



# 2PYChem

2nd Portuguese Young Chemists Meeting

**21 - 23 april 2010**  
**universidade de aveiro, portugal**



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## Comparative study of the drying kinetics of pears for different drying systems

**Inês Almeida** | Raquel Guiné | Maria João Lima | Dulcineia Ferreira

Escola Superior Agrária de Viseu / CI&DETS, Instituto Politécnico de Viseu, Quinta da Alagoa, Estrada de Neias, 3500-606 Viseu

raquelguine@esav.ipv.pt

Open-air sun drying has been used since immemorial times to dry grains, vegetables, fruits and other agricultural products. This is a common method used to preserve foods and it is practiced until today in many countries where the combination of solar radiation, temperature and relative humidity is appropriate. However, despite being a cheap method, the open-air natural sun drying is not always applicable to large-scale production <sup>[1]</sup>.

"Pera Passa de Viseu" denominates a traditional food product produced from pears of the variety S. Bartolomeu (*Pyrus communis* L.) using a traditional solar drying method, which is based on an open-air exposure <sup>[2]</sup>. Notwithstanding being quite a cheap drying method, making use of the sun as energy source, it has some very important disadvantages, like for example, the process is slow and very much dependent on weather conditions, and the quality of the product is not satisfactorily taking into account factors such as pollution from dust or from animal contamination or other types of infestation and microbial or mould contamination in humid environments. Therefore, the development of alternative drying methodologies assumes a pivotal role.

The pears used in the present study were dried uncut after peeling, in three different systems: solar stove with forced convection, solar stove with natural convection and drying tunnel. The moisture content of the pulp was quantified along drying with a Halogen Moisture Analyzer. The objective of the present work is to fit the kinetic data to different models found in literature to describe the drying rates of food products, in order to compare the drying rates in the different systems tested and also to find out which model is best to describe the drying kinetics of these pears.

### Acknowledgments

The authors thank FCT for financial support through project PTDC/AGR-ALI/74587/2006.

### References

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