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Nutritional quality, phenolics, and antioxidant capacity of mung bean paste obtained from seeds soaked in sodium bicarbonate

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2 from seeds soaked in sodium bicarbonate

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4 Running title: Effect of sodium bicarbonate on the quality of mung bean paste

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13

14 Abstract

15 Soaking softens the texture and reduces cooking time of legumes. The study evaluate
16 the application of sodium bicarbonate at this step of bean paste technology. An effect of this
17 treatment on the nutritional (changes in the composition and digestibility of the carbohydrate
18 and protein fraction) and pro-health quality (polyphenol level and antioxidant activity) of the
19 final product was studied.

20 For paste preparation, before cooking mung bean seeds were soaked in water (CS) and
21 sodium bicarbonate solutions (NaHCO_3) (0.5%, 1%, and 2% - 0.5SB, 1SB, and 2SB,
22 respectively). The shortest cooking time was observed in the 2SB. The total phenolic
23 compounds and the antioxidant activity of the chemically extractable fraction of the bean
24 paste increased with the increasing concentration of NaHCO_3 . The highest content of
25 potentially bioaccessible phenolics was determined in 2SB (8.51 mg/g d.m.), while the

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