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Harvest stage and method affect quality of amaranthus

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Abstract

There is limited information on the factors affecting postharvest losses in coastal Kenya. The objective of this study was to determine the effect of the harvest stage and method on the harvest quality of amaranthus in Coastal Kenya. Two trials were done between April 2022 and September 2022 at Pwani University farm, Kilifi County, Kenya. The experiment was laid down in a randomised complete block design in a 2 × 2 factorial treatment arrangement, replicated three times. The factors studied were; harvest stage at two levels (6 weeks denoted S1) or 8 weeks denoted as S2) from planting and harvesting method at two levels (pinching denoted as M1 or uprooting denoted as M2). The treatments were arranged in all possible combinations. The parameters measured were; fresh weight, dry weight, total carotenoids, total chlorophyll, proximate composition (protein, fat, carbohydrates, energy, ash, and fiber) and macronutrients (K, Ca and Mg) and micronutrients (Fe and Zn). Data were subjected to analysis of variance and treatment effects were tested for significance at F-test at 5 % level of significance. Amaranthus harvested at 8 weeks irrespective of harvest method had higher chlorophyll (22.9 %), ash (43.2 %) and Zn (54.4 %) contents than those harvested at 6 weeks by pinching. Amaranthus harvested at 8 weeks after planting had higher fresh weight (37.1 %), dry weight (17.7 %), protein (34.3 %), carbohydrates (25.8 %), energy (15.6 %), ash (22.5 %), fiber (20.2 %), carotenoids (38.9 %), Fe (34.7 %), and Zn (35.3 %) contents compared with those harvested at 6 weeks. Amaranthus harvested by uprooting had higher dry weight (9.2 %) compared with those harvested by pinching. This signifies that harvesting at 8 weeks irrespective of harvest method would offer higher nutritional value and yields of amaranthus.

Keywords: *Amaranthus* spp, maturity index, nutritional value, vegetable quality

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