

## Pasteurization and its standardization for craft breweries

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### Introduction

Pasteurization is a process in which pathogens are eliminated in order to extend the shelf-life of any product. It is very imperative to have a sustainable approach towards everyday practices for the company's escalation as well as for the product to be viable. Craft beers are ideally preferred without pasteurization. However, pasteurization is a pre-step as far as storage and transportation of the beers need to be considered due to punitive conditions in India. Improper pasteurization can possibly lead to spoilage due to presence of microbes and starts to give undesirable flavors. Typically for any brewery the pasteurization is carried out on the basis of pasteurization unit (PU). One beer bottle after holding the temperature of 62°C for one minute is measured as 1 PU. Standard pasteurization unit is around 12 PU ± 3 PU and the acceptable range is 9 PU to 15 PU. Lethal pasteurization unit is around 5 PU to 7 PU and more than 20 PU will give smokey flavor to the beer. Typically, the pasteurization for breweries is alienated into three zone, first is the pre-heating zone of the beer (35°C to 52°C), the

heating zone (62°C to 65°C) and the cooling zone (40°C to 35°C). The heating zone is the pivotal pasteurization zone. The temperature of the beer should be in an exponential graph. For a complete pasteurization, the cycle of these three zones should be completed within one hour (ideally). Pasteurization will make the beers free from any viable microbial cells without altering the original profile of the craft beer.

### Biography

Dhaval Patel has completed his PhD at the age of 26 years from Parul University and currently working as a Head Microbiologist at Lathambarcem Brewers, Goa. He has also been awarded as Young Scientist Award in 2018 and Young Researchers Award in 2019. He has published more than 15 papers in reputed journals and has been serving as an editorial board member of repute.