Influence of Cumin and Thyme Aqueous Extracts on the Activity of some Starter Cultures.

Shaymaa H. Sadek, M. A. Mohran, A. M. Abd- El Rahim and A. M. Hassanein

Abstract:

Two spices aqueous extracts (cumin and thyme) at zero, 0.5, 1, 2, 3, 4 and 5% concentrations were investigated for their influence on the activity of some starter cultures. Lactococcus lactis subsp cremoris, Lactococcus lactis subsp lactis, Lactococcus lactis subsp diacetylactis, Lactobacillus casei and yoghurt starter (Lactobacillus delbrueckii subsp bulgaricus& Streptococcus thermophilus) were used. Each culture was examined in reconstitute skim milk containing spices aqueous extract. Freshly grown cultures were used as control. Regarding to cumin, Lactococcus lactis subsp lactis gave the highest acidity of 1.32 %, followed by Lactobacillus casei (1.08%), yoghurt starter (1.07 %), Lactococcus lactis subsp diacetylactis (1.07 %), whereas the lowest acidity of 1.01 %, was detected for Lactococcus lactis subsp cremoris after 48 h at 5% cumin aqueous extract, while respecting to thyme extract, it was 1.03, 1.02, 1.0, 1.0 and 0.97 % for yoghurt starter, Lactococcus lactis subsp cremoris, Lactococcus lactis subsp lactis, Lactobacillus casei and Lactococcus lactis subsp diacetylactis after 48 h with 5% thyme aqueous extracts, respectively . The highest bacterial growth rate in cumin extract were found with Lactococcus lactis subsp lactis (187.5×106cfu/g) while the lowest were found with Lactococcus lactis subsp diacetylactis (100×106cfu/g), while in thyme extract the highest bacterial count in Lactococcus lactis subsp diacetylactis (135×106cfu/g) and the lowest one was Lactococcus lactis subsp lactis (103×106cfu/ml).

Keywords:

spices, aqueous extract, starter culture, yoghurt starter.

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