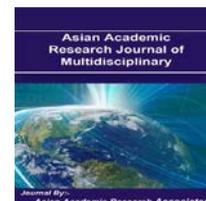




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**STUDY OF CHEMICAL COMPOSITION AND COAGULATION PROPERTIES
OF HOLSTEIN COWS' MILK IN R. MACEDONIA
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Abstract

An attempt has been made for the comparative study of the chemical compositions and coagulation properties of the whole individual cow's milk. Photometric detection of milk urea nitrogen level of the individual cow's milk with Diacetyl monooxime in the sample clarified with Trichloroacetic acid has been developed. On the basis of milk urea nitrogen (MUN) level, the cows/samples were divided in two groups, group I (milk urea nitrogen level < 6.5 mmol/L) and group II (milk urea nitrogen level > 6.5 mmol/L). We have recorded all the parameters continuously for one year (March 2012 to March 2013) in the dairy farm located in the Pelagonia region of the Republic of Macedonia. The present work is a contemporary need on the occurrence and underlying causes of poor and even non-coagulating (NC) milk of the Holstein-Friesian cows breed in the R. Macedonia. In our experimental work, the statistics of sample collection of the individual milk samples were, $n = 349$ of 120 Holstein-Friesian cows ($30 \text{ cows} \times 4 \text{ semesters}$, i.e. spring, summer, fall and winter), with an average service time period 150.92 ± 79.21 days and were evaluated their chemical and quality traits. In the present research work, we studied the rennet coagulation time (RCT, in minutes), the coagulum firmness (CF) by storage modulus S' , and the curd firming rate (CFR) of fresh cow's milk samples.

Key words: Holstein dairy cow, chemical composition of milk, coagulation properties, milk urea nitrogen (MUN) level and proteins.