Use of Artificial Neural Network to Optimize Osmotic Dehydration Process of Cashew from Cerrado (Anacardium Occidentale)

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Abstract

Food preservation uses many processes to improve quality and/or to extend shelf life of fruits and vegetables. One of these processes is osmotic dehydration that is a pretreatment before conventional drying. This process usually produces food with intermediary level of moisture. Osmotic dehydration can be optimized using mathematical modelling but it can present a bad adjustment to experimental data. Uses of Artificial Neural Network (ANN) in food processes is nowadays a goal for researchers because large applications and good adjustment to data. In this study it was used Artificial Neural Network (ANN) to optimize osmotic dehydration process of cashew from Cerrado. Variables of process were temperature (°C), agitation (rpm) and solution concentration (%) and responses were weight reduction (WR), water loss (WL) and solid gain (SG). Several configuration of ANN were tested and results showed that Multilayer Feedforward neural network (MLF) 3 - 7 - 3 was the best one for this process.

References

Index Terms

Computer Science  Artificial Intelligence

Keywords

Cashew, Optimize, Dehydration