

# MANUFACTURING OF PANEER WITH DIFFERENT COAGULANTS USING COW AND BUFFALO MILK

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Paneer is a soft cheese variety prepared by heat and acid coagulation of milk. This study was carried out to develop paneer with four different coagulants (Lime juice, Vinegar, Curd and Citric acid) using cow and buffalo milk. The experiment was conducted in a Complete Randomized Design in two factor factorial treatment arrangement with four replicates to evaluate the effect of coagulant and type of milk on yield, organoleptic qualities and nutritional composition of paneer. Developed paneer were stored at 4 °C for 5 days and titratable acidity and pH were tested during the storage. Nutritional composition and microbial counts of paneer were analysed. Sensory evaluation was done for fresh paneer samples with 30 untrained panellists, using five point hedonic scale. Parametric data were analysed using two way Analysis of Variance in Statistical Analysing Software and sensory data were analysed by Friedman test in MINITAB. There was an interactive effect of type of milk and coagulants on pH and titratable acidity of paneer ( $p < 0.05$ ). Further, titratable acidity and pH of paneer became significantly different ( $p < 0.05$ ) with storage time and they were in acceptable range, up to 4 days of storage at 4 °C. Moisture, total solids and ash contents of paneer did not significantly differ ( $p > 0.05$ ) with different coagulants and the types of milk. However, yield and fat content of paneer were significantly affected ( $p < 0.05$ ) by the coagulant and type of milk. Paneer, developed with curd had a higher yield but cost of production was also higher, whereas paneer developed with citric acid had lower yield and cost of production was lower. Paneer developed with buffalo milk had higher fat content than paneer developed from cow milk. Developed paneer was negative for pathogenic micro-organisms. According to the sensory evaluation, type of milk and coagulants did not significantly influence ( $p > 0.05$ ) sensory attributes though paneer produced from cow milk with citric acid received a higher rank for overall acceptability. Therefore, paneer produced from cow milk with citric acid can be recommended as the best product.

**Keywords:** Buffalo milk, Coagulants, Cow milk, Paneer, Storage