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Potential of Black and Carioca beans to the canning and effects on their technological quality



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Track

Formulação e processamento de alimentos (FP)

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A current alternative for meeting the modern consumer's food demands is the industrial processing of beans. This study evaluated the adaptability of eight Brazilian bean cultivars to industrial processing. Commercial class cultivars of Carioca and of Preto (black) beans. The grains were processed in an industry sector using metallic cans with a capacity of 420 g, where the samples were conditioned without previous hydration. The cooking and sterilization process took place in a rotating autoclave. The following quality parameters were evaluated in the canned beans: raw, liquid and drained weight; headspace, color, damage index, solubles solids, total solids (TS) and texture. The data were subjected to multivariate analysis, including principal component analysis (PCA) and clustering. As a result, it was verified that, for the Carioca class, the Estilo cultivar differs from the rest of the culture in terms of its low drained weight, which contributes to the increase in the total solids in the sauce, which have low hardness values. Estilo cultivar was not suitable for the type of processing used in this experiment. For beans of the Preto commercial class, similar characteristics were observed for the BRS Esplendor and IPR Uirapuru and for the BRS Campeiro and BRS Esteio cultivars, especially due to the texture parameters RW and NW. BRS Campeiro stood out for presenting lower cracked and exploded grain indices, which also reduced the TS index in the sauce of canned beans.