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Abstract: A field study entitled "Influence of Nutrient Management and Thiourea on Growth and Productivity of Quality Protein Maize (*Zea mays* L.)" was conducted during kharif 2008, at the Instructional Farm of the Rajasthan College of Agriculture, Udaipur. The soil of experimental field was clay loam in texture and slightly alkaline in reaction and calcareous in nature. It was medium in available nitrogen, phosphorus and rich in available potassium. The experiment consisted of 18 treatment combinations comprising six fertility levels (control, 75% RDF, 100% RDF, 125% RDF, 75% RDF+10 tonnes FYM ha⁻¹ and 100% RDF+10 tonnes FYM ha⁻¹) and three foliar sprays (water spray, 1000 and 2000 ppm thiourea). The experiment was laid out in factorial randomized block design and replicated three times. The results revealed that application of 125% RDF significantly increased plant height at harvest. But other growth parameters viz., dry matter accumulation at successive stages, CGR estimated between 20-40, 40-60 DAS and 60 DAS to harvest, LAI and total chlorophyll content 40 and 60 DAS were significantly improved with application of 100% RDF+10 tonnes FYM ha⁻¹, which was at par with application of 125% RDF. Similarly, application of 100% RDF+10 tonnes FYM ha⁻¹ significantly improved most of yield attributes viz., weight cob-1, cob length, number of grain lines cob-1, 1000-grains weight and grain yield plant-1. Application of 100% RDF+10 tonnes FYM ha⁻¹ produced significantly higher grain (47.98 q ha⁻¹), stover (81.74 q ha⁻¹) and biological yields (129.71 q ha⁻¹) against control (28.27, 57.74 and 86.01 q ha⁻¹, respectively). Increasing levels of fertilizers improved N and P content of grain and stover which in turn improves N and P uptake by grain, stover and total uptake. Application of 100% RDF+ 10 tonnes FYM ha⁻¹ significantly improved protein content of grains as well as N and P status of soil after harvest of crop compared to control. The highest net returns (Rs 49133 ha⁻¹) and B:C (4.07) ratio were recorded with the application of 125% RDF. Foliar sprays of 1000 and 2000 ppm thiourea at 35 and 55 DAS significantly increased plant height at harvest, DMA 40, 60 DAS and at harvest, CGR estimated between 20-40, 40-60 DAS and 60 DAS to harvest, LAI 40 and 60 DAS, and total chlorophyll content 40 and 60 DAS over water spray. Similarly, except number of cobs plant-1 and number of grain lines cob-1, the other yield attributes and yields (grain, stover and biological) significantly superior under foliar sprays of 1000 and 2000 ppm thiourea. However, they were at par in respect of yield attributes and yields. Foliar sprays of 1000 and 2000 ppm thiourea significantly improved N, P and protein content in grain and stover and uptake of N and P over water spray. Agronomic efficiency and recovery of N and P increased with foliar spray of thiourea as compared to water spray. Foliar sprays of thiourea failed to influence N and P status of soil after harvest of the crop. Foliar sprays of 1000 and 2000 ppm gave significantly higher net returns by Rs 4493 and Rs 4835 ha⁻¹, respectively over water spray (Rs 38132 ha⁻¹). The highest B:C ratio of 3.54 was recorded with foliar spray of 1000 ppm thiourea.

Description: Influence of Nutrient Management and Thiourea on Growth and Productivity of Quality Protein Maize (*Zea mays* L.)

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PANCHU RAM
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