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**ABSTRACT BOOK**



## Contribution for Physical Characterization of Carolino Rice

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### Abstract

Most of the rice produced in Portugal is of the Carolino type, botanically classified as *Oryza sativa* ssp. Japonica. Nowadays, this rice is playing a vital role in Portuguese rice trading. Five types of Carolino rice were collected and analysed for biometry characteristics, cooking time, water absorption, and texture properties. The Carolino rices studied are commercially classified as long grains type-A, because they present a length higher than 6 mm and the ratio length/width lower than 3 mm. This type of rice showed a high level of plastered area, meaning low vitrea aspect, with a negative strong correlation ( $r^2=-0.99$ ), and it was observed a great discrepancy for the study cultivars. The cooking time varied from 17 to 22 minutes, with a water uptake between 143.9 and 182.5 g after achieving the cooking point. To compare the differences between the cultivars, the cooking time was also determined after 13 minutes of cooking, and the results showed that the water absorption varied from 101.9 to 139.6 g. Carolino rice flours were quite different considering the results of TPA (texture profile analysis). One of the samples was quite different from the other, presenting less adhesiveness, chewiness, gumminess, hardness, resilience and cohesiveness. The extrusion force ( $\text{kg/cm}^2$ ) was similar between the five cultivars. In general, it could be concluded that in spite of the samples belonging to the same specie, the different cultivars showed quite different biometric, cooking and texture characteristics.

**Keywords:** Carolino rice; morphology; cooking time; water absorption; texture.