

ANALYSIS OF SOILS FROM COTTON FARMS IN TALUKA BODWAD. DIST. JALGAON.

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During present investigation different cotton farms at Taluka Bodwad, District Jalgaon were selected to understand quality of the soil. Five cotton cultivated farms were selected as study areas. Morphological study of the soil was done by soil survey manual (Soil Survey staff 2002). The soil samples collected from various farms were air-dried and finely ground. Analysis of the soil samples (EC, pH, organic carbon, CaCO_3 exchange capacity) was undertaken following Jackson (1979). Water retention characteristics were determined as suggested by Garden et. al. (1984), bulk density as described by Black (1965).

The study area was covered with black soil. It was loamy to clay in structure, cracking heavily in summer and contains lime and free carbonates.. These types of soil are usually suitable for cotton cultivation. The PH value of the farm ranged from 7.10 to 7.85 (Table. 1) indicating that the soil of this region was moderately alkaline.

The Electrical conductivity (E.C.) of the soil samples ranged from 0.43- 0.47 (mS/cm). Thus the soils were less saline. Available nitrogen content of the surface soil ranged from 15 to 202 Kg/ ha⁻¹. It was maximum on in the surface horizon and found decreasing with increasing depth, with might be due to confinement of falling plant residues and debris.

The available Potassium content varied from 198 to 481 Kg/ ha⁻¹ which was considered to be very high, which might be due to more intense weathering, potassium bearing minerals, generation of leaf litter, release of liable potassium from the organic

residues, application of potassium fertilizers and upward translocation of potassium from lower depth of the soil in the form of capillary rise of groundwater (Hirekurbar et. al., 2000). However, the available phosphorus content of the surface soil varied from 18.5 to 13.0 Kg/ ha⁻¹ which was considered as high to moderately high.

It can thus be concluded that the PH of the soil is neutral to slightly alkaline, electric conductivity was normal and the organic carbon was low to high, The selected farms were thus with balanced nutrients, and there was no need to add extra manures and / or fertilizers.

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**Table.1 : Physico-chemical properties of the Soils of cotton farms in Taluka Bodwad.
Dist. Jalgaon.**

Sr. No	EC mS/cm	OC %	Water holding capacity (%)	Texture	pH	N	P	K
						Kg ha-1		
1	0.43	0.97	154	Silty clay	6.5	202	38.1	Very high
2	0.42	0.91	135	Silty clay	7.0	073	37.0	High
3	0.57	0.99	230	Silty clay	6.0	072	31.8	Medium
4	0.49	0.86	119	Silty clay	6.5	073	37.3	Low
5	0.55	0.89	082	Silty clay	6.5	015	27.8	Very low