

The Effects of Moisture-Sorption Cycles on Some Physical Properties and Nutritional Contents of Agricultural Grains

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A b s t r a c t

Three types of grains (maize, sorghum, and millet) were stored under the condition of continuous moisture-sorption cycles from 0% RH to a near 100%. Then the effects of this treatment on the physical characteristics of size, shape, surface texture and color, nutritional content, rate of weight loss, and viability, were evaluated. Analysis showed that moisture-sorption cycles caused pronounced shrinkage evidenced by lower diameters and thickness recorded for the treated samples. Ageing was also at a faster rate indicated by the change in color and texture. Moreover, both nutrient content and weight loss were observed to be at a faster rate for treated samples.

Keywords: Stored grains, maize, sorghum, millet, nutrition, relative humidity.