EFFECTS OF ROASTING TEMPERATURES AND STORAGE ON THE QUALITY OF RED LENTIL

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ABSTRACT Legumes including red lentils have soluble and insoluble fibers, resistant starch, folate and proteins. The functional properties of these nutrients may reduce the risk of cardiovascular diseases and promote the well-being of pulse consumers. Roasting of red lentils can be used to produce flour, high protein and starch fractions. Dehulling of red lentils may be improved by roasting. Roasting may improve the flavor and palatability of red lentils, and may reduce anti-nutritional factors associated with legume consumption. Little is known regarding the effects of roasting temperatures and storage on the quality characteristics such as breakage susceptibility, color and hardness of roasted red lentils. ‘Robin’ red lentils at initial moisture content of 15 to 16% were roasted at temperatures of 160, 180, and 200°C for 15, 30, and 45 minutes. The roasted lentils were cooled immediately. The lentils were placed in Ziploc bags and stored at temperatures of 5°C and 25°C. The breakage susceptibility, color and hardness of the stored lentils were measured periodically. The color of the samples was determined using Hunterlab spectrocolorimeter. The Stein breakage test was used to determine the breakage susceptibility of the lentils. The hardness of the roasted and stored lentils was measured using a texture analyzer. The results of the quality characteristics of the roasted and stored red lentils will be presented.

Keywords: Roasting, red lentil, storage, quality