of monogastric animals. Please see it in [3-5]

5.Response to your comment: "L180-183: please explain this result. Why?"

the digestive system of the broilers was not fully developed during the starter phase, such that the endogenous levels of digestive enzymes would have been relatively low. Bacteria could secrete digestive enzymes such as protease and amylase in the process of fermentation. For example, secreted proteolytic enzymes degrade proteins to produce short peptides, thus promoting feed digestion and absorption in early-growing broilers. Furthermore, L plantarum and B subtilis increase the content of short peptides (<600 Da) in the feed by nearly 62% [6], and the proportion of short peptides increases with the duration of fermentation [7]. The higher the digestive enzyme activity in the intestine, the higher the feed utilization rate and capacity for absorption [8].

6.Response to your comment: “3.2. Immune Function: this part needs more explanation of how fermented feeds improve the immune system.”

Fermented feed promoted the immune system, perhaps because probiotics could promote the balance of intestinal microflora and inhibit the colonization of pathogens in the gastrointestinal tract by promoting the production of antibodies, competition for attachment sites and nutrients, and bactericidal effects [9].

7.Response to your comment: “3.3 Animal Products: please support this part with studies evaluating the effect of feeding fermented unconventional feed on the taste and odor of meat. And explain the effects on meat quality.”

It is reported that the effect of fermented feed on meat quality might be due to the existence of components in fermented products, such as anti-inflammatory and antioxidant effects of phenolic compounds. [10], the flavonoids in the product might have free radical scavenging activity[11]。The effect of feeding fermented unconventional feed on the taste of meat, I have added it to the article. But I have not found the paper about the effect of feeding fermented unconventional feed on the odor of meat. Sorry!

8.Response to your comment: “Figure 2. Brain-gut axis regulation

of fermented feed. This figure doesn't illustrate the brain-gut regulation at all. The authors should replace it with detailed information about this regulation or delete it."

I have replaced it with detailed information about this regulation, Serotonin affects an animal's appetite and mood. please check it in the text.

9.Response to your comment: "4. Discussion: this title is unsuitable. Change to challenges and prospects."

Thanks! I have fixed it. Please check it!

10.Response to your comment: "The authors should mention the economic aspects of feed fermentation."

Please check it in the last part.

the economic benefit of fermented unconventional feed needs to be evaluated. On the one hand, fermented feed could improve feed conversion rate, shorten the time to reach the target body weight, and at the same time effectively use agricultural waste and turn waste into treasure, which has a certain economic value; but on the other hand, fermented feed requires equipment cost. improper preservation is easy to deteriorate, and it will also increase the cost needed.

Thank you for all your kind comments! I hope you have a nice day!

# Reference


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