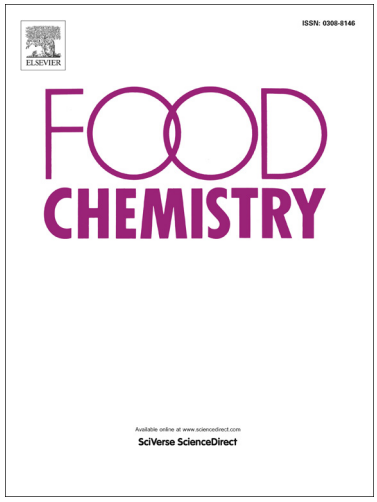

Short communication

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Obtaining lipases from byproducts of orange juice processing

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ABSTRACT

The presence of lipases was observed in three byproducts of orange juice processing: peel, core and frit. The enzymes were characterized biochemically over a wide pH range from neutral (6-7) to alkaline (8-9). The optimal temperature for the activity of these byproducts showed two peaks at 20°C and 60°C, indicating fairly high thermostability. The activities were monitored on *p*-NP-butyrate, *p*-NP-laurate and *p*-NP-palmitate. For the first time, lipase activity was detected in these residues, reaching 68.5 lipase U/g/min for the crude extract from fractions called frit.

Keywords: lipase, byproducts, orange, core, frit, peel

1. Introduction

Worldwide approximately 55 million tons of sweet oranges are produced, with Brazil standing out as the largest producer are produced. In the 2011 season, the country produced 19 million tons of oranges, and the state of São Paulo accounted for 76.1% of production (IBGE, 2012). About 40% of all oranges produced in the world are converted into concentrated juice, with the U.S. and Brazil together producing 90% of all processed orange juice (Lanza, 2003). During the production of orange juice, only 50% of the gross weight of the fruit

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