

**B-25 : EFFECT OF POTASSIUM ON DROUGHT TOLERANCE
OF GROUNDNUT IN NONCALCIC BROWN SOILS (HAPLUSTALS)**

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The effect of potassium on drought tolerance of groundnut in Noncalcic Brown soils (NCB) was studied using a pot experiment under greenhouse conditions.

Groundnut was grown with 4 soil K levels (KO = control; K1 = 50% recommended level; K2 = 100% rec; K3 = 200% rec.) at 3 soil moisture regimes, (I1 = field capacity; I2 = 50% FC; I3 = 25% FC). Available soil K, plant K uptake, diffusive resistance of young and old leaves were measured.

Increasing levels of K significantly increased the availability of soil K. The plant K was significantly low in all treatments at KO. Decreasing soil moisture from 11 to 13

decreased percentage K uptake by 8%, 11% and 18% with K1, K2 and K3 respectively except at the KO level. Even in moisture stress conditions, higher uptake was recorded from higher K levels. K levels, stress condition and leaf age were related to the leaf diffusive resistance. The water stressed plants exhibited a higher DR in all K level except in the control treatment. Highest DR occurred at K2 level which was found to be the most drought tolerant of K levels used. Young leaves always showed a significantly lower leaf diffusive resistance than old leaves. This study revealed that increased K application can increase the drought tolerance of groundnut.