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Determination of metals from the Non-Conventional Plant Food: *Bromelia antiacantha* Bertol.

Marciéli Aldine Mann (IC),¹ Aline Botassoli Dalcorsio (IC),¹ Sabrina G. Cordeiro (IC),¹ Ytan Andreine Schweizer (IC),¹ Bruna Costa (IC),¹ Peterson Haas (IC),¹ Letícia de Oliveira (IC),¹ Gabriela Vettorello (PG),¹ Gabriela Nunes (PG),¹ Daiane Heidrich (PQ),¹ Elisete Maria de Freitas (PQ),¹ Eduardo M. Ethur (PQ),¹ Lucélia Hoehne (PQ).^{1*}

luceliah@univates.br

¹Programa de Pós-Graduação em Biotecnologia, Univates. Avelino Tallini, 171, sala 309-8. Bairro Universitário, Lajeado, CEP:95914-014, Rio Grande do Sul, Brasil.

Palavras Chave: Bananinha-do-mato, NCPF, Nutrientes, Alimento.

Highlights

Determination of metals from the Non-Conventional Plant Food: *Bromelia antiacantha* Bertol.

Macro and micro nutrients of *Bromelia antiacantha* Bertol.

Benefits of NCPF fruit to human health.

Resumo/Abstract

Bromelia antiacantha Bertol. (Figure 1), also known as caraguatá, carauatá, gravatá, or bananinha-do-mato, is considered a Non-Conventional Plant Food (NCPF)ⁱ. This species belongs to the *Bromeliaceae* family and is found in the South and Midwest regions of Brazil. Its cultivation has the purpose of protection and is used in the construction of hedges, but there are few studies concerning its nutritional propertiesⁱⁱ. Therefore, the present study evaluated the macro and micronutrients of *B. antiacantha* fruits, in order to publicize the benefits of *B. antiacantha* for human health to intensify its consumption. Firstly, fruits were collected in the municipalities of São Francisco de Assis (BaS), Montenegro (BaM), and Guaporé (BaG), all in the state of Rio Grande do Sul, Brazil. Sample collections covered two biomes present in the state: the Pampa (São Francisco de Assis) and the Atlantic Forest (Guaporé and Montenegro), throughout May and June 2019. Samples were collected, weighed, and frozen. Subsequently, acid digestion of samples occurred in a microwave and the analyzes were made by atomic absorption spectrometry in a graphite oven and flame atomic absorption spectrometry to determine fruit metalsⁱⁱⁱ. The results indicated that *B. antiacantha* contains high levels of Ca (65-72 mg /100 g), K (212-258 mg /100 g) and Mg (48-83 mg /100 g). Moreover, it revealed higher levels of Zn, Mn, Fe, and Ni regarding other vegetables, such as pineapple and broccoli, for example. Upcoming procedures include bioaccessibility analysis of these metals, in order to provide more information to consumers. Therefore, *Bromelia antiacantha* Bertol. contains essential nutrients to the human organism, which can contribute to a greater diversity of natural foods.

Figure 1. *Bromelia antiacantha* Bertol. fruit.



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ⁱⁱKrumreich, F.D., Corrêa, A.P.A., Silva, S.D.S. and Zambiasi, R.C. (2015) Composição físico-química e de compostos bioativos em frutos de *Bromelia antiacantha* Bertol. *Revista Brasileira de Fruticultura*. Jaboticabal - SP, v. 37, n. 2, p. 450 – 456.

ⁱⁱⁱFood Safety And Standards Authority Of India (FSSAI). (2015) *Manual of Methods of Analysis of Foods – Metals*. Ministry of Health and Family Welfare. Government of India. New Delhi.

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