TITLE: ANTIBACTERIAL ACTIVITY OF *LIMONIUM BRASILIENSE* (BOISS.) KUNTZE IN FRONT OF *ALICYCLOBACILLUS ACIDOTERRESTRIS*

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ABSTRACT*: Limonium brasiliense* (Boiss.) Kuntze, from the *Plumbaginaceae* family, popularly known as Baicuru or Guaicuru, tolerant to adverse environmental conditions, found in South America in coastal regions. The rhizome of the plant is used by its pharmacological agents, studies demonstrate its antioxidant, anti-inflammatory and bacteriostatic effects.

Alicyclobacillus spp. are isolated microorganisms in various regions of the planet. In turn, some species are able to grow in industrialized acidic beverages. Such a microorganism has potential for deterioration capable of multiplying and developing any food product, as well as in the industrial plant. They are steroid-producing acid-resistant bacteria resistant to the heat treatment of pasteurization, and are permanent under storage conditions of food or concentrates and reconstituted.

The objective of this study was to evaluate an antibacterial action of *L. brasiliense* crude extract against *Alicyclobacillus acidoterrestris*.

The crude extract of *L. brasiliense* followed the preparation, fragmented and dried rhizomes (5, 6 kg), were milled into hammer mill and carried a turbolisador for 15 min, 5 min intervals, using acetone: water (7: 3) (v/v) as a liquid extractor at the rate of 10% (m/v). Filtration of the extract was performed, followed by evaporation of the organic solvent on rotary evaporator under reduced pressure and subsequent lyophilisation.

A serial microdilution technique was used in 96 well microplates and BAT culture medium (*Bacillus acidoterrestris*), with pH 4.5. The minimum inhibitory concentration (MIC) was obtained from serial microdilutions by keeping the total volume of 100 µL of the solution (culture medium and crude extract), 5 µL of the microorganism diluted in 1/10 saline 0.85% , In each well and incubated at 45 °C / 24h. The CIM was designed to minimize the ability to inhibit the growth of the microorganism, placing 10 µL in BAT, where the growth of colonies after incubation was 45 °C / 24h was defined as a CBM. The inhibitory and bactericidal activity found were 250µL / mL of Baicuru crude extract. The results of MIC and MBC indicate that the crude extract of *L. brasiliense* can be used as a bio conservative for citrus food industries.

Keywords: *alicyclobacillus acidoterrestris,* antibacterial activity, crude extract, Baicuru, *Limonium brasiliense*

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