

Edible 'antifreeze' prevents unwanted ice crystals in ice cream and frozen foods

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Researchers have developed an edible "antifreeze" that shows promise for preventing the formation of ice crystals in ice cream. Credit: Courtesy of USDA-ARS, Keith Weller

A scientist in Wisconsin reports development of an edible and tasteless "antifreeze" that prevents the formation of ice crystals that can spoil the smooth, silky texture of ice cream and interfere with the palatability of other frozen foods. The study is scheduled for the Jan. 9 issue of ACS' *Journal of Agricultural and Food Chemistry*, a bi-weekly publication.

In the new report, Srinivasan Damodaran explains that preventing the formation of large ice crystals is a major challenge for frozen food

manufacturers and consumers who store packages in home freezers. Although several different substances have been added to frozen foods to prevent ice crystal growth, none is really effective, the researcher says.

Damodaran's solution is gelatin hydrolysate, a protein known to act as a natural antifreeze. In a controlled study using batches of ice cream prepared with and without the non-toxic compound, ice cream containing the antifreeze developed significantly smaller and fewer ice crystals than batches prepared without the compound, the researcher says.

Source: ACS

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