Morphological and biochemical characteristics of promising Indian sweetpotato cultivars and identification of virus infecting sweetpotato in India

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Abstract. Phylogenetic relationship of twenty-two promising Indian sweetpotato (*Ipomoea batatas*) cultivars was determined through morphological and yield parameters. Mahalanobis Multivariate D_2 analysis was performed with a view of tracing relationship among the cultivars. Based on sixteen significant characters, four distinct clusters (Gr. I- 11, Gr.II- 9, Gr.III- 1 and Gr.IV- 1) were obtained. This grouping was concordant with the other characters used in cladistic analysis. Association of morphological characters with yield and yield attributing factors were also studied to work out the direct or indirect effect of different characters on yield. The biochemical parameters of the tubers viz. carbohydrate, crude and soluble protein, ascorbic acid, dry matter content were determined. Significant variation of the proximate nutritional composition was observed in the tested cultivars. The mineral profile viz. Fe, Mn, Cu and Zn in the tubers was different among the cultivars. Occurrence of the viruses among the cultivars was also determined visually and by NCMELISA. Twelve different types of virus symptoms were found in the test cultivars. NCM-ELISA gave positive results for some viruses. The present studies have provided a detailed insight among the twenty-two sweetpotato cultivars, which would contribute to the crop improvement programme.