APPLICATION OF BAMBOO POWDER BY-PRODUCTS IN FRESHWATER AQUACULTURE

Jia-Wei Shen[a,*], Po-Kai Pan[a], Chun-Po Chang[b], Chien-Ju Lin[a] and Yu-Sheng Wu[a]
[a] Department of Aquaculture, National Pingtung University of Science and Technology, Pingtung, 912301, Taiwan
[b] Tainan Bamboo Society, Tainan, 711009, Taiwan
Correspondence author E-mail address: Wu Yu-Sheng:wuys0313@mail.npust.edu.tw

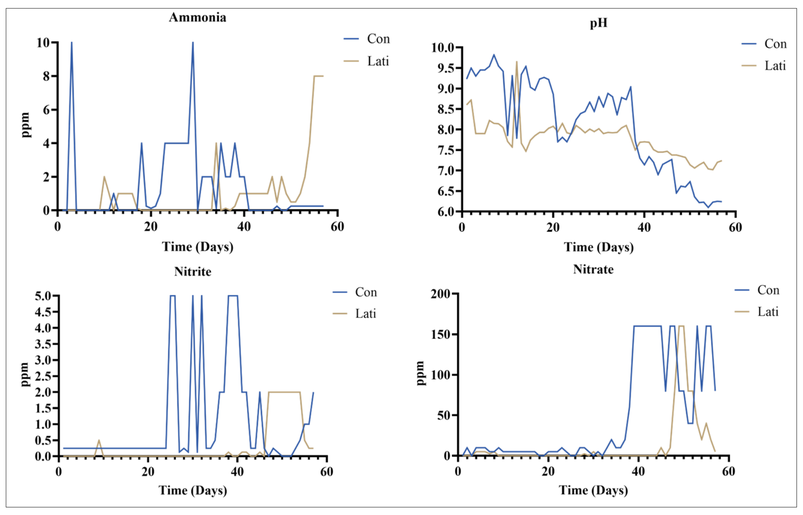
Abstract

Bamboo powder — *Oreochromis niloticus*
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Water quality analysis
RNA sequencing

Introdution

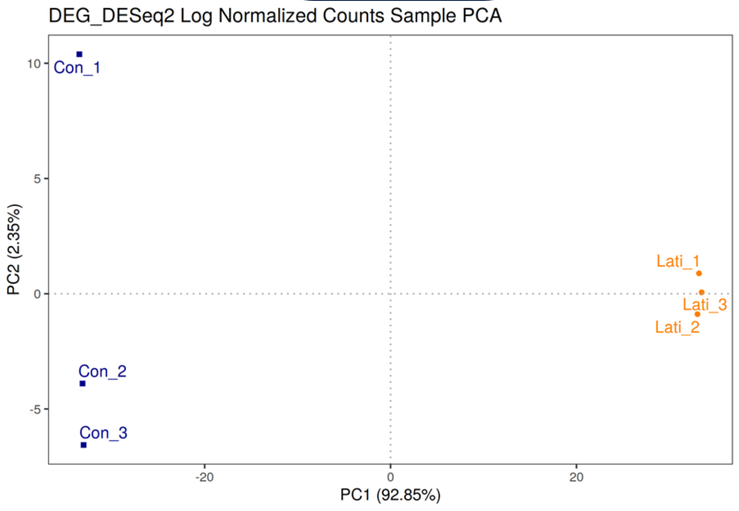
Previous studies have confirmed that dietary supplementation with an appropriate amount of bamboo charcoal powder significantly enhances weight gain, growth rates, and the condition factor of fish, demonstrating its efficacy in promoting growth and optimizing aquaculture efficiency (Yang and Liu, 2009).

