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Indirect atmospheric cold plasma treatment of dehydrated mint (*Mentha sylvestris*) with dielectric barrier discharge system

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Cold plasma is one of the non-thermal processing technologies that could be used for microbial content decreasing from surface of foods and agricultural raw materials. Plasma can cause changes in cell wall, DNA and also in morphologic properties of microorganisms, with charged particles, ions, UV ray, free radicals and chemical reactive species that all of these can eliminate them. Therefore, in this study, effect of atmospheric cold plasma (ACP 25 kV) on microorganism inhibition in dehydrated mint was investigated after 1, 3, 5, 7 minutes of indirect (in petri dish) treatment (at 25 °C and 42% of Relative Humidity (RH)). A significant change in reduction of microbial content observed after 7 minutes treatment (-0.5 log CFU/cm2). Therefore, atmospheric cold plasma appears to be a promising processing technology for decontamination of leafy vegetables. And in near future can be used for pasteurization and sterilization of food and agricultural products in large scale although more studies required.

Biography

Ashkan Soltan Mohammadi is interested in improving the health and wellbeing in different ways such as reduction of using chemical preservatives in foods and using of novel non-thermal technologies in food processing.

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