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Antibacterial activities of some medicinal plants to control pathogenic bacteria and extend the shelf-life of some seafood

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The antibacterial activity of *Pulicaria inuloides* and *Pulicaria crispa* essential oils was tested against *Listeria monocytogenes*, *Escherichia coli* and *Staphylococcus aureus* using agar disc diffusion and microtiter broth microdilution assays. PIEO, the essential oil from *Pulicaria inuloides*, inhibited all tested microorganisms with a minimum inhibitory concentration (MIC) of 5.7, 0.12 and 5.11 mg/ml against *Listeria monocytogenes*, *Escherichia coli* and *Staphylococcus aureus* respectively. PCEO, the essential oil from *Pulicaria crispa*, showed a lower inhibition for all of the tested microorganisms. The present study evaluated the impact of PIEO on *L. monocytogenes*, *E. coli*, *S. aureus* and tap water (control) inoculated in fish fillets. Results indicated that PIEO eliminated most of *L. monocytogenes*, *E. coli*, *S. aureus* and SPC immediately after treatment at time zero (25°C) and during storage at 10°C for 12 days, and it increased the shelf -life of seafood during storage at 10°C compared with the tap water, whereas SPC counts were high than 7 log CFU/g at the end of storage. The sensory evaluation of fillet fish treated with *Pulicaria inuloides* essential oil were acceptable by consumers at the level of 0.1 g/100g EO. Fish purchased from supermarkets in Wuxi province, Jiangsu, China, were maintained with good hygiene practices and health conditions, whereas fish purchased from local markets were not.

Biography

I got PhD degree in Food Science and Technology from School of Food science and Tech. Jiangnan University, China (2016-2017). Current, I am working as assistant teacher at the School of Agriculture, Department of Food Science and Technology, Sana'a University, Yemen; my main major is Green Chemistry and Bioactive compounds isolation. Also, I am working as researcher Marine Science and Biological Researches Authority, Aden, Yemen. My current project is 'Innovation extraction technique and Marine Natural Product Research to control cancer and diabetic diseases.

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