Water quality analysis

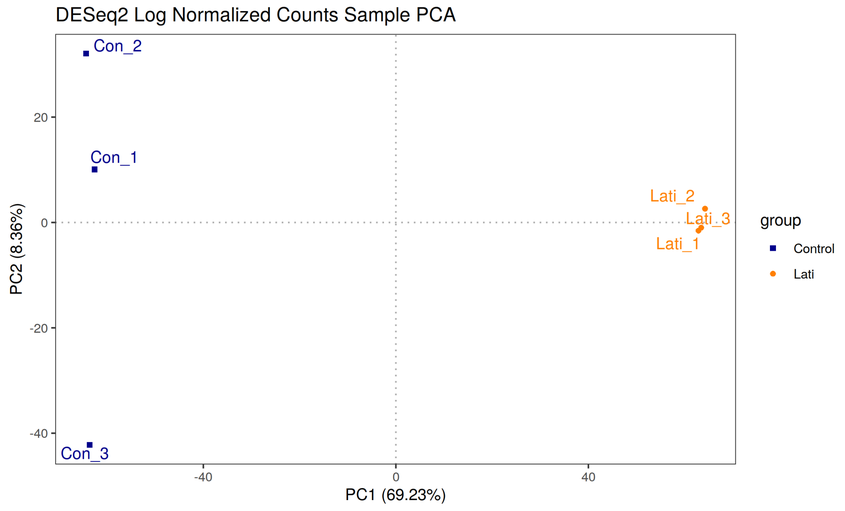


PCA

Liver

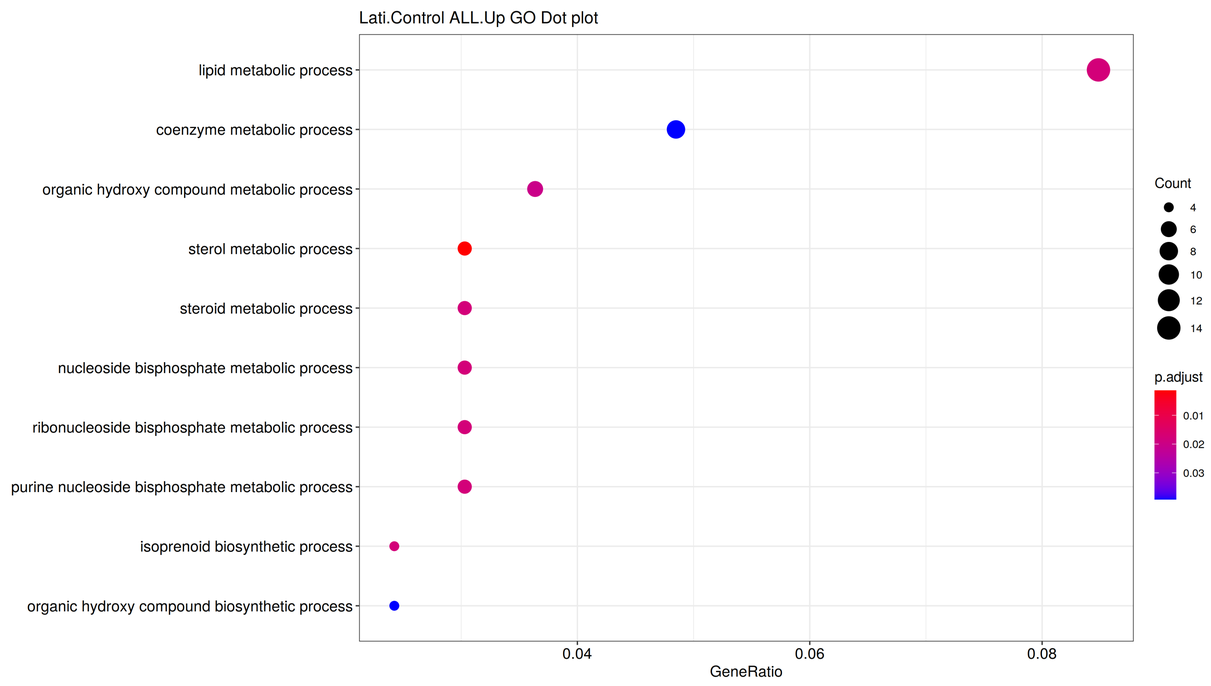


Spleen

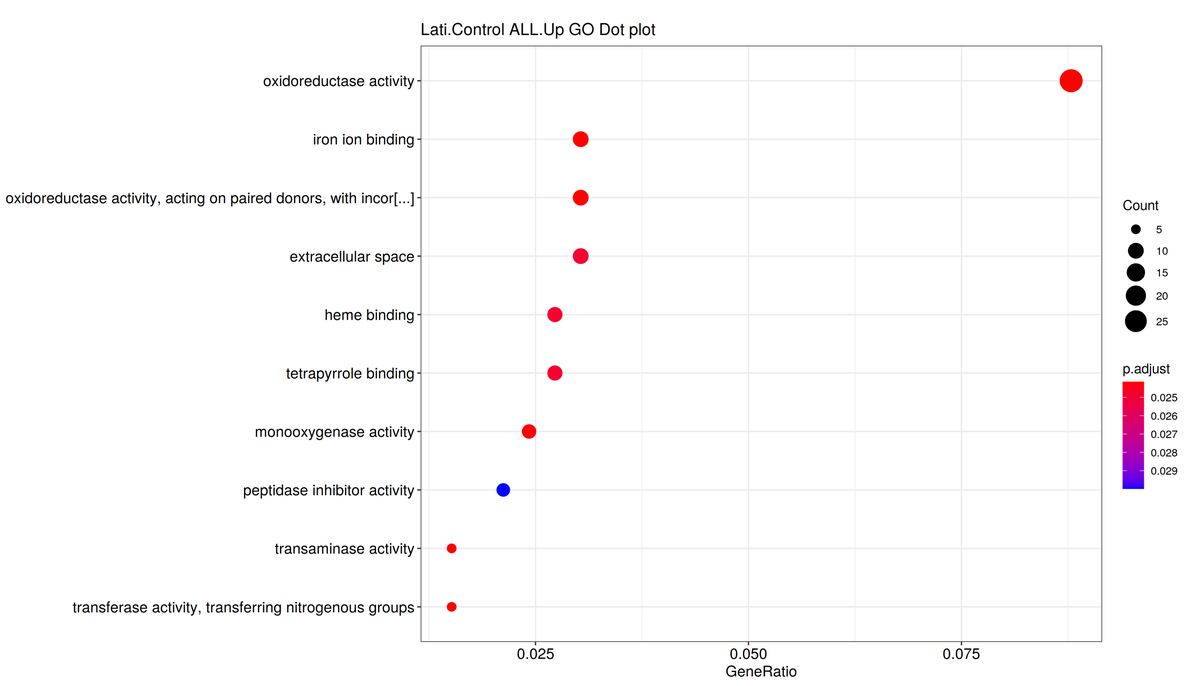


Gene Ontology analysis

Liver

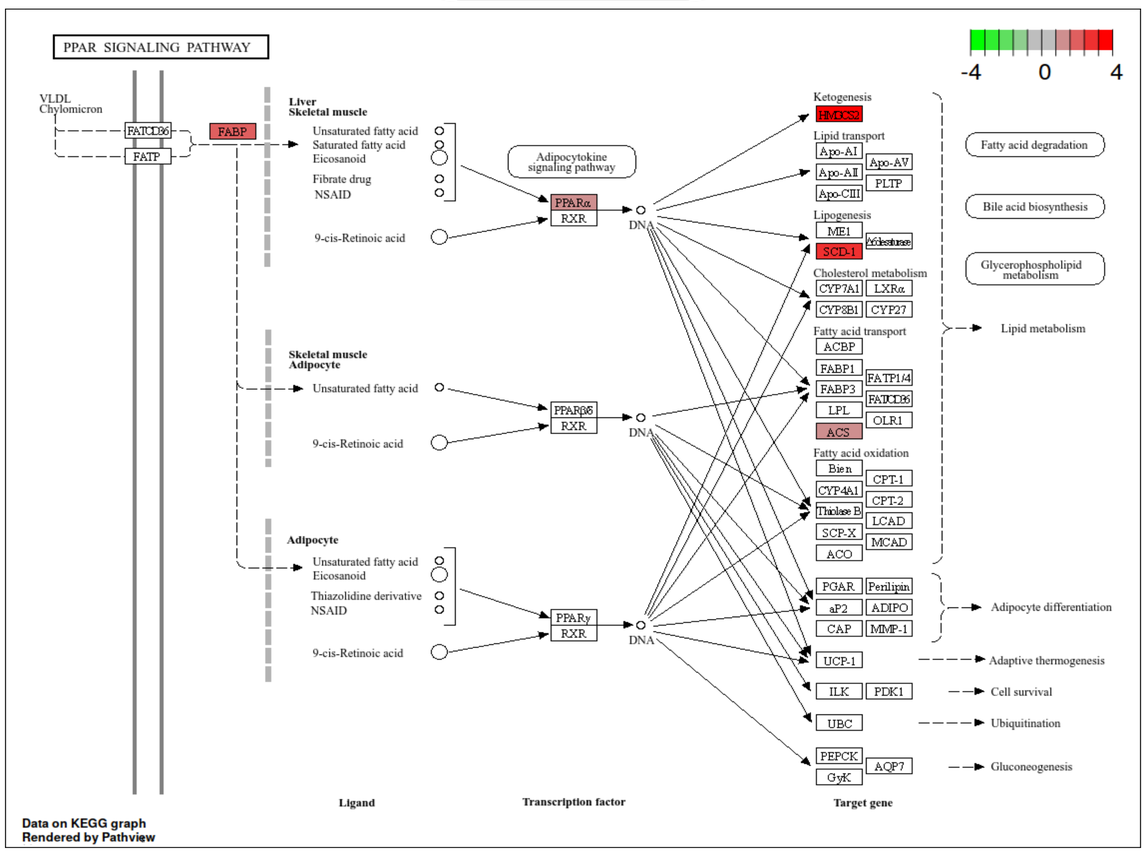


