



## **Optimum Pasteurization Value of Pasteurized Tempe Vacuum Packed in HDPE and Aluminium Foil**

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## Introduction

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- Tempe:
  - Traditional fermented food
  - Average consumption: 7.9 kg/person/year (Hardinsyah *et al.*, 2008)
  - Short shelf life

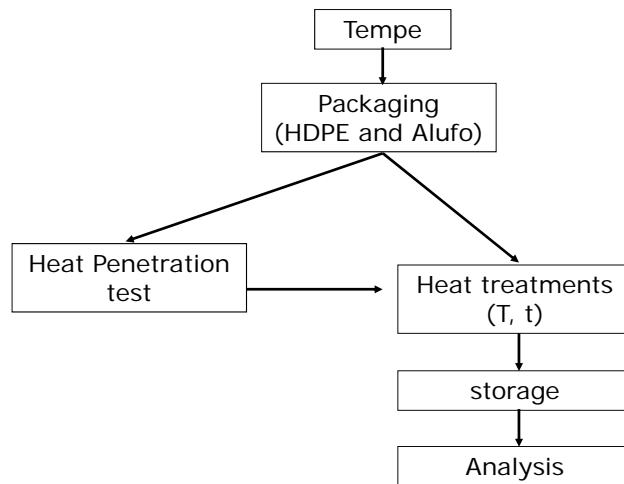


## Introduction

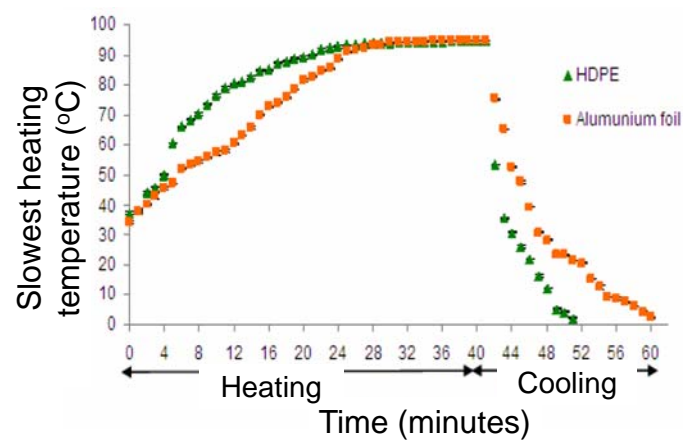
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- Thermal process:
  - Physical treatment
  - Simple (equipment and technology)
  - No systematic study on the underlying parameter controlling product shelf life
- Shelf life:  $f$  (pasteurization value)?

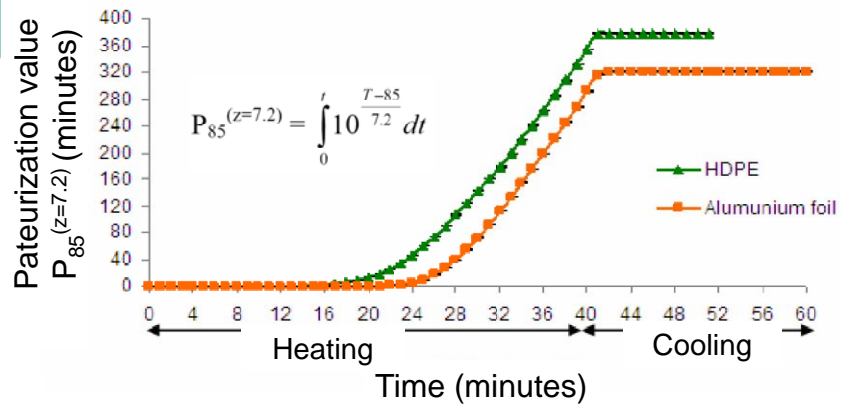
## Research Method



## Heat penetration

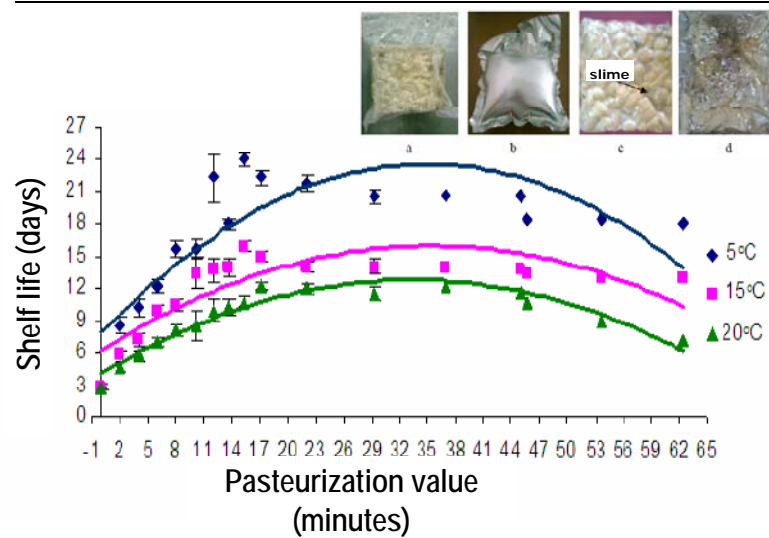


## Pasteurization value

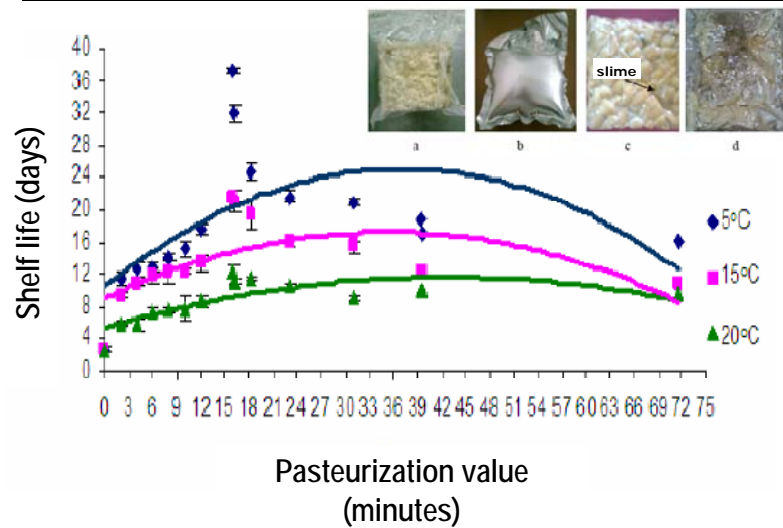


*C. botulinum non proteolytic type E*

## Optimum shelf life (in Aluminum Foil)



## Optimum shelf life (in HDPE)



## Conclusion

- Pasteurization value of  $6D_{85}^{7.2}$  is easily achieved by dipping in hot water ( $T \geq 80^\circ\text{C}$ )
- Shelf life of pasteurized tempe is determined by the pasteurization value (independent of T)
- Maximum shelf life is obtained by pasteurization at optimum pasteurization value
- A shelf life of 25 days is obtained by pasteurization of tempe vacuum packed in alufo at  $P_{85}^{7.2} = 37$  minutes and stored at  $5^\circ\text{C}$