

Research Article

Dynamics of copper fractions in a calcareous under AICRP-LTFE Soils

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Summary

The dynamics of Fe fractions in the selective treatments were studied by collecting the surface soil samples (0-15 cm) from the LTFE's conducted on groundnut-wheat crop sequence at Instructional Farm, Junagadh Agricultural University, Junagadh during the year 1999 (Initial year) and 2010-2011 (12th year) after completion of crop cycle. The selected treatments were T₁ - 50 % NPK of RD in groundnut-wheat sequence, T₂ - 100 % N P K of RD in groundnut-wheat sequence, T₃ - 150 % N P K of RD in groundnut-wheat sequence, T₄ - 100 % N P K of RD in groundnut-wheat sequence + ZnSO₄ @ 50 kg/ha once in three year to groundnut only (*i.e.* '99, 02, 05 etc.), T₅ - N P K as per soil test, T₆ - 100 % N P of RD in groundnut-wheat sequence, T₇ - 100 % N of RD in groundnut-wheat sequence, T₈ - 50 % N P K of RD in groundnut-wheat sequence + FYM @ 10 t/ha groundnut and 100 % N P K to wheat, T₉ - Only FYM @ 25 t/ha to Groundnut only, T₁₀ - 50 % N P K of RD in groundnut-wheat sequence + *Rhizobium* + PSM to groundnut and 100 % N P K to wheat, T₁₁ - 100 % N P K of RD in groundnut-wheat sequence (P as S S P) and T₁₂ - Control. The water soluble-Cu, Exchangeable-Cu, reducible-Cu, total-Cu and residual-Cu differ significantly during 12th year and highest value was recorded under application of organic fertilizer. There was slight decrease recorded in DTPA-available Cu. The application of FYM recorded higher values. The application of chemical fertilizer increased the utilization of total and residual form of Cu. Per cent available form of Cu did not show any significant difference due to treatments in individual year.

Key words : LTFE's soil, Ce fraction, Water soluble-Cu, Exchangeable-Cu, DTPA available- Cu, Total- Cu, Per cent available-Cu)

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