A NOVEL RAPID ENZYMATIC TREATMENT TO FACILITATE REMOVAL OF IMPURITIES FROM RAW EDIBLE BIRD NEST

PRODUCT DESCRIPTION

Edible bird's nest (EBN) is a delicacy known as the "Caviar of the East" made from salivary secretions from a swiftlet. A bird nest is processed by clearing the feathers off from the nests cement after washing briefly in distilled water. The tedious process of clearing the feathers requires skilled and patient labor, since this process is time consuming due to the size of the feathers that is hardly seen. Currently, the cleaning process use hydrogen peroxide as a bleaching agent. Usage of this chemical is not safe for human consumption and will reduce the nutritional value of edible bird nest. This study is conducted to evaluate the effectiveness of using enzymes to facilitate the cleaning process of EBN to enhance the quality for health and vitality.

PROCESS FLOW

- Pepsin from Papaya
- Bromelain from Pineapple
- Keratinase

Preparation of Raw Material (EBN)
- Cleaning the EBN by using different type of Enzyme
- Parameter Testing
- Ash Content
- Moisture Content
- Protein Analysis
- Carbohydrate Analysis
- Fat Content

Data Analysis

PRODUCT PERFORMANCES

- Moisture Content
- Ash Content
- Fat Content
- Carbohydrate Content
- Protein Content

The proximate analysis result showed an increase in carbohydrate, ash and fat content in EBN when treated with enzymes.

CONCLUSION

- The use of enzyme to replace hydrogen peroxide as a cleaning agent enhanced the quality of EBN.
- The chemical cleaning process require further treatment to remove excess chemical retained in EBN.
- The process is a green technology and environment friendly.
- Enzyme presence in the EBN will gives an added values to the nutritional content and safer for human consumption.
- Manage to remove the egg like smell of EBN with pleasant fruity smell.

ACKNOWLEDGEMENT

The inventors would like to acknowledge the research funding from Ministry of Higher Education Malaysia (MOHE) for the financial support given under KPT (UPM-COE Swiftlet) (9015-00001), MyBrain15 (MyMaster), SSMC Northern Sdn. Bhd and School of Bioprocess Engineering for their support.

PUBLICATION


NOVELTIES

- This technique has high potential for commercialization and standard cleaning method in EBN industry.
- Green Technology
- Chemical free
- Increase export earnings for EBN industries and Malaysia.
- Enzyme is health enhancer
- Nutrient content in EBN remain intact.
- Physical structure of EBN is retained.
- Reduced labour

INDUSTRIAL COLLABORATION

- KPT (UPM-COE Swiftlet) - 9015-00001
- SSMC Northern Sdn. Bhd