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Cowpea (*Vigna unguiculata*) for Leafy Vegetable Use in Malawi: Agronomic Evaluation on Station and on Farm

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Abstract

Among African leafy vegetables, cowpea is one of the highly appreciated according to comprehensive surveys from four African countries conducted within the collaborative project ‘Promotion of Neglected Indigenous Vegetable Crops for Nutritional Health in Eastern and Southern Africa’ (ProNIVA). However, cowpea leaf for vegetable use has been neglected in research and development. The objective of this research was to improve the use of cowpea as a vegetable under Malawi conditions. Ten cowpea accessions were selected following agronomic evaluation and assessment of consumers’ acceptability in collaboration with The World Vegetable Center’s Regional Center for Africa (AVRDC-RCA) in Tanzania. Most important properties for selection were leaf and grain yield, seed colour, and acceptability to consumers. Two local varieties, ‘Nseula’ and ‘Khobwe’, as well as ‘Sudan’, the variety recommended by the extension service in Malawi, were taken as local checks. Agronomic evaluation was conducted under rain-fed conditions at Bvumbwe Agricultural Research Station and on farmers’ fields in two villages, Kankhomba and Tomasi, of southern Malawi during six months of the 2005/2006 crop growing season. Leafy vegetable and seed yields as well as key features of nutritional quality were determined. High variation in leaf yield was determined over three consecutive harvests. Most of the accessions previously selected in Tanzania had high leaf yields, similar to ‘Khobwe’, but superior to the other checks. Seed yield also differed among accessions. Three selected accessions together with ‘Sudan’ had higher seed yields. The on-station trial gave leaf and seed yields substantially higher than the on-farm trials. However, there were differences between the two villages, with Kankhomba generally giving higher yields than Tomasi. Leaf and seed nitrogen contents were substantially higher for four selected accessions together with ‘Khobwe’. Farmers indicated they would prefer rather early-maturing varieties, which combined both high seed and leaf yields because they value the dual use of cowpeas.

Keywords: African vegetables, genetic resources, leafy vegetable, Malawi, on-farm evaluation, underutilised crops, *Vigna unguiculata*