

TITLE: QUALITY EVALUATION OF RAW MILK PRODUCED AT THE FARM SCHOOL OF IFPA CAMPUS RURAL MARABÁ

AUTHORS: FREITAS, L. C.; VINHOTE, W. M. S.; LIMA, S. C. G.; JOELE, M. R. S. P.; JARDIM, R.S.; RECHENE, S.T.; FREITAS, C.B.S. MACHADO, D.P.; LIMA, M.E.

INSTITUTION: INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA DO PARÁ, CAMPUS RURAL DE MARABÁ (BR 155, KM 25, CEP 68.508-970 MARABÁ-PA, BRAZIL)

ABSTRACT:

Milk quality is essential to public health and to dairy industry. Good quality milk refers to milk that has standard nutritional composition; it is free from toxic substances, sediment, pathogenic bacteria and extraneous substances. Thus, the purpose of this study was to evaluate microbiological, physical and chemical characteristics of raw milk bovine produced at the farm school of IFPA Campus Rural Marabá, before and after the implementation of hygiene milking practices. Fat was analyzed, as well as solids-non-fat (SNF), density, pH, protein, lactose, total solids, water content, cryoscopy, electrical conductivity and total bacterial count. The physical and chemical analyzes were performed using the Master Classic Complete - AKSO® milk analyzer, and the microbiological analysis was performed using the plate count method. The time between analyzes of both studies was one month. The analyzed samples were obtained from a container that received milk from six cows. The results showed no significant changes to the milk characteristics before and after the new hygiene milking practices. The analysis showed, respectively: fat 4.78% and 5.15%; SNF 8.75% and 8.85%; density 1.029 and 1.029; pH 6.7 and 6.7; protein 3.23% and 3.27%; lactose 4.77% and 5%; total solids 0.74% and 0.75%; water content 0% and 0%; cryoscopy -0.565°C and -0.574°C; electrical conductivity 5mS and 5mS; total bacterial count 240×10^4 UFC/mL and 2×10^4 UFC/mL. Those results showed that the raw milk meets the requirements of the Technical Regulation on the Identity and Quality of Refrigerated Raw Milk of the Normative Instruction nº 62 of 29/12/2011/MAPA, and the Industrial and Sanitary Inspection Regulation of Animal Products of the Ministerial Decree nº 30.691 of 03/29/1952 from the Brazilian government. Furthermore, the samples analyzed showed no signs of fraud by water addition, and the electrical conductivity measurements indicated absence of mastitis. Regarding microbiological analysis, the two samples presented total bacterial counts with values above that proposed by the normative instruction, in which the acceptable limit is 1×10^4 UFC/mL. However, these values decreased after the adoption of hygienic procedures. Thus, this paper showed that the raw milk produced at IFPA Campus Rural Marabá is in accordance with the established by Brazilian legislation and that after pasteurization, it can be safely consumed at school meals.

Keywords: raw milk quality; dairy control; milking; IFPA farm school.

Development Agency: Pró-Reitoria de Extensão from Instituto Federal de Educação, Ciência e Tecnologia do Pará.