

USE OF SHORT GERMINATION AND AUTOCLAVING TREATMENT TO IMPROVE THE AMINO ACID PROFILE OF RICE

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Rice (Oryza spp.) is one of the most widely consumed cereal in the world. Germination and parboiling are processes used to affect the technological, sensory and nutritional quality of rice. The aim of this study was to evaluate the effect of these processes alone and combined on total (TAA) and free (FAA) amino acids. BRS Catiana was germinated (2 h of soaking at 30 °C and 16 h of germination at 35 °C) and autoclaving (115 °C/ 20 min). The TAA was separated and guantified by acid hydrolysis. FAA and y-aminobutyric acid (GABA) was determined by extraction step and subsequent derivatization with 6aminoquinolyl-succimidyl-carbamate (AQC). Short germination and autoclaving did not cause an increase in TAA with the exception of Ala (0.14 to 0.37 g/100g) and polishing did not caused a decrease in TAA in BRS Catiana genotype. Concerning FAA, germination caused an increase on His (1.13 to 3.86 mg/100g) and the combined treatment on Arg (1.72 to 2.56 mg/100g) and Ala (1.49 to 6.16 mg/100g). There was a high increase on GABA content after germination (369 %) and germination plus autoclaving (392 %), but a little increase after autoclaving process (16%). The impact of polishing on the GABA results was more evident in the non-germinated than in the germinated samples or with the combined treatments (germination + autoclaving). Our results indicated that germination and autoclaving treatments alone or combined were effective to improve the GABA content on brown and polished rice.

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