

**RESEARCH ARTICLE :**

## Studies on physical and chemical properties of soil profiles in village Baragaon nandur, taluka Rahuri, dist- Ahmednagar of state Maharashtra

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**SUMMARY :** Soil profile studies was conducted in Baragaon Nandur Village, four soil orders viz., two entisols, one inceptisols, vertisols were analyzed for soil physical and chemical properties which are derived from basalt, basaltic alluvium and slightly conditioned by topography. These orders were shallow (entisols), moderately deep (inceptisols), very deep (vertisols). The available moisture content at 33 kPa and 1500 kPa for Entisols (A) soil series is 28.55 and 15.35 per cent, respectively. In Inceptisols it was ranged from 37.15 to 39.38 per cent at 33 kPa and 23.00 to 23.20 per cent at 1500 kPa while in Vertisols it was ranged from 42.89 to 49.39 per cent at 33 kPa and 22.89 to 30.09 per cent at 1500 kPa. and in Entisols (B) it was ranged from 31.06 to 32.88 per cent at 33 kPa and 18.93 to 20.67 per cent at 1500 kPa, respectively. The pH of the soils (1:2.5 soil: water suspension) ranged from 8.23 in Entisols (A), 8.11 to 8.25 in Entisols (B), 8.13 to 8.42 in Inceptisols and 8.12 to 8.38 in Vertisols, the EC value of Entisols (A) was 0.24, while in Entisols (B) it was ranged from 0.31 to 0.42 dSm<sup>-1</sup>. In Inceptisols it was ranged from 0.28 to 0.53 dSm<sup>-1</sup>. In case of Vertisols, EC value ranged from 0.24 to 0.48 dSm<sup>-1</sup>. The highest nitrogen content was observed in Entisols (B) (326.50 kg ha<sup>-1</sup>) followed by Vertisols (295.82 kg ha<sup>-1</sup>) followed by Entisols (A) (254.01 kg ha<sup>-1</sup>) and Inceptisols (228.92 kg ha<sup>-1</sup>). The depth wise available P content in Entisols (A) was 8.50 kg ha<sup>-1</sup>. In Inceptisol it was ranged 12.95 to 15.68 kg ha<sup>-1</sup>, in Vertisols it was varied from 7.39 to 15.91 kg ha<sup>-1</sup>. And in Entisols (B) it was ranged from 4.43 to 11.92 kg ha<sup>-1</sup>. Available K content in Entisols (A) was 281.0. In Entisols (B) it was ranged from 196.0 to 313.6 kg ha<sup>-1</sup>, In case of Inceptisols it was ranged from 258.5 to 393.4 kg ha<sup>-1</sup>. Vertisols ranged from 202.3 to 494.5 kg ha<sup>-1</sup>. The present investigation was undertaken to generate comprehensive information about the characteristics of soil for evolving proper soil and water management strategies so as to maximize and sustain agriculture production.

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