

Integrated analysis of chilling processes in food industry

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Abstract

Food related processes are usually difficult to measure as e.g. meat parameters varies significantly. However, cost analysis of such processes is very important because of market competitiveness. A classical quantitative (analytical and/or statistical) analysis is therefore not appropriate for some ill defined and/or very complex food engineering problems. The paper presents a model based on the following parameters:

- Type of Chilling equipment
- Temperature of air in chamber/tunnel
- Air velocity in chamber/tunnel
- Time in chamber/tunnel
- Chilling temperature
- Chilling air velocity
- Time of chilling
- Meat sort
- Mean weight side
- Quality grade
- Weight loss

A fuzzy model will utilize data which are to a certain level inconsistent. To minimize an information loss of valuable knowledge, conventional pre-processing (usually statistical analysis) of this knowledge is eliminated.