Araucaria angustifolia SEEDS AS AN ALTERNATIVE SOURCE OF STARCH FOR FOOD APPLICATIONS: PHYSICOCHEMICAL AND MICROSCOPIC CHARACTERISTICS, PASTING PROPERTIES AND GEL TEXTURE

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Araucaria angustifolia seeds, also known in Brazil as “pinhão”, have an amylaceous endosperm and are consumed in certain regions of the country, especially cooked or roasted. This research aimed to extract starch from pinhão seeds using aqueous solution and then characterize the product through certain physicochemical and microscopic analyzes, pasting properties and also to evaluate the texture characteristics of gels made from this starch. The seeds were obtained in Itamonte city, southern region of Minas Gerais, Brazil, and had the starch extracted by grinding in water, followed by purification using filtration and successive washes. The starch was dried in an oven and had its granulometry standardized. Extraction yield corresponded to 51.7% in relation to the degeminated endosperm. The starch presented high luminosity and physicochemical characteristics similar to the starches extracted from cereals. The ash content was 0.05% (w.b.), being composed mainly by the minerals calcium and magnesium. The granules presented intact structure and a gelification temperature from 62.7 °C, with high paste viscosity and strong tendency to retrograde, but fewer than corn starch. Regarding the gels obtained from this starch, it was verified that the loss of water by syneresis is lower than in gels made with corn starch, while the surface strength and consistency are higher. It can be concluded that Araucaria angustifolia seeds have great potential for extraction of starch, which can be used as an alternative to maize starch in industrialized products that are thermal processed and have a high viscosity, such as dairy products.