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## Amino acids profile of fresh and dried pears

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Amino acids (AA), both in free form or associated in proteins, affect the aroma, colour and taste of fruits due to their participation in Maillard reactions and browning processes, among others. Different AA patterns can be observed for different fruits, varieties, stages of maturity, and types of processing. The S. Bartolomeu pear is an open air sun-dried small reddish-brown pear with unique sensorial properties. To develop a drying methodology able to keep its organoleptic properties and yet comply with the food safety standards, these pears were experimentally dried in two greenhouses (GH1, GH2) and in a hot air tunnel (HAT) to compare with the traditional ones (T). The protein content of fresh fruits was  $280 \pm 11$  mg/100g dry weight, which is in accordance to literature (231 mg/100g dry weight) for *Pyrus communis* L. Glx (20%), Leu (18%) and Asx (13%) were the predominant AA in fresh pears, contrasting with the high Asx (35%) and low Glx (8%) and Leu (5%) found in literature [1]. Also present were the essential AA Ile (10%), Val (7%), Lys (6%), Thr (4%) and Phe (3%), revealing that the S. Bartolomeu pear is a source of AA with nutritional value. The amount of proteins and the AA profiles in processed fruits was comparable with the fresh. Free AA accounted for  $52 \pm 11$  mg/100g dry weight in fresh pears, representing 16% of total AA. Glx (45%), Asx (21%) and Ala (13%) were the predominant free AA in fresh pears. Also present was the essential AA Val (8%). The amount of free AA was lower than in fresh in T ( $32 \pm 3$  mg/100 g dry weight) and GH1 ( $29 \pm 1$  mg/100 g), and comparable in HAT and GH2. All drying processes promoted the increase in the amount of Pro (3.6 mg/100g in fresh to 6.2-29.6 mg/100 dry weight in processed samples). On the contrary, all drying processes induced a reduction in the amount of Glx (from 23.5 mg/100g in fresh to 7.2-10.4 mg/100 dry weight in processed samples) and Ala (from 6.6 mg/100g in fresh to 2.4-3.9 mg/100 dry weight in dried samples). Therefore, S. Bartolomeu pear is a source of the essential AA Leu, Ile, Val, Lys, Thr and Phe. The drying processes affect the free AA profile, increasing the amount of Pro and decreasing the amount of Glx and Ala, characteristic of the drying processes.

### Acknowledgments

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### References

[1] L.N. Pilipenko, A.Y. Kalinkov, A.V. Spektor, *Chemistry of Natural Compounds* **35** (1999) 208.