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Abstract

Burdock roots contain high contents of fructooligosaccharides and phenolic compounds; however its use as ingredient in food products is limited. This study aimed to obtain burdock root flour (BRF) by conventional drying and evaluate its potential as a prebiotic ingredient in cookies. Cookies were manufactured using a blend of whole wheat flour and refined wheat flour (51:49), replacing the concentration of refined wheat flour by BRF at 0 (C0), 5 (C1), and 10% (C2). BRF presented 40.16 g×100 g⁻¹ of total dietary fiber, 181.74 mg×100 g⁻¹ of chlorogenic acid, 6.19 g×100 g⁻¹ of total fructooligosaccharides (FOS), and in vitro prebiotic activity. The cookies C1 and C2 exhibited 2.2 and 4.94% (on a dry basis) of BRF, respectively, with similar ($p>0.05$) physicochemical and technological properties, except for hardness of C1 (24.83 N), which was higher ($p<0.05$) than C0 and C2. BRF significantly increased ($p<0.05$) FOS in cookies from 42.38 (C0) to 366.68 mg×100 g⁻¹ (C2). Cookies with 4.94% BRF had a positive effect ($p<0.05$) on the prebiotic activity. Burdock roots may be an effective alternative to provide prebiotic oligosaccharides to bakery products for consumers who search for functional foods with health benefits.

Keywords: healthiness, prebiotic fiber, fructans, bifidogenic activity

Highlights

- Burdock root flour have high dietary fiber, oligosaccharides, and phenolic compounds

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