BLUE MAIZE: MORPHOLOGY AND STARCH SYNTHASE CHARACTERIZATION OF STARCH GRANULE.

ABSTRACT

The use of pigmented maize varieties has increased due to their high anthocyanins content, but very few studies are reported about the starch properties of these grains. The aim of this work was to isolate the starch granules from pigmented blue maize and carry out the morphological, physicochemical, and biochemical characterization studies. The proximate composition of starch granules showed high protein contents, after purification, the blue maize starch presented lower protein amount than starch from white maize (control). Although the purity of starch granules was increased, the damaged starch (determined for the Maltase cross absence) was also increased. Scanning electron microscopy showed the presence of some pores and channels in the blue maize starch. The electrophoretic protein profiles showed differences in the bands that correspond to the enzymes involved in the starch biosynthesis; these differences could explain the variation in morphological characteristics of blue maize starches against starch from white maize.

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