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The effects of different production techniques on bioactive substances of vinegars

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Fruit juices that have high content of sugar are generally used for vinegar production. The production of vinegar typically involves in first ethanol fermentation where starch and/or sugar are converted to alcohol by yeast. The resultant alcohol is further oxidized to acetic acid by acetic acid bacteria during the last fermentation. There are different vinegar production methods; traditional method classified as a surface method in which the culture of acetic acid bacteria grows on the surface; the second method, classified as a submerged culture is a method in which oxygenation is supplied to the fermentation to accelerate; commercial productions generally use the second method since it lasts one day even though the traditional method takes approximately 45 days. It was reported that the production technique may have effect on the formation of bioactive compounds during vinegar fermentation. Therapeutic effects of vinegar arising from the inherent bioactive components acetic acid, gallic acid, catechin, epicatechin, chlorogenic acid, caffeic acid, p-coumaric acid and ferulic acid can be categorized as antioxidative, cholesterol-lowering, antidiabetic, antimicrobial, antitumor, anti-obesity, anticardiovascular and antihypertensive. The purpose of this presentation is to report differences in vinegar productions, importance of source of acetic acid bacteria, and health attributes of vinegars that are produced with different techniques.

Biography

Zeynep Banu Guzel Seydim graduated from Ankara University in 1991 and she pursued her Master's degree at the same university. Her thesis was on exopolysaccharide production of yogurt bacteria at different incubation temperatures. After completion of her first Master's degree, she started second MS in Clemson University in 1994. She worked on her PhD at the Clemson University during 1996-2001. Her dissertation title was "Fermentative, microbiological and biochemical properties of kefir and kefir grains." She worked as a Research Assistant and Research Specialist in Clemson University. She is a faculty member in Suleyman Demirel University, Isparta, Turkey, since 2001. She became a full Professor in 2010. Her research interests are fermented food products, natural fermentations, bioactive substances, functional foods, improvement in kefir/ kefir grain technology, vinegar fermentation, total antioxidant capacities and animal tests. She was involved in MITOFOOD project. She holds 4 patents, and has two firms in Technopark.

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