

A new, super-nutritious puffed rice for breakfast cereals and snacks

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A new process for blowing up grains of rice produces a super-nutritious form of puffed rice, with three times more protein and a rich endowment of other nutrients that make it ideal for breakfast cereals, snack foods and nutrient bars for school lunch programs, scientists are reporting. Their study appears in *ACS' Journal of Agricultural and Food Chemistry*.

Syed S.H. Rizvi and colleagues explain that commercial puffed rice is made by steam extrusion. An extruder squeezes rice flour mixed with water through a narrow opening at high temperature and pressure. On exiting the nozzle, the rice puffs up as steam expands and escapes. The process, however, can destroy heat-sensitive nutrients. The scientists looked for a way to avoid that loss and enrich rice with protein and other nutrients during the puffing process. They turned to a process that uses supercritical carbon dioxide, which has been used for making decaffeinated coffee and in other applications.

The scientists describe using the process to make puffed rice with three times more protein and eight times more dietary fiber than commercial puffed rice. It also contains calcium, iron, zinc and other nutrients that conventional puffed rice lacks. Their puffed rice was crispier than commercial products, giving it a better taste and crunch. The new rice is "ideally suited for consumption as breakfast cereals, snack food and as part of nutrition bars for school lunch programs," the report states. "The balanced nutritional profile and use of staple crop [byproducts](#) such as broken rice makes these expanded [crisps](#) unique to the marketplace."

More information: "Micronutrient and Protein-Fortified Whole Grain Puffed Rice Made by Supercritical Fluid Extrusion",
pubs.acs.org/stoken/presspac/p ... ll/10.1021/jf3034804

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