World Academy of Science, Engineering and Technology
International Journal of Nutrition and Food Engineering
Vol:9, No:07, 2015

Changes in Textural Properties of Zucchini Slices with Deep-Fat-Frying

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Abstract : Changes in textural properties of zucchini slices under effects of frying conditions were investigated. Frying time and temperature were interested process variables like slice thickness. Slice thickness was studied at three levels (2, 3, and 4 mm). Frying process was performed at two temperature levels (160 and 180 °C) and each for five different process time periods (1, 2, 3, 5, 8 and 10 min). As frying oil sunflower oil was used. Before frying zucchini slices were thermally processes in boiling water for 90 seconds to inactivate at least 80% of plant's enzymes. After thermal process, zucchini slices were fried in an industrial fryer at specified temperature and time pairs. Fried slices were subjected to textural profile analysis (TPA) to determine textural properties. In this extent hardness, elasticity, cohesion, chewiness, firmness values of slices were figured out. Statistical analysis indicated significant variations in the studied textural properties with process conditions ($p < 0.05$). Hardness and firmness were determined for fresh and thermally processes zucchini slices to compare each others. Differences in hardness and firmness of fresh, thermally processed and fried slices were found to be significant ($p < 0.05$). This project (113R015) has been supported by TUBITAK.

Keywords : sunflower oil, hardness, firmness, slice thickness, frying temperature, frying time
Conference Title : ICNFS 2015 : International Conference on Nutrition and Food Sciences
Conference Location : Zurich, Switzerland
Conference Dates : July 29-30, 2015

Open Science Index, Nutrition and Food Engineering Vol:9, No:07, 2015 publications.waset.org/abstracts/28060/pdf