Influence of lactic acid bacteria, royal jelly and bee pollen grains on the characterization of produced yoghurt

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ABSTRACT

 In the present study, the compared effect of lactic acid bacteria (*Lb. gasseri* ATCC 33323, *Lb. rhamnosus* DSM 20245 and *Bif. angulatum* DSM 20098 and/or *Lb. delbrueckii* subsp. *bulgaricus* and *Str. thermophilus* as yoghurt starter), royal jelly (0.6%) and bee pollen grains (0.8%) on chemical analysis, rheological properties, sensory evaluation, growth and stability of lactic acid bacteria in yoghurt processing was studied. From the obtained results it could be conclude that the addition of the LAB and royal jelly and bee pollen grains to the yoghurt starter cultures increases the coagulation time of the produced functional yoghurt than that of the control. The total solid, ash, fat, protein and acidity contents significantly increased while, lactose contents and pH values significantly decreased during storage period up to 21days of all treatments. From the microbiology term there was decrease of the LAB, *Str. thermophilus* and *Lb. delbrueckii* subsp. *bulgaricus* during cold storage. *Lb. gasseri* ATCC 33323, *Lb. rhamnosus* DSM 20245 and *Bifi. angulatum* DSM 20098 grew well and was slightly decrease during storage. Also, the LAB level after three weeks of storage was greater than 6 log cfu/ml. The produced functional yoghurt had better sensory and rheological characteristics than those of control yoghurt; overall, all functional yoghurt treatments were acceptable up to the end of the storage period.

**Key word:**

Yoghurt LAB Royal jelly Bee pollen grains