

Preliminary Study on Milk Composition and Milk Protein Polymorphism in the Algerian Local Sheep's Breeds

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Abstract : In order to characterize the sheep's milk, we analyzed and compared, in a first stage of our work, the physical and chemical characteristics in two Algerian sheep breeds: Hamra race and race Ouled Djellal breeding at the station the experimental ITELV Ain Hadjar (Saïda Province). Analyses are performed by Ekomilk Ultra-analyzer (EON TRADING LLC, USA), they focused on the pH, density, freezing, fat, total protein, solids-the total dry extract. The results obtained for these parameters showed no significant differences between the two breeds studied. The second stage of this work was the isolation and characterization of milk proteins. For this, we used the precipitation of caseins phi [pH 4.6]. For this, we used the precipitation of caseins Phi (pH 4.6). After extraction, purification and assay, both casein and serum protein fractions were then assayed by the Bradford method and controlled by polyacrylamide gel electrophoresis (PAGE) in the different conditions (native, in the presence of urea and in the presence of SDS). The electrophoretic pattern of milk samples showed the presence similarities of four major caseins variants (α s1-, α s2- β -and k-casein) and two whey proteins (β -lactoglobulin, α -lactalbumin) of two races Hamra and Ouled Djellal. But compared to bovine milk, they have helped to highlight some peculiarities as related to serum proteins (α La β Lg) as caseins, including α s1-Cn.

Keywords : Hamra, Ouled Djellal, protein polymorphism, sheep breeds

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