COMPARATIVE ANALYSIS OF METHODS FOR ACID AND ALKALINE EXTRACTION OF GUM LOCUST BEAN (*Prosopis pallida*)

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The study to compare the performance of two extraction methods for obtaining gum locust bean (*Prosopis pallida*), studying the effect of the temperature of the solutions used and the time of contact between seed and solution; also to characterize physical, chemical and rheological gum better performance.

To obtain the gum used two extraction treatments. The first process is to separate the endosperm (gum) of the seed after treatment with H$_2$SO$_4$ (72% w/v). The second treatment with NaOH (0.75% w/v) as extraction medium. The methods are ranked the same temperatures (70 and 90 °C) and time of contact between seed and solution (15 and 25 minutes). The separation of the components of the seeds by NaOH (0.75% w/v) provided a greater extraction of the endosperm, obtaining the highest yield at 90°C for 25 minutes, while the acid used as a means of extraction yields were very small. The results showed that the gum obtained by using NaOH (0.75% w/v) at 90°C for 25 minutes has values close to those of commercial gums, featuring moisture 9.89%, 1.50% ash, 3.03% protein, ether extract 0.32%, 0.93% fiber, 90.49% protein digestibility, with a pH of 3.97, 84.06% of galactomannan, a holding capacity water 14.15 gH2O/g, an oil adsorption of 1.05 g oil/g, a swelling of 9.23 ml/g, a solubility of 90%, 98% emulsifying capacity, stability of the emulsion of 96%, a value of 4.07% monolayer and a viscosity of 1094 mPa.s, allowing us to conclude that locust bean gum is an opportunity for industrial use.