



PREPARATION OF SPHERICAL AGGREGATES OF TARO STARCH GRANULES.

ABSTRACT

Taro starch spherical aggregates were prepared by including a spray drying step in a conventional pilot plant-scale starch isolation procedure. The aim of this study was to characterize these spherical aggregates. The procedure was repeated three times to verify the spherical aggregates formation, which was shown by scanning electron microscopy. Amylose was not detected in the aggregates, and a protein content of 4.5 g/100 g was recorded. Aggregation of taro starch granules did not affect the X-ray diffraction pattern. The maximum peak viscosity of the aggregate preparation was obtained at a relatively high temperature (i.e. start of the temperature holding step). The phase transition of taro starch aggregates in excess water showed high temperatures, with low molecular reorganization during storage. During water retention capacity (WRC) and solubility tests, taro starch aggregates were stable until 70°C. The spray drying conditions used produced spherical aggregates of taro starch that presented physicochemical and functional characteristics with potential for encapsulation of substances.

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