



2PYChem

2nd Portuguese Young Chemists Meeting

21 - 23 april 2010
universidade de aveiro, portugal



universidade de aveiro

Influence of drying method on the colour of dried pears

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Colour is considered a fundamental property of foods, since it has been widely demonstrated that it correlates well with other physical, chemical and sensorial indicators of product quality ^[1]. In fact, colour plays a major role in the assessment of external quality in food industries and food engineering research. The measure of the standard colour of fruits and vegetables can be done by a wide range of colour spaces. However, the L*a*b* system is suggested as the best colour space for quantification in foods with curved surfaces ^[2]. Drying is one of the methods used for preserving foods, based on the removal of water to a level that minimizes microbial spoilage and deterioration reactions ^[3]. Pears of the variety S. Bartolomeu are traditionally dried in Portugal by a direct sun-exposure method. However, because of the disadvantages associated with this procedure, including not guarantying the sanitary quality and safety of the final product, in the past years alternative drying methodologies have been developed, such as solar stoves with natural or forced convection) and drying tunnel.

In the present work pears of the variety S. Bartolomeu were dried under different systems and their colour was evaluated using a colorimeter in the L*a*b* mode, as recommended by the Commission Internationale de l'Eclairage (CIE). The objective of this study was to compare the colour of the fruits produced by the different systems to find out which one allows the obtaining of a product as much as possible with the same colour of the traditional pears.

From the results obtained was possible to see that the drying carried out in the drying tunnel is the one that differs more from the traditional fruits.

Acknowledgments

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

References

- [1] Abdullah MZ, Guan LC, Lim KC, Karim, AA. *Journal of Food Engineering* **61** (2001) 125.
- [2] Mendoza F, Dejmekb P, Aguilera JM. *Postharvest Biology and Technology* **41** (2006) 285.
- [3] Doymaz I. *Journal of Food Engineering* **79** (2007) 243.