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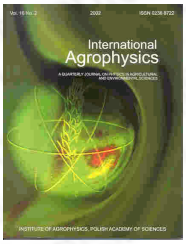

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Improved method of wheat starch isolation for friabilin analysis

(get PDF)

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abstract Starch granules were isolated from two types of wheat grain: Triticum durum (one sample) and Triticum aestivum (two varieties). Prime starch was fractionated according to the method described by Wolf and by a modification to this assay, which we developed. The modification entailed changing some processing parameters for the fractionation of prime starch ie starch-to-water ratio and centrifugation speed. From the fractions so obtained, the crude protein content, the presence of friabilin (SDS-PAGE electrophoresis), and the share of A- and B-type starch granules as well as non-starch particles (DIA of SEM pictures) were determined. The proposed modification enabled easy separation of all fractions, which was necessary to verify the hypothesis that friabilin is bound to the surface of starch granules. It was found that the presence of friabilin on the surface of T. durum or T. aestivum starch granules is related to the method of isolation and fractionation employed; therefore, caution should be exercised when reporting a negative finding.

keywords wheat, hardness, starch granules, friabilin, fractionation