



# Plant extracts, antimicrobials and ultraviolet light as hurdle technology in controlling *Alicyclobacillus acidoterrestris*

*A. acidoterrestris*

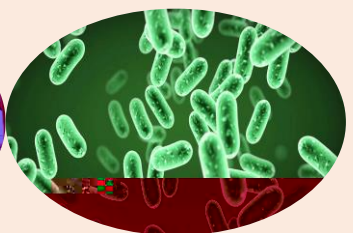
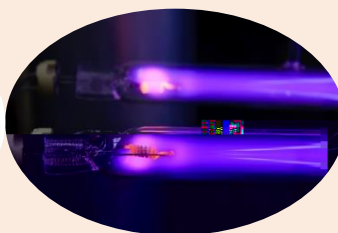
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Fruit juices remain popular because of their nutritional, health and wellness benefits. They were thought to be vulnerable only to yeasts and molds because of their low pH. However, acidothermophilic bacteria have been implicated in spoilage outbreaks throughout the years. *Alicyclobacillus acidoterrestris* is widely considered as the most important spoilage organism for acidic beverages and juices as it can resist the harmful acidic pH of fruit juice as well as thermal pasteurization treatments. Its survival and contamination ultimately cause economic losses and result in products that have unacceptable quality due to the produced off-flavors and off-odors that are likened to detergents. Hurdle technology is a novel concept that involves use of multiple, mild physical or preservation methods that can result in process schedules with optimal efficacies. Considering the economic importance of fruit juices as well as the challenges posed by *A. acidoterrestris* to the fruit and beverage industry, along with the implications of various food-, process-, and microorganism-related factors pertinent to food processing, food quality and food safety, this work proposes a hurdle technology that makes use of natural and traditional antimicrobials in line with ultraviolet light as a novel food processing technique in controlling the spoilage microorganism and shows promise as a possible alternative to currently employed thermal processing methods.



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