46.   Estimation of Harvest Index in Groundnut

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Harvest Index (H) is computed as the ratio of podweight Y to biomass X by groundnut breeders and physiologists. The scatter plots of (Y,X) in an irrigated ICRISAT groundnut trial showed a linear relationship between Y and X. Also, fitting of the linear regression model $Y_i = A + HX_i + e_i$ consistently delivered a highly non-significant estimate of the intercept A for all genotypes. This was in conformity with the nature of the crop that the podweight Y must be O when the biomass X = O. This suggested the possibility to get LS estimate of H from the no-intercept linear regression model $Y_i = HX_i + e_i$. The paper exemplifies and discusses this possibility using data of a genotype.