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# Assessment of fermented silkworm pupae as fish meal for rohu (*Labeo rohita* H.)

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A sixty-day feeding trial was conducted to investigate whether solid-state fermentation (SSF) could enhance the nutritional profile of silkworm pupae (SWP) for use as a potential aqua feed ingredient of rohu fingerlings. Seven iso-nitrogenous experimental diets were formulated with 40% crude protein, where fishmeal (FM) was replaced with fermented SWP at levels of 15%, 20%, 25%, 30%, and 35%. Two additional diets were used as controls: one without SWP and another with 20% deoiled SWP (DSWP 20). Rohu fingerlings with an average initial weight of 5.16 ± 0.12 grams were stocked in tubs and fed twice daily at 5% of their body weight for 60 days. The results showed that fish fed a diet containing 30% fermented SWP meal exhibited the fastest growth, achieving a final weight of 11.22 ± 0.26 grams. This diet also demonstrated the highest specific growth rate (SGR) and protein efficiency ratio (PER) compared to the other groups. The improved growth performance may be attributed to the reduction of harmful substances in the SWP during the fermentation process, which enhanced the nutritional quality of the feed. Overall, the findings suggest that fermented SWP can be a valuable ingredient in aqua feed, particularly for rohu fingerlings. The successful replacement of FM with 30% fermented SWP meal in the diet resulted in better growth performance, indicating the potential of SWP as a sustainable and cost-effective feed ingredient. These results have implications for the development of more sustainable and environmentally friendly aquaculture practices.

**Keywords**: Fermentation, Fermented silkworm pupae, Fish feed, *Labeo rohita*, Silkworm pupae, Rohu