

HOW CARBOHYDRATE RESEARCH SUPPORTS LOCAL AGRO-FOOD PRODUCTION

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In the Centre and North of Portugal pears (*pyrus communis* L.) of a regional variety called S. Bartolomeu are dried according to traditional methodology. The fruit is sun-dried in open air yielding a small pear with reddish brown colour and characteristic flavour and elastic properties – *pêra passa de Viseu*. To aid the local producers we started a program to better understand the chemical and physicochemical transformations occurring in the pear. In a first phase we had investigated the changes in structure and composition of polysaccharides and phenolic compounds after the drying process and its impact on texture.^{1,2,3}

More recently⁴ we investigated whether the drying process could be modified. Indeed, the traditional sun-drying at open-air could be experimentally replaced by two different convective drying systems, one with direct solar radiation and another one using heat from low-cost solar collectors. Thus, an improvement of the drying process was achieved by reducing the drying time. On a (macro)molecular level we are studying the changes that occur during processing, and their relation to the stage of ripening and the drying technology. While there are several studies on ripening, little was known on the changes that occur on a (macro)molecular level during dehydration of fruits and vegetables.

The final goal of our project⁴ is to generate added value for a regional variety of pear to support the local agro-food sector. The creation of a Protected Designation of Origin is presently being prepared with the intervention of the Center of Valorization of Fruits and Vegetables of the Region of BEIRA ALTA (FELBA) and the Minister of Agriculture and Fishery and Rural Development.

References

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