

Agronomic Evaluation study of Amaranth (*Amaranthus species*) in PNG conditions

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Amaranth is one of the oldest food crops in the world with the genus *Amaranthus* has received considerable attention because of the high nutritional value present in some of the edible species. The importance of this crop complements increasing awareness on the diversity of locally available traditional leafy vegetables. Improving knowledge in the cultivation of traditional vegetables are ideal solutions to farm profitability as well as food and nutrition security of local farmers and communities are concerned. Making available of amaranth genotypes with good agronomic quality traits is considered an appropriate option for small holder farmers both in Papua New Guinea and Northern Australia. Thus, this study was aimed at screening and evaluating 15 pre-selected amaranth genotypes under NARI Laloki field condition. The trial was conducted at NARI Laloki experimental station located at longitude 09°24 S and latitude 147°16 E, 40 meters above sea level. The mean annual rainfall experienced in Laloki during the period of experiment is 51.9 4 mm with maximum and minimum temperatures of 23.5° C and 32° C, respectively with soil profile comprises of dark silty clay loam with moderately well-developed structure and moderate drainage. The experimental design was a randomized complete block design (RCBD) with three replications. The following agronomic traits were assessed, earliness for maturity, high leave at harvest, high marketable branches high shoots, high marketable yield, good appearances, market quality and good taste. Significant variations were observed among the tested genotypes for all traits assessed. The 15 genotypes evaluated and 8 were selected viz; AM 7, AM 6, AM 5, AM 32, AM 3, AM 23, AM 10 and AM 11 showed potential or ability to mature early, capacity to produce high marketable yield and ability to resist/tolerate pest and disease. Because of these good characteristics and potentials these 8 genotypes can be recommended for further demonstration and distribution for general cultivation by farmers.