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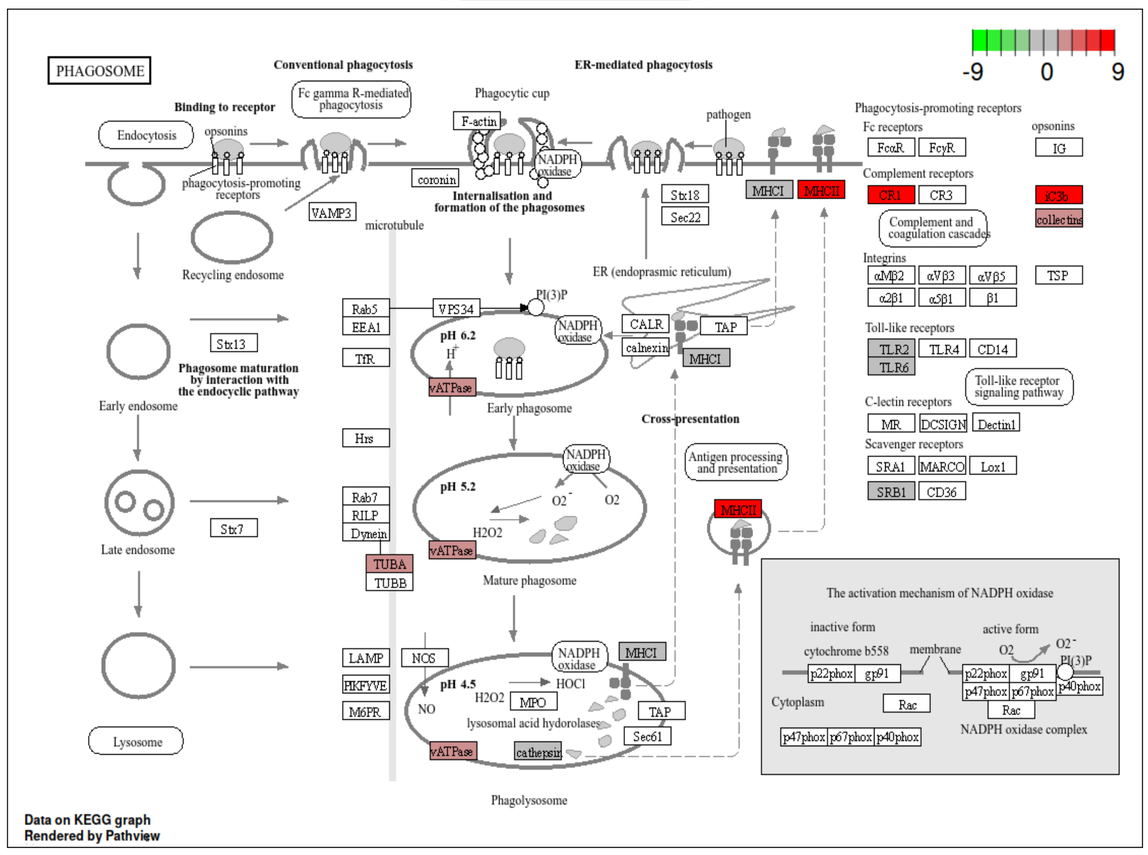


KEGG analysis

Liver



Spleen



Conclusion

The transcriptomic profile indicates that the application of bamboo powder substrate facilitated superior hepatic energy metabolism and lipid mobilization in tilapia. Simultaneously, it bolstered splenic immune responses, characterized by enhanced pathogen sequestration, robust cellular immunity, and a more responsive immune cell activation framework.

Funding

This work was supported by the Ministry of Agriculture (MOA),Taiwan (Grant No.114AS-13.1.1-AS-01).