

Potassium in Soils Growing Black Pepper (*Piper nigrum* L.) and Response of Applied Potash

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ABSTRACT

Survey of the major pepper growing soils of South India shows that the soils are acidic and pepper requires a porous friable soil, with good drainage and adequate water holding capacity, rich in humus and plant nutrients including potash. The pepper growing soils, mainly belong to four orders, viz., Alfisol, Inceptisol, Oxysol and Entisol. Among the soils, pepper is grown predominantly in the laterite soil which is generally low in CEC, organic matter and exchangeable K. The forest loam is restricted to Western Ghats, shallow in depth, well drained having high organic matter and medium to high in K status, receiving heavy rainfall and highly valued for growing pepper. Pepper is grown as a pure crop in this soil. The red loam is porous, friable and low in essential nutrients including potash. The river alluvium is markedly rich in bases including potash. Pepper is grown as a mixed crop in the interspace of coconut garden in laterite, loam and alluvial soils. The status of exchangeable potash in the pepper soils, content of K in root and leaf of pepper, were studied and their interrelationship were worked out. Investigations on the potash requirement of hybrid Panniyur-1 pepper in a laterite soil showed that application of potash at 270 kg ha⁻¹, increased the availability of K in soil, higher uptake, yield response and economic return. Studies on the response of pepper to applied nutrients including potash in the farmers fields for four years show that application of K increases the K built up in the soils and enhance the yield response. The future research thrust on K nutrition has been identified.

2.0 INTRODUCTION

Black pepper (*Piper nigrum* L.) is a foreign exchange spinner to India to a tune of Rs. 2400 million annually. The crop is grown in 158 thousand