

عنوان مقاله:

Effects of monolaurin and lactic acid bacteria starter culture on growth of vegetative cells of *Bacillus cereus* in Iranian white fresh cheese

محل انتشار:

دوفصلنامه علوم و فنون دامپزشکی ایران، دوره 4، شماره 1 (سال: 1391)

تعداد صفحات اصل مقاله: 10

نویسندگان:

Moslem Neyriz-Nagadehi - *Department of Food Hygiene, Faculty of Veterinary Medicine, Islamic Azad University, Urmia branch, Urmia, Iran*

Seyed Mehdi Razavi-Rohani - *Department of Food Hygiene, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran*

Gity Karim - *Department of Food Hygiene, Faculty of Veterinary Medicine, Tehran University, Tehran, Iran*

Amir Zeynali - *Graduated Veterinary Medicine, Faculty of Veterinary Medicine, Islamic Azad University, Urmia branch, Urmia, Iran*

خلاصه مقاله:

The harmful effects of many chemical food preservatives are well established, so this has triggered interest in natural methods of preservation. Monolaurin, a monoester of lauric acid, founds naturally in some foods and has various antiviral and antibacterial activities. Evaluation of the effects of monolaurin separately and in combination with lactic acid bacteria (LAB) starter culture on growth of vegetative cells of *Bacillus cereus* ATCC11778 in manufactured cheeses was the purpose of this research. In this study, the number of *B. cereus* in four groups of cheese (C1: without starter culture and monolaurin, T1: without starter culture; with monolaurin, C2: with starter culture; without monolaurin, T2: with starter culture and monolaurin) was counted on days 0, 1, 3, 5, and 7 of manufacture. In T1 group, monolaurin concentrations of 800, 1200, 1600 and 2000 ppm decreased the number of *B. cereus* by 1.2, 2.1, 3 and 3.4 logs, respectively in comparison with C1 group. In T2 group with the same concentrations of monolaurin, the number of *B. cereus* in comparison with C2 group was not significantly affected ($p > 0.05$). In C2 group, starter culture decreased the number of *B. cereus* by 2.9 logs in comparison with C1 group. In contrary, the combination of starter culture with monolaurin in T2 group increased the number of *B. cereus* by 0.6 logs in comparison with C2 group. Furthermore, in C2 and T2 groups by increasing the storage time, the number of *B. cereus* decreased. According to these results, it can be concluded that in cheese samples of T1 group, monolaurin separately showed the inhibitory effects on the growth of *B. cereus* cells while in cheese samples of T2 group, the combination of monolaurin with starter culture did not demonstrate the synergistic inhibitory effects on the growth of this bacterium. Therefore, simultaneous use of monolaurin with starter culture is not recommended for improving the microbial shelf-life of Iranian white fresh cheese

کلمات کلیدی:

Monolaurin, starter culture, *Bacillus cereus*, Iranian white fresh cheese

