

**Comparison of GC Method with Enzymatic Method  
for Quantitation of Cholesterol in Milk and Cream**

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A comparison of two different methods of determining cholesterol contents in milk and cream was performed. Gas chromatographic (GC) method was found more accurate in quantitation and simpler in sample treatment than an enzymatic method in analysis. The cholesterol contents from the GC method was significantly higher compared with those from the enzymatic method ( $p < 0.05$ ). In the GC method, samples from commercial market milks containing different percentages of milk fat (2.6, 3.6, and 4.6%) showed  $9.52 \pm 0.22$ ,  $13.14 \pm 0.22$ , and  $16.83 \pm 0.30$  mg cholesterol / 100 g milk, respectively. By using the enzymatic method,  $8.62 \pm 0.17$ ,  $12.28 \pm 0.22$ , and  $15.78 \pm 0.11$  mg cholesterol / 100 g milk were found in 2.6, 3.6, and 4.6% milk. In cream (36% of milk fat), cholesterol content was determined as  $108.60 \pm 1.70$  mg / 100 g cream by the GC method. In addition, the recovery test was conducted to examine the accuracy and reliability of the GC method. The GC method showed  $100.95 \pm 1.46\%$  of recovery in milk, however, only 90.0% of cholesterol was recovered by using the enzymatic method. The GC method has been found to be simpler, more accurate, faster and more economical of solvents compared with the enzymatic method.