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Food Gels: Fabrication and Their Applications as Functional Delivery Systems

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Deadline for manuscript
submissions:

closed (31 October 2022)

Message from the Guest Editor

Gels, in the basic form of hydrogel, oleogel, emulsion gel and/or bigel, have been widely utilized in food formulations for improving quality attributes. Three major gelation mechanisms widely acknowledged are ionotropic gelation, cold-set gelation and heat-set gelation. Various fabrication methods are available for different matrix materials. Structural features of gels in terms of mesh size, degree of crosslinking, swelling ability, stimuli sensitiveness and the rate of degradation can, thus, be tuned by matrix materials as well as by the fabrication conditions. Their impacts on the textural, rheological and time-delayed digestive behaviors of gel-based products endow their diverse applications in reduced fat foods, oral sensation regulation, encapsulation and delivery of bioactive ingredients, etc. In-depth research studies conducted towards exploring new sources of gel materials, novel gelation mechanisms, digestive profiles and specific structural-functional relationships are highly demanded in order to make full use of their precise control features over the textural, sensory, delivery and nutritional properties in food products.



mdpi.com/si/98237

Special Issue



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Message from the Editor-in-Chief

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