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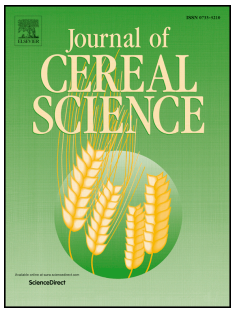

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New films based on triticale flour: properties and effects of storage time

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ABSTRACT

In this study, new films based on triticale flour were prepared by using the casting technique. Colour, microstructure, mechanical, physicochemical and water vapour barrier properties were determined. Triticale flour films were aged up to 60 days at 52% relative humidity and 25ºC. The influence of storage time on functional properties was also studied. All films presented high (from 84.01 to 85.21) lightness values (L*). Results showed that during storage the values of permeability of the films did not change significantly. Tensile strength, elastic modulus of Young and puncture force values increased and the percent of elongation at break decreased towards the last days of storage. Analysis of SEM images of films showed the appearance of small cracks at 60 days of storage. After 45 days of storage, triticale flour films maintained acceptable functional properties. In conclusion, films based on triticale flour showed properties that make them a substantial potential to be incorporated in food packaging applications.

Keywords: triticale flour film; storage; barrier properties; mechanical properties