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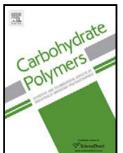
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ACCEPTED MANUSCRIPT

1	Viscoelastic behavior of maize kernel studied by dynamic mechanical
2	analyzer
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12	Li).
13	Abstract
14	The creep recovery, stress relaxation, temperature-dependence and their frequency-dependence
15	of maize kernel were determined within a moisture content range of 11.9% to 25.9% (w/w) by using
16	a dynamic mechanical analyzer. The four-element Burgers model was found to adequately represent
17	the creep behavior of the maize seeds ($R^2 > 0.97$). The 5-element Maxwell model was able to better
18	predict the stress relaxation behavior of maize kernel than the 3-element Maxwell model. The $T_{\rm g}$
19	values for the maize kernels decreased with increased moisture content. For example, the T_g values
20	were 114°C and 65°C at moisture content values of 11.9% (w/w) and 25.9% (w/w), respectively. The
21	magnitude of the loss moduli and loss tangent and their rate of change with frequency were highest at
22	20.7% and lowest at 11.9% moisture contents. The maize kernel structure exhibited A-type

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