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

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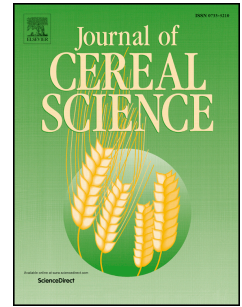
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1 **New films based on triticale flour: properties and effects of storage time**

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9 **ABSTRACT**

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

22

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

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