



Title: Ultrasound-assisted preparation of chitosan composites with surface active chickpea proteins for controlled release of eugenol: Test of efficiency as a coating for inhibition of sprouting and pathogenic contaminants in onions

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Abstract:

This study focuses on controlling postharvest sprouting and microbial risks associated with shallot bulbs by active chitosan based coating loaded with eugenol. For this purpose, ionic complexation of chitosan with chickpea protein in the presence of eugenol at pH 5.0 was achieved using mechanical homogenization in combination with ultrasonic homogenization. This method improved the retention and controlled release of eugenol from film. Application of this active coating successfully suppressed the sprouting and inhibited the inoculated *Escherichia coli* and *Listeria innocua* in shallot bulbs. Compositing with chickpea protein boosted the performance of essential oil loaded chitosan films by enabling the use of films matrix as an encapsulant.

Biography

Dr. Pelin Kavur is currently a research assistant at the Department of Food Engineering, Izmir Institute of Technology (IZTECH) in Turkey. Her research focuses on developing multifunctional biodegradable films, coatings and bioactive gels for food packaging applications. She has expertise in the area of delivery systems of active compounds. At the conference, she will present her work on developing an effective encapsulant film matrix using chitosan composites with surface active pulse proteins by ultrasound treatment. Now, she is continuing postdoctoral studies in food chemistry and biochemistry under Prof. Dr. Ahmet Yemenicioglu at IZTECH.