

Abstract

ABSTRACT The tryptic digests of sprouts from malts of two sorghum cultivars differed significantly in their yeast nutrient composition. While both digests contained elevated levels of Ca²⁺, Mg²⁺, and K⁺, the individual concentrations of mineral varied with the sprouts' source. At 423.9 µg/g, Mg²⁺ levels were markedly ($P < 0.001$) higher in the tryptic digest of Local Red sorghum sprouts than in the Local White counterpart (287.3 µg/g), while the reverse was true for Ca²⁺ and K⁺. Wide variation also occurred with respect to the nitrogen constituents. For example, the Local White sorghum sprout digest contained considerably more ammonium, total free amino nitrogen and yeast-essential amino acids than did the Local Red counterpart. In contrast, Local Red malt sprout digest displayed significantly higher urea levels (124.7 mg/g compared with 98.94 mg/g) and superior yeast growth-promoting activity, suggesting that factors other than amino nitrogen also influenced the ability of the digests to support yeast growth. The digests of sorghum malt sprouts compared favorably with seven commercial nitrogenous bases in their ability to promote yeast growth. Results suggest that tryptic digests of sorghum malt sprouts are good alternative sources of nitrogenous and mineral nutrients for microbial cultivation. Key words: Mineral source, Nitrogen source, Sprout digests, Yeast cultivation

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