Title of Article: Moisture migration and bulk nutrients interaction in a drying food systems: A review

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Abstract

Drying is a technique that involves removal of moisture using heat energy. This heat affects the protein components in foods especially the thiosulphide groups, which causes hydrophobic bond break that has been attributed greatly to denaturation during drying. Safe moisture content (SMC) is the extent to which moisture can be withdrawn from food crops during drying that such crops can be considered safe for storage with minimal loss of nutritional qualities. Several reported minimum moisture contents, and bulk nutrients levels of crops were collected for the purpose of this review, and scattered plot graph was employed to determine the levels of bond interaction between moisture content and each bulk nutrients in the various dried food categories. The moisture contents in grains; root and tuber crops; fruits and vegetables; and cash crops formed a SMC threshold boundary within the 6-14 %; 0 – 10 %; 0 - 22 %; and 0 - 30 % respectively. Crude fibre and most especially the ash content played the most crucial role by providing the strongest bond interaction with migrating moisture during drying of all the food crops categories, and are of utmost important in the determination of SMC.