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**STATUS OF MULBERRY PLANTATION AND SOILS FERTILITY IN RAYALASEEMA
DISTRICTS OF ANDHRA PRADESH**

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Abstract

In recent years the sericulture industry has contributed lot to the farmer in uplifting his economy as well self employment potentialities to young and unemployed youth. The industry sericulture includes culture of silkworms as well mulberry garden cultivation. The soil fertility conditions that favour the cultivation of mulberry gardens in Rayalaseema districts of Andhra Pradesh. Were dealt in this paper. This provides fertility status and guide lines for the farmer for selecting appropriate fertilizer. The survey and the existing literature revealed occurrence of red soil, loamy soils in majority of these areas and fertilizer. The survey and the existing literature revealed occurrence of red soil, loamy soils in majority of these areas and fertilizers that yield out acid status of the soils are in much more use in these areas. The principle districts like Anantapur and Chittoor engaged in sericulture areas are having soil pH ranges 6-9 and a soil reaction to a maximum of 70%. The nutritive index as measured by soil organic matter, phosphorus, potassium, sulphur and zinc in Anantapur and Chittoor districts appear to be 0.0- 1.11 and 1.45, Pi-1.4 and 1.38; K-2.75 and 2.50; S-1.44 and 1.42; Zn-1.21 and 1.40 respectively. The fertility conditions of Cuddpah district appeared to be very poor. The data concerning to fertility conditions of Rayalaseema that favour mulberry cultivation and related data presented.

Introduction

In order to get good and quality leaf yield, the mulberry soil should be supplied with all the essential elements in appropriate quantity. It is reported that at least 16 essential elements are necessary for mulberry cultivation (Thiagarajan et al., 1993). Soil is the most important resource for a sustainable sericulture, since it contains essential nutrient supply system (INSS) that relates to combined application of different sources of plant nutrients (organic and inorganics for sustainable mulberry production without degrading the natural resource base-the soil and that too, on long term basis seems to be one of the essential form and in a suitable balance (Subbaswamy et al., 1998). Although the use of animal manure was common as far back as agricultural records can be traced, chemical fertilizers have been extensively employed for little more than 10 years. They are now an economic necessity on many soils. Any inorganic salt, such as ammonium nitrate, or an organic substance, such as urea, used to promote crop production by supplying plant nutrients is considered to be a commercial fertilizer (Brady, 1995). This article presents the existing soil fertility conditions of Rayalaseema districts including our laboratory analysis.

Material and Methods

Soil samples from different areas of Chittoor, anantapur and Cuddapah were collected and analyzed by soil testing kit. Analysis for soil reaction (pH), electrical conductivity, organic matter and phosphorus, potassium, sulphur and zinc was made. Nutritive index for organic matter and available contents of phosphorus, potassium, sulphur and zinc has been calculated by using Parkers method

Results

Table 1. Soil reaction (pH) range of soils

District	Per cent soils in different soil reaction (pH) range					
	4-5	5-6	6-7	7-8	8-9	9-14
Chittoor			3.2	34	62	3
Cuddapah	1*	2.2*	1*	21*	32*	0*
Anantapur			3.4	14	63	5

Table 2. Nutrient Index

District	Nutrient Index				
	Organic matter	Abailble phosphorus	Available potassium	Sulphur	Zinc
Chittoor	1.45 1.32*	1.38 1.05*	2.50 1.75*	1.42 1.96*	1.40 1.75*
Cuddapah	1.1*	1.21*	0.46*	0.84*	0.62*
Anantapur	1.11 0.9*	1.40 1.12*	2.75 3.20*	1.44 1.85*	1.21 0.75*

The data presented in table 1 depicts that most of the soils in Raylseema exhibit a soil reaction (pH) of the range of 8-9 followed b 7-8. Data in table 2 shows that Anantapur mulberry cultivable soils appear to be more fertile as observed from their organic matter and ionic composition and is followed by Chittoor and Cuddapah. Cuddapah soils showed the lest nutritive index of all 3 districts attempted in this study.

Discussion

The available data from Central Sericultural Research Training Institute, Mysore and from the reports of Subbaswamy et al (1998) amongst the Rayalaseema districts Anantapur district has more fertile composition for mulberry cultivation (Table 1 & 2) compared to other districts, our present study also



supports the same. The differences of values to our study and that of Subbaswamy et al (1998) may be out of errors that arise out of handling of experimental samples/place of sample collection/protocol errors.

South of Andhra Pradesh comprises the following mai soils. 1. Red sandy soil, 2. Mixed red and black soils, 3. Coastal alluvium, 4. Red loamy soils, 5. Lateritic soils, 6. Deep black soils and 7. Skeletal soils. Amongst these red loamy soils of Rayalaseema are having less than 15% clay content with little moisture holding capacity that necessarily require irrigation. Character of these soils that are in Cuddapah followed by poor rainfall may be reasons for low fertile rates of soils in this district as observed from our study. Higher fertile conditions observed for soils of anantapur may be due to the type of red loamy soils of that district, since these are relatively more fertile than the red sandy soils (Ramana Reddy, 1998).

References

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