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# Development of small scale frustum cone shaped butter churn

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**ABSTRACT :** A novel small scale improved butter making unit called 'Frustum Cone Shaped Butter Churn' was developed with working capacity of 5 liter curd/batch. This paper deals with development of parts of churn *i.e.* inner and outer frustum cone, stirring tube, head and closure and insulation etc. For better insulation foamed polyethylene was used to offset the effect of ambient on temperature of curd filled inside the churn. For controlling the speed of the motor, gear and pulley arrangement with v-belt was used. The highest overrun and yield of butter were recorded to be 24.41 per cent and 1.63 kg/5 l. curd at higher churning temperature of 12°C and higher churn speed of 85 rpm. However, the optimum speed of churn for good quality butter production was found to be 60 rpm at churning temperature of 10°C.

**KEY WORDS :** Belt-pulley, Butter, Curd, Churn, Foamed polyethylene, Frustum cone shaped butter churn

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