SUMMARY: The improvement in grain yield characters was the manifestation of improved growth characters as a result of higher uptake of nutrients caused by balanced supply of nutrients in this regard soil test based nutrient management approaches aims provide a scientific basis for balanced fertilization to obtain more yield per unit of fertilizer investment. An experiment was conducted during Kharif and Rabi seasons of 2015-16 and 2016-17 in the farmer field of Vijayanagar camp, Tq/Dist: Raichur, to study the effect soil test based nutrient management approaches on grain yield and nutrient uptake pattern in Dry DSR and their residual response was ascertained to mustard in DSR-mustard cropping sequence. Pooled results indicate that maximum rice yield (54.73 q ha\(^{-1}\)) was recorded with application of nutrients as per SSNM approach for targeted yield of 55 q ha\(^{-1}\) in Dry DSR. Similarly maximum mustard seed yield (592 kg ha\(^{-1}\)) was recorded with the residual effect of nutrients through SSNM approach targeted yield of 55 q ha\(^{-1}\) and higher uptake of nutrients (grain + straw) viz., nitrogen (117.72 kg ha\(^{-1}\)), phosphorus (40.50 kg ha\(^{-1}\)) and potassium (151.93 kg ha\(^{-1}\)) by Dry DSR. Similarly higher uptake of nutrients (seed + stover) viz., nitrogen (26.07 kg ha\(^{-1}\)), phosphorus (5.70 kg ha\(^{-1}\)), and potassium (34.99 kg ha\(^{-1}\)) by mustard was recorded with residual effect of nutrients through SSNM approach targeted yield of 55 q ha\(^{-1}\), as compared to RDF, farmer practice and other soil test methods.