

Μια πολύ όμορφη επιστημονική συνεργασία της ομάδας του εργαστηρίου Υγείας των ζώων, Υγιεινής και Ποιότητας Τροφίμων του Τμήματος Γεωπονίας του Πανεπιστημίου Ιωαννίνων με το Τμήμα Κτηνιατρικής του Πανεπιστημίου Θεσσαλίας, το Τμήμα Χημείας του Αριστοτέλειου Πανεπιστημίου Θεσσαλονίκης και του Τμήματος Αγροτικής Ανάπτυξης του Δημοκρίτειου Πανεπιστημίου και συνσυγγραφείς λαμπρά ονόματα της επιστήμης μας τον κ. Γ. Φθενάκη και τον κ. Γ. Θεοδορίδη. Η αποτύπωση του πυρήνα του μικροβιώματος της φέτας αποτελεί τμήμα της αυθεντικότητάς της, όπως και σημαντικός παράγοντας ποιοτικής ανάδειξης, ενώ εξετάστηκαν οι μεταβολές του σε δύο χρονικές περιόδους "ωρίμανσης", τρίμηνης και εξάμηνης. Το κυρίαρχο μικροβίωμα ενός τροφίμου ζύμωσης αποτελεί και την υπογραφή της μοναδικότητάς του.

Article

Microbiota “Fingerprint” of Greek Feta Cheese through Ripening

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Abstract Feta is a Greek protected designation of origin (PDO) brined curd white cheese made from small ruminants’ milk. In the present research, Greek Feta cheese bacterial diversity was evaluated via matrix-assisted laser desorption ionization–time of flight mass spectrometry (MALDI-TOF MS). Analysis of 23 cheese samples, produced in different regions of the country, was performed in two ripening times (three or six months post-production). The identified microbiota were primarily constituted of lactic acid bacteria. A total of 13 different genera were obtained. The dominant species in both ripening times were *Lactobacillus plantarum* (100.0% and 87.0%, at three or six months post-production, respectively), *Lactobacillus brevis* (56.5% and 73.9%), *Lactobacillus paracasei* (56.5% and 39.1%), *Lactobacillus thymosus* (13.0% and 17.4%), *Lactobacillus paraplantarum* (4.3% and 26.1%), *Lactobacillus curvatus* (8.7% and 8.7%). Other species included *Enterococcus faecalis* (47.8% and 43.5%), *Enterococcus faecium* (34.8% and 17.4%), *Enterococcus durans* (13.0% and 17.4%), *Enterococcus malodoratus* (4.3% and 4.3%), and *Streptococcus salivarius subsp. thermophilus* (21.7% and 30.4%). The increased ripening time was found to be correlated to decreased total solids ($r = 0.616$; $p = 0.002$), protein ($r = 0.683$; $p < 0.001$), and PH ($r = 0.780$; $p < 0.001$). The results of this study contribute to a better understanding of the core microbiota of Feta cheese.

Keywords: Feta cheese; microbiota; safety; ripening; MALDI-TOF MS



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