

EFFECT OF ENDOSPERM TYPE ON TEXTURE AND *IN VITRO* STARCH DIGESTIBILITY OF MAIZE TORTILLAS.

ABSTRACT

Tortilla is the main staple of Mexico and it is made using diverse maize varieties, which have different endosperm types. Three maize varieties with vitreous, intermediate and floury endosperms were used. Texture and starch digestibility were evaluated in freshly prepared and stored tortillas for 24, 48 and 72 h. Tortilla made with maize of vitreous endosperm had the highest force to rupture and the lowest distance of elongation, indicating more rigid texture. Stored tortillas had lower available starch content and higher effect was shown by tortilla of vitreous endosperm, pattern that agrees with the higher increase in the resistant starch content with the storage time. Fresh tortilla of floury endosperm showed the highest hydrolysis rate during the first 15 min followed by tortillas of intermediate and vitreous endosperms. Starch hydrolysis values decreased when storage time increased, in agreement with the resistant starch content in the stored tortillas. At the longest storage time (72 h) tortilla of floury endosperms. The endosperm type plays an important role in the textural and starch digestibility of fresh and stored tortillas.

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