

Comparative Effects of Convective Drying on the Qualities of Some Leafy Vegetables

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Abstract : This paper reports an investigation of the comparative effects of drying on the quality of some leafy vegetables at three different temperatures namely: 50°C, 60°C and 70°C. The vegetables investigated are spinach (*Amaranthus cruentus*); water leaf (*Talinum triangulare*); lettuce (*Lactuca sativa*); and fluted pumpkin (*Telfaria occidentalis*). These vegetables are available in abundance during raining season and are commonly consumed by average Nigerians. A convective dryer was used for the drying process at the stipulated temperatures which were maintained with the aid of a thermostat. The vegetable samples after washing was cut into smaller sizes of 0.4 cm-0.5 cm and loaded into the drying cage of the convective dryer. The daily duration of the drying is six hours from 9:00 am to 3:00 pm. The dried samples were thereafter subjected to microbial and proximate analyses. The result of the tests shows that the microbial load decreases as the drying temperature increases. As temperature increases, the moisture content and carbohydrate of all the samples decreases while the crude fiber, ash and protein increases. Percentage fat content decreases as drying temperature increases with the exception of fluted pumpkin. The shelf life of the vegetable samples increase with drying temperature, Spinach has the lowest shelf life followed by Fluted Pumpkin, followed by lettuce while Water Leaf has the highest shelf life at the three drying temperatures of 50°C, 60°C and 70°C respectively.

Keywords : convective drying, leafy vegetables, quality, shelf life

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