Research

Associate Prof. Dr Arun Gupta created beauty and cosmetic products from chicken feather keratin

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Universiti Malaysia Pahang (UMP) researcher, Associate Professor Dr. Arun Gupta from Faculty of Chemical & Natural Resources Engineering (FKKSA) led a group of researchers to commercially produce beauty care products called Keraglow, made from keratin extracted from chicken feathers.
The products included anti-aging cream, moisturiser, serum, shampoo and other hair care items.
Associate Professor Dr. Arun's research group comprised foreign and local undergraduates – Basma Yahya Alashwal (Yemen), Mohamed Saad Bala Husain (Sudan), Triveni Soubam (India) as well as Malaysians Vanessa Alberto and Liyana Maryam.
Their research work had won a gold medal and special award at the Invention and New Products Exposition (INPEX) in Pittsburgh, US, a gold medal and special award at Malaysia Technology Exposition 2018 and at the Creation, Innovation, Technology and Research Exposition (CITREX) in UMP in 2017.
Their research finding served as an alternative to the placenta extracts and sheep fleece component often used in most of the beauty and skin care products available in the market.
According to Associate Professor Dr. Arun, they discovered that the cost to extract keratin from sheep fleece was rather expensive.
He noted that the country had a huge poultry slaughterhouses industry that disposed some four million tonnes of chicken feather annually and took advantage of the situation to conduct a research and find ways to commercialise the waste.
"We found out that chicken feather consisted of 91% of protein, 8% of water and 1% keratin protein.
"Chicken feathers has special keratin and has 20 types of protein. Protein produced is treated for several days using the dialysis technique to remove unwanted substances that should not be present in cosmetic production," he added.
He said the chicken feathers were processed at a factory belonging to a subsidiary, UMP Keraglow Sdn. Bhd., which had received the QB3 Start-up Acknowledgement Certificate during the Bio-economy Innovation Award 2017.
He also said it was the first halal facility in Malaysia to develop a wide range of pharmaceutical and cosmetic products from chicken feather keratin, adding, the facility produced 350 litre of keratin daily. The capacity was expected to increase to 1,000 litre in the next two years, he added.
"To date, we have received demands from abroad and there are plans to form a collaboration with suitable strategic partner or to franchise it.
"Also, for ten years, this product research has its patent registered in the United States and Malaysia for extraction method and for the development of pharmaceutical and cosmetic products," he said.

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