RECOMMENDATIONS
7. RECOMMENDATIONS

With the limited scope of field and pot data it is imprudent to make sweeping recommendations on the responsiveness of the soil to K fertilization for sugarcane in the entire sugar belt of the country. However some broad generalizations emerge from the present study.

1) K fertilization for sugarcane ratoons grown in red, laterite and a few black soils of peninsular India is sine qua non for better tonnage and sugar recovery. The rates of application vary from 150-200 kg K/ha depending on the variety grown and the crop management.

2) A good response of K to plant cane was observed only in some black soils of Maharashtra (eg. Kolhapur) and Karnataka (eg. Sankeshwar) and to a certain extent in red sandy loams of South Karnataka (eg. Mandy and Mysore). K fertilization is recommended at the rate of 100-120 kg K/ha.

3) Alluvial soils of north India failed to show positive response of plant cane to K addition. Possibly, the first and subsequent ratoons may show a response to K dressing. The recommended dose should not exceed 50-75 kg K/ha.

4) The dynamics of soil K is such that a high exchangeable pool of the order 800-900 kg/ha might reduce substantially the rate of K application. The recommended dose will be 50-75 kg K/ha.

5) As regards time of application for plant and ratoon cane, a single application at planting and stubble shaving respectively...
is as good as two or three split applications.

6) As a thumb, K responses are likely only at optimum N and P applications.

7) Existing method of soil testing which is based purely on exch. K. (N NH₄OAc) will not be useful in continuous cropping system as in ratoons since exch. K alone is a poor index of K supply power. Hence exch. and non-exch. K as obtained in boiling N HNO₃ and NaTPB need to be included.

8) In view of the consistency and reproducability of values and better correlation with K uptake of sugarcane, extraction with Conc. H₂SO₄ is recommended as a routine soil test method for adoption. The tentative limits are:

   Low : <26.4 kg K/ha or <120 ppm K
   Medium : 26.5 - 400 kg K/ha or 120-200 ppm K
   High : >440 kg K/ha or >200 ppm K

   However, in calcareous soils these limits can safely be reduced by nearly 50%.

9) Among the several extractants/systems tested chemical potential of soil K (GK) provided a better rationale on the basis of which fertilizer requirements can precisely be computed. This was evident from the actual response studies conducted both in plant and ratoon crop.