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USE MULTI-MICRONUTRIENTS TO CORRECT CHLOROSIS OF GROUNDNUT

The groundnuts grown in calcareous, alkaline or eroded soils show chlorosis due to the deficiencies of manganese, zinc, boron and molybdenum, beside iron. The chlorosis starts 15 days after seedling emergence (DAE), attain severity within next 15 days and continue to show symptoms till maturity. Field experiment was conducted to know the effect of application of six micronutrients on recovery of chlorosis in groundnut genotypes. The combined foliar application of 0.5% iron sulphate, 0.2% zinc sulphate, 0.2% manganous sulphate, 0.05% copper sulphate, 0.05% boric acid and 0.01% sodium molybdate in aqueous solution caused regreening of chlorotic leaves in all the genotypes. Since the chlorosis occurs on young emerging leaves, three applications of this formulation at 30, 50 and 70 DAE @ 500, 500 and 1000 l/ha, respectively were suitable for maintaining greenness of the foliage. The application of multimicronutrients increased 10.7, 11.9, 14.9, 20.5 and 19.4% pod yield in GG 2, JL 24, J 11, GAUG 1 and ICGS 11, respectively. Thus, the foliar application of multi-micronutrients is recommended to recover chlorosis of groundnut and also to maintain healthy crop throughout the crop growth stages.

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ROOT PEROXIDASE ACTIVITY AS AN INDICATOR OF IRON CHLOROSIS IN GROUNDNUT

The peroxidase activity of leaf, stem and root of Fe-efficient and Fe-inefficient groundnut genotypes showing, respectively, no iron deficiency (iron chlorosis) and iron deficiency, was assayed by measuring the rate of increase in absorbance of oxidised O-dianisidine at different crop growth stages. It was observed that the Fe-efficient groundnut genotypes having high chlorophyll, active iron (Ferrous) and total iron content, showed 1.5-2.0, 2-4 and 5-10 times more peroxidase activity in leaf, stem and root, respectively, than those of Fe-inefficient genotypes with lesser chlorophyll and active iron content. It was also observed that the peroxidase activity of iron-supplied genotypes having higher active iron, was higher than that of plant grown without iron. Interestingly, the peroxidase activity was several fold higher in root; hence, it can be used as an indicator enzyme in assessing the iron status of the groundnut plant.

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