



# Potassium status and physico- chemical properties of the FCV tobacco growing soils of Southern Transition Zone of Karnataka

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**Abstract :** The available potassium status of the soils of Southern Transition Zone of Karnataka varied from 27.5 to 448 kg ha<sup>-1</sup>. Out of one hundred sixty surface soil samples only 3.13 per cent of samples were low in available potassium status, while, 32.5 per cent of soil samples were medium and 64.58 per cent of soil samples were high in available potassium status. Soil reaction of tobacco growing soils of Southern Transition Zone of Karnataka, in general was acidic to neutral in reaction and low amounts of soluble salts. Organic carbon content of the soil ranged from 2.70 to 14.10 g kg<sup>-1</sup>. Available nitrogen content of the soils ranging from 92.28 to 485.04 kg ha<sup>-1</sup>, most of the soils were medium to high in available phosphorus and potassium. Exchangeable calcium and magnesium was ranged from 2.30 to 7.10 and 1.0 to 30.6 cmol (p+) kg<sup>-1</sup>, respectively. The chloride content ranged from 16 to 82 mg kg<sup>-1</sup> and the CEC values ranged from 6.0 to 11.9 cmol (p+) kg<sup>-1</sup>.

**Key Words :** Available potassium, Soil reaction, Tobacco platform

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## INTRODUCTION

Flue cured Virginia tobacco, a quality conscious commercial crop is grown on the light soils of Southern Transition Zone of Karnataka, India. The soils vary widely in physical and chemical characters and nutrient status and considerably influence the type, grade and quality of FCV tobacco produced. The essential soil requirements for growing good quality tobacco are light sandy soils well drained with clay sub- soil, low in organic matter, acidic to neutral pH and low reserve of essential nutrients (Krishnamurthy and Ramakrishnayya, 1986).

The soils of Southern Transition Zone of Karnataka, covering the tobacco platforms of Shimoga, Hassan and Mysore districts are mostly well drained light soils. The soils tend to produce a large thin leaf which is light in weight and colour, mild in strength, weak in aroma, soft in nature, low in nicotine and mature tobacco with high filling values.

In order to obtain information on potassium status and physico chemical properties of the tobacco growing soils and to characterize the soils to formulate a suitable fertilizer recommendation for producing good quality tobacco, the present investigation was carried out in different tobacco platforms area. The research of this investigation was carried out at College of Agriculture, Navile, Shimoga, and Karnataka, India during 2009.

## MATERIALS AND METHODS

Soil samples were collected from different tobacco platforms of Karnataka viz., H.D.Kote-1, Hunsur-2, 3, Periyapatna-4, 5, 6, Ramanathapura-7 and Shimoga- 8. The soils selected for study are derived from peninsular granite and gneiss. In order to study the status of available potassium, one hundred sixty surface soil samples (0-20 cm) representing all the tobacco platforms of Southern Transition Zone of

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