A Method of Authenticating Edible Bird's Nest (EBN) (NYP ID: 0451)

Technology
Hyperspectral imaging application in authentication of edible bird's nest

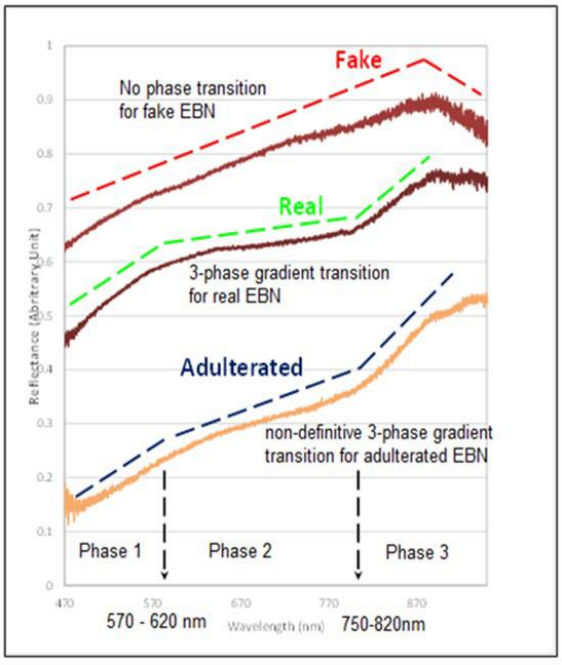
Type of IP and status
Know-how.

Overview
The quality of EBN samples is important for ensuring safety and efficacy for consumption. High nutritional and medicinal values and high price of EBN have led to rampant adulteration by addition of various cheaper substances to these products. For example, EBN is usually adulterated with Tremella fungus, karaya gum, red seaweed, pork skin, egg white, gelatin, soybean, rice, milk, starch and agar.

The current authentication method based on physical appearance (colour, shape and texture) is hardly reliable. There is no rapid "Gold Standard" method for the authentication and characterization of genuine EBN products.

Hyperspectral imaging can be an accurate, non-destructive, reliable and rapid authenticity method to solve this issue. The method comprises obtaining a reflectance spectrum of an edible bird's nest sample from a hyperspectral imaging spectrometer performing an image recognition analysis of the reflectance spectrum measured at wavelengths between 470 nm and 870 nm.

The hyperspectral imaging of EBN samples produced 3 types of signatures: 3-phase gradient transition, a no-phase transition and a non-definitive 3-phase gradient transition. authentic EBN had a 3-phase gradient transition signature, while a no-phase transition and a non-definitive 3-phase gradient signature corresponded to fake and adulterated EBN.



Potential Applications
- The EBN wholesalers, retailers and consumers can validate the quality and authenticity of EBN samples by themselves using hyperspectral imaging method.
- This technology can be integrated with blockchain technology to facilitate food traceability

Advantages

- The hyperspectral imaging method provides a reliable, rapid, and non-destructive authentication method based on signature spectrum characteristic of authentic, adulterated or fake EBN
- Retailers can potentially save millions per year by using the efficient method to pre-screen the EBN samples before purchase
- Able to obtain optimal benefits to health, nutrition and skin care with authentic EBN
- Minimizes food poisoning from adulterated or fake EBN

Technology & Licensing Enquiries

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