Theme: Life Sciences & Agricultural Sciences

DEVELOPMENT OF NUTRIENT MANAGEMENT ZONES FOR SITE SPECIFIC NUTRIENT MANAGEMENT

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Site Specific Nutrient Management is a component of precision agriculture and can be used for any field or crop and it allows for fine tuning of crop management system for maximum yields. Nutrient Management Zones were developed for castor crop in Inceptisols of Mahabubanagar district of Telangana State under irrigated condition during *rabi* season. In one hectare of farmer's field, grids of 15 x 15 m were made and soil samples were collected from each grid. These samples were analysed for soil characteristics and available major, secondary nutrient i.e S and micronutrients. Based on analytical data the geo-statistical analysis varoni maps were developed with different models for different nutrients. Gaussain model for nitrogen and phosphorous, Spherical model for potassium and sulphur, Rational quadratic for zinc, copper and iron & Exponential for sulphur and boron and these models were found to be better choices. The yield data of castor in nutrient management zones developed for SSNM were compared with farmers practice (FP) and recommended dose of fertilizers (RDF). Variable rate of fertilizer application was made using STCR equation for castor in different rates and yield was compared with that of farmers practice and RDF to the crop. The amount of fertilizers used for SSNM was 92, 53, 15, 40 & 25 kg of N,P,K,S and Zn/ ha and 100,40,30 and 80,40,30 kg of N,P, K in farmers practice and RDF plots. The yields obtained with SSNM practice was 30 q/ha and 15 and 12.5 q/ha with RDF and farmer's practice treatments respectively.