Thematic area: Nanotechnology and nanomaterials

Nanotechnological applications on seafood quality

Z. Ceylan[1], A.A. Vicente[2]

[1] *Istanbul University, Faculty of Fisheries, Department of Seafood Processing Technology, İstanbul, Turkey.*
E-mail: zceylan@istanbul.edu.tr; zaferceylan3407@hotmail.com

[2] *University of Minho, Department of Biological Engineering, Braga, Portugal.*

Nanotechnology applications on seafood quality have attracted a great deal of attention of food makers, food-scientists and consumers. In particular, due to the rapid perishability of seafood and the fact that it includes important nutrients such as omega-3 fatty acids, the studies related to seafood quality are gaining much more importance.

In this respect, nanoemulsions, nanofibers, nanoencapsulation, biosensors, nanoparticules have been used to delay the increase in microbial growth, the deterioration in chemical, physicochemical, sensory quality and the rapid changes in nutritional value of seafood. Instead of microsized, nanoscale materials providing higher contact area can delay the rapid spoilage of fish products e.g coated with nanofibers or including nanoparticules or nanoemulsion. Nanotechnology applications may decrease the cost of food additives and limit intake of hazardous additives such as nitrite, because of the fact that it needs to be used in lower amounts for the same final effectiveness.

This technology will not provide a novel approach for fish industry but also healthier foodstuffs for the consumers. Nanotechnology applications on seafood have a great potential to protect public health in the near future. The study has aimed to emphasize nanotechnology applications, which can be used to delay the deterioration in seafood quality.