NEW APPROACH TO IMPROVE SOJA MILK PROCESSING

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Soy based milk has several nutritional advantages over cow milk and may provide benefits due to their hypolipidemic, anti-cholesterolemic, counter atherogenic as well as cancer protective properties. However, undesirable off-flavors limit the consumption of soy milk products. The aim of this investigation was the evaluation of a new technology to reduce beany flavors. Soy milk was prepared in the traditional process and pasteurized by direct heating. The heat treatment was carried out in a column packed with Raschig Rings which leads to an enhanced mass transfer and contact time between steam and milk and consequently to an improved removal of off-flavors. The column was operated in counter-current at a constant volumetric flow rate of 30.6 m\textsuperscript{3}/h and product inlet and outlet temperatures of 70 °C and 95 °C, respectively. Chemical and descriptive sensory analyses were conducted to identify differences between untreated and deodorized soy milk. No statistically significant effect of deodorization on the protein and fat contents could be observed, whereas total solids and ash were slightly decreased for the deodorized milk. The deodorized soy milk showed a better acceptance by the panelists, particularly in terms of bitterness, astringent, off-flavor, sweetness and creaminess. The experimental results illustrated the potential for improving the soja milk processing by direct heating in a distillations’ column.