Production, characterization, and feed supplement applications of phytase enzyme from *Aspergillus tubingensis* isolated from Western Ghats soil

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Shunmugiah Mahendran, Subbiah Sankaralingam ✉, Pandiaraj Maheswari, Ramsingh Raja Dhivya, Durairaj Kathiresan, Santhanakrishnan Karthikeyan, Subramanian Sivasangari Ramya, Parthasarathy Seethapathy, Balasundaram Harinathan & Selvam Palpperumal

Abstract

The present investigation is designed for the characterization and application of phytase from *Aspergillus tubingensis* by solid state and submerged fermentation techniques practice. Different parameters such as carbon source, nitrogen source, pH, mineral concentration, temperature, inoculum size, and inducer concentration were employed for the optimization of phytase and the maximum production was recorded in optimum condition. Afterwards, it was carried out for purification process by column chromatography using Sepharose gel extraction. Then, the enzyme was blended with fish feed at varying concentrations and their results showed that the phytase acted as an important growth factor for the growth improvement of fish. It was concluded that the phytase from fungal origin has played an important role to stimulate the fish growth without any side effects or any other complications. Hence, the upcoming research works should focus on the improvement of fish feed production with high quality achieved by low cost to increase our economic value.