EFFECTS OF DRYING METHODS ON AMINO ACID CONTENTS IN MORINGA PLANT SHOOTS AND LEAVES

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Abstract: *Moringaoleifera* (MO) young shoots and leaves were dried either under partial shade (PS) or direct sun (DS) and the essential (EA) and non-essential (NEA) amino acids contents were evaluated. The EA contents in PS-driedMO shoots were higher than DS-dried ones but the difference was not significant except for histidine, leucine and phenyl alanine which were significantly ($p \leq 0.05$) dropped from 0.38, 1.36 and 0.72 to 0.24, 1.11 and 0.65mg/100g, respectively. In case of NEA only glutamic acid, glycine and cysteine were reduced significantly in case of DS-dried MO shoots.Similar reduction effects of DS drying on MO leaves were observed for both EA and NEA. PS drying generally resulted in better retention of both type of amino acids.

Significant reductions were caused by DS drying in case of tryptophan (EA) which reduced from 0.46 to 0.38 mg/100g, glutamic acid (NEA)which decreased from 2.69 to 2.07 mg/100g and cysteine (NEA) which dropped from 0.17 to 0.11 mg/100g in case of MO leaves.

The results revealed that DS drying resulted in deleterious effects on amino acid compositions in both shoot and leaves of MO which may have resulted due to release of amino acids from the proteins after denaturation under direct sun exposure. These free amino acids might have reacted withother chemical constituents in plant matrix to yield other natural products. As an example the amino acids may react with sugars to produce melanoidines through the Maillard reaction.