

Investigation of appropriate packaging material and shelf-life stability of *Moringa oleifera* leaf powder

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ABSTRACT:

Moringa oleifera, a tropical plant produces leaves that contain high levels of vitamin A and protein in addition to other vitamins and minerals. Hence its leaves are dried, milled and used as a food supplement in several countries. However, the stability of the nutrients during storage has not been much investigated. The objective of this study is to determine the appropriate packaging material and shelf-life stability of *M. oleifera* leaf powder. *M. oleifera* leaves were solar dried and milled into powder. After the initial analysis, the powder was weighed in aluminium foil, high density polythene and low density polythene sachets. Each was put into a paper envelope and sealed off. The envelopes were put on shelves in a kitchen cabinet and sampled at two month intervals for nutrient analysis. Protein and moisture were determined by proximate method; vitamin C by indophenol method; beta-carotene and alpha-tocopherol by HPLC. pH was measured with a pH meter; water activity by dielectric and conductivity method; mould and yeast by ISO 7954 (1987) and aflatoxin by HPLC. The results showed that protein levels did not vary with time and mode of storage; vitamin C was lost after two months of storage with all packaging materials. Beta-carotene and alpha-tocopherol levels reduced to about half the initial value after six months.

Keywords:

Moringa oleifera leaf powder, beta-carotene, alpha-tocopherol, vitamin C, packaging materials, shelf-life.