Examining bread texture and saltiness

Making changes to the texture of bread may affect the saltiness perception and provide a way for food product developers to formulate with less salt, according to a study published in Journal of Agricultural and Food Chemistry.

The researchers began by baking wheat bread using different proofing times to let the dough rise. The longer the proof time, the softer the bread was and the larger the pores were. The subjects participating in the study rated the bread made from dough subjected to the longest proofing times (90 and 120 minutes) as more salty even though each bite contained less salt, according to the results. The researchers concluded that a combination of crumb firmness and pore size affected the sodium release from bread, with a larger pore size leading to a softer crumb and faster sodium release. They did add that if the pore size is too large and the texture is too soft, the rate of sodium release is reduced.


Buffaloberry exhibits several functionalities

Indigenous people of North America have historically consumed buffaloberry as a food source, but the berry has limited commercial availability. Rich in lycopene and other antioxidants, buffaloberry may hold potential health benefits as well as function as a source of naturally derived food colorants, report researchers from Ohio State University and South Dakota State University.

The researchers used liquid chromatography/mass spectral analysis and nuclear magnetic resonance spectroscopy to determine that the primary carotenoids in buffaloberry are lycopene and methyl apo-6′-lycopenoate and that the fruit contained high total phenolics amounts. Many Native Americans consume the bright red fruit, which grows on and around Native American reservations in the Midwestern United States. The fruit has a tart flavor and is high in sugar, making it a sought-after ingredient in the developing wine industry in South Dakota.


Garlic compounds may aid food safety

Garlic contains a number of compounds that research shows may confer a number of health benefits. New research published shows that two compounds derived from garlic can significantly reduce the contamination risk of a foodborne pathogen in the production of dry infant formula powder.

Cronobacter sakazakii is sometimes present in dry infant formula powder and other fortified foods, and while C. sakazakii infection is rare, it is often fatal for infants. A trace dose of the compounds diallyl sulfide and ajoene was effective in killing the pathogen when tested in the food manufacturing process, remarks Xiaonon Lu, a corresponding author and an assistant professor of food safety engineering at the University of British Columbia. He says that the compounds can be used on food contact surfaces at all stages during food production.