List of figures

Fi.1a and 1b Fields, growing horse gram along with other crops and tapioca

Fig. 2 *Dolichos biflorus* L. plant

Fig. 3 Molecular weight calibration curve of known proteins

Fig. 4 Extent of correlation co-efficient of seedling

Fig. 5 Mature plants of ‘Black’, ‘Cream’ and ‘Brown’ morphoforms

Fig. 6 Correlation coefficient of morphometric data of mature plants

Fig. 7 Interrelationship of foliar characteristics in horse gram

Fig. 8 Flowers of different morphoforms of *Dolichos biflorus*

Fig. 9 Percentage difference on the length of standard, wing and keel petals in the morphoforms of horse gram

Fig. 10 The extent of interrelationship between various floral characteristics in *Dolichos biflorus*

Fig. 11 Seed morphoforms of horse gram

Fig. 12 Correlation coefficient of pods

Fig. 13 T. S of stems of different morphoforms

Fig. 14 T. S of leaves of different morphoforms of *Dolichos biflorus*

Fig. 15 Schematic representation of stomatal index on the adaxial and abaxial sides of leaf

Fig. 16 Nature of Vein islet in three morphoforms of *Dolichos biflorus*

Fig. 17 Transverse sections of roots of *Dolichos biflorus*

Fig. 18 Interrelationship of histological characteristics of root, stem and leaf of horse gram

Fig. 19 Interrelationship of various proximate constituents of the three seed morphoforms of horse gram

Fig. 20 Electrophoretic banding patterns of the three seed morphoforms

Fig. 21 Isozymic patterns of Acid Phosphatase

Fig. 22 Isozymic patterns of Esterase

Fig. 23 Isozymic patterns of Peroxidase

Fig. 24 Isozymic patterns of Polyphenol Oxidase
Fig. 25 Interrelationship of the various minerals of horse gram morphoforms
Fig. 26 Activity of Urease in sephadex G-200 gel filtration fractions
Fig. 27 Absorbance of Urease protein in sephadex G-200 gel filtration fractions
Fig. 28 Activity of Urease in DEAE sepharose fractions
Fig. 29 Absorbance of Urease protein in DEAE sepharose fractions
Fig. 30a SDS PAGE profile of different steps of purification
Fig. 30b Native-PAGE showing the presence of urease in gel assay
Fig. 31 pH stability of horse gram urease after a pre incubation period of 24 h at the indicated pH (2-12)
Fig. 32 Thermal stability of horse gram urease at varying temperatures (40°C-90°C) versus time
Fig. 33 Line weaver-Burk plot of urease activity using the substrate urea
Fig. 34 Line weaver-Burk plot of urease activity using the substrate thio urea
Fig. 35 Line weaver-Burk plot of urease activity using the substrate hydroxyl urea
Fig. 36 Line weaver-Burk plot of urease activity using the substrate N-methyl urea
Fig. 37a In % remaining activity of purified urease with varying concentrations of KCN against time.
Fig. 37b In % remaining activity of purified urease with varying concentrations of Sodium azide (NaN₃)
Fig. 37c In % remaining activity of purified urease with varying concentrations of Hg²⁺ against time
Fig. 37d In % remaining activity of purified urease with varying concentration of Pb²⁺ against time
Fig. 38 RAPD band pattern showing the genetic variability in horse gram morphoforms
Fig. 39 RAPD profile of genomic DNA amplified by the primers
Fig. 40 Dendrogram showing the genetic variability of three morphoforms
Fig. 41 Experiments showing the rats fed with the seed morphoforms and control
Fig. 42 Weight gain of rats fed on the control and other diets
Fig. 43 Interrelationship of Lipid Profile of the rats fed on control and other diets
Fig. 44 Diagramatic representation of morphometric, histometric, analytical, biochemical, and molecular characters of *Dolichos biflorus* L. seed morphoforms viz., black, cream and brown