



Cost Effective And Rapid Method of Recovering Glycoproteins of Edible Bird's Nest

TECHNOLOGY DESCRIPTION

This technology is a method of recovering glycoproteins and/or proteins from edible bird's nest consist of aqueous two phase system.

TECHNOLOGY FEATURES

This invention provides a simple and efficient process for the recovery of glycoproteins or proteins using an aqueous two-phase system for the downstream processing of glycoproteins or proteins derived from EBN (nest of the genus *Aerodramus* and/or *Collocalia*). This invention enables easy scale-up and a profitable solution for industrial waste management. This process is a time savvy and requires quicker steps. Two major glycoproteins of edible bird nest can be recovered from this method.

ADVANTAGES

- This invention is cost effective
- It provides a simple and rapid method to recover glycoproteins
- Time savvy

INDUSTRY OVERVIEW

Prospect: Edible Bird's Nest Industry

Edible bird's nests (EBN) are bird nests made from the saliva of swift. They are among the most expensive animal products consumed by humans, with an average nest selling for US\$2,500 per kilogram. As Malaysian government recognizes the economic potential of the EBN, it established the Malaysian Standard of Edible Bird Nest (MS 2334:2011) is introduced. This industry is expected to contribute more than RM5.2 billion to the Gross National Income (GNI) in 2020. The birds' nests contain both carbohydrate and protein radicle, belonging to the class of mucin-like substances, the glycoproteins. This invention provides a simple and efficient process for the recovery of glycoproteins or proteins using an aqueous two-phase system for the downstream processing of glycoproteins or proteins derived from EBN (nest of the genus *Aerodramus* and/or *Collocalia*). The process is more cost effective in which it allows only 15% of EBN with small plumages to be discarded as by-products during the cleaning process compared to the previous invention via the Liquid-phase isoelectric focusing method. Malaysia is currently the second largest producer of EBN with RM1.5 billion in sales. Local industry has seen rapid growth of approximately 20% per year since the early 2000s. The intended local users for this technology are swiftlet farming industries and edible bird's nest processing plant/industry. Generally, the majority of EBN producers in Malaysia are of the small scale type. At present, there are more than 3,000 registered commercial bird houses in Malaysia. On average, the space area of a commercial bird house is around 1,800 square foot for shop house and 5,270 square foot for a dedicated house. The average annual yield is around 1.kg for shop house and 11 kg for dedicated house.



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