Eggshells can make healthier chapatis

Bengaluru scientists say processed shells can add nutrients to wheat flour

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You can't make an omelette without breaking eggs, the old saying goes. But while you're at it, you could also be making wheat products more nutritious.

A seven-member team working through the University of Agricultural Sciences-Bengaluru (UAS-B) has demonstrated that scientifically processed eggshell powder could fortify wheat flour used in home-cooked foods like chapatis and commercial snacks like biscuits.

Lead researcher H.B. Shivaleela, Principal Investigator of UAS-B's Centre of Excellence on Small Millets, says that an eggshell yields about a teaspoon of powder, which has 750-800 mg of elemental calcium and other micro-elements which can increase bone mineral density in people with osteoporosis.

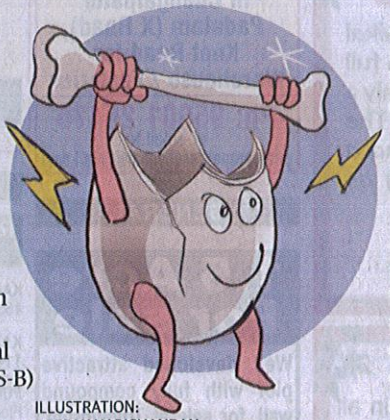

ILLUSTRATION: DEEPAK HARICHANDAN

For their study – "Exploring eggshell powder as a fortificant in food" by H.B. Shivaleela, D. Kavana, M.L. Revanna, Suvarna N. Chavannavar, Jaya Naik and H. S. Mamatha – they tested their fortified whole-wheat flour and products made with it for eating quality, nutrient content, microbial safety and shelf-life. The team is planning a new project, researching eggshell fortification in other foods, Dr. Shivaleela said, and are submitting a proposal to the Indian Council of Agricultural Research.

Wasted potential

Approximately 11% of an egg's mass is shell, which usually goes into the garbage. India is the world's third-largest producer of chicken eggs, with 2,795 crore consumed in 2017-18. So, with eggs at around ₹5 each, and just over 50 paise wasted with each one, that's approximately ₹1,375 crore of value lost in a year.

Dr. Shivaleela says Karnataka produces eggs worth around ₹15 crore every day, implying a wastage of ₹1.5 crore a day. "Using them to fortify food products will not only prevent wastage, but also go a long way towards health benefits especially increasing bone mineral density."

However, the scientists point out that their laboratory cleaning and powdering process isn't replicable in the average kitchen.

In other words, reader, do not try this at home.