

Event: 7th IPI-FAI Round Table in collaboration with IPNI
 Date and venue: 20/3/2012; NAAS Committee Room No.1, NASC Complex, New Delhi
 Theme: Refinement of K recommendations in Vertisols



What was discussed?



Meeting in Nagpur, 8-2010

"Since 1955-56, when soil testing service started in India, uniform limits for potassium deficiency and sufficiency were suggested for adoption throughout the country."

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Limitations of present soil test interpretations for potassium and suggestions for modification, Indian Experience

Since 1955-56, when soil testing service started in India, uniform limits for potassium deficiency and sufficiency were suggested for adoption throughout the country. A consideration of the differences in soils in respect of mineralogy and content of the clay fraction encompassing capacity and quantity factors, and differences among crops in respect of their root cation exchange capacity and duration of growth require that critical limits for individual soil types and crops should be defined. The fact that optimum fertilizer requirements calculated from the fertility gradient experiments for different soils and crops differ, emphasizes this need. Revision in the test limits should allow the differences in the nature and amount of clay (and possibly silt) on the pattern of Blegmann et al.¹⁴ for lactate test. In illitic soils, there is need to include a measure of non-exchangeable potassium in the estimate of available potassium. Methods which integrate changes in solution concentration more closely such as that of Nemethy¹⁵ may also be tested on various soil types in major soil groups.

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Potash Review, 1980



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Soil testing in India, 2011

Methods Manual

Soil Testing in India

Department of Agriculture & Cooperation
Ministry of Agriculture
Government of India

New Delhi
January, 2011

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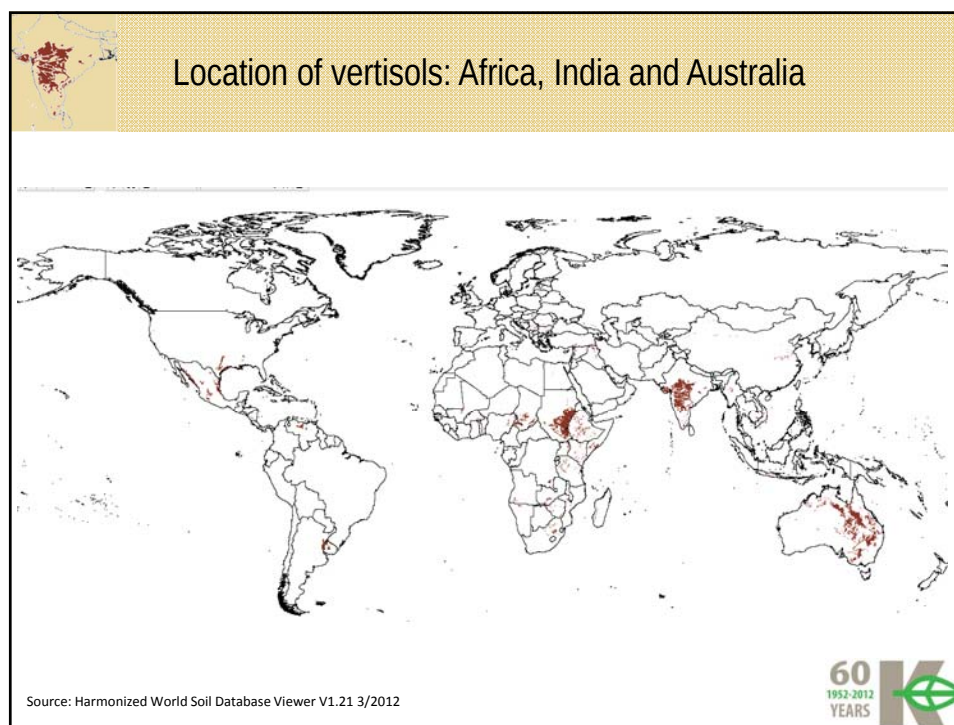
Table 1

S.No.	Soil Nutrients	Soil Fertility Ratings		
		Low	Medium	High
1	Organic carbon as a measure of available Nitrogen (%)	< 0.5	0.5-0.75	>0.75
2	Available N as per alkaline permanganate method (kg/ha)	<280	280-560	>560
3	Available P by Olsen's method (kg/ha) in Alkaline soil	<10	10-24.6	>24.6
4	Available K by Neutral N ammonia acetate method (kg/ha)	<108	108-280	>280

The Soil Test Crop Correlation (STCR) Projects of ICAR including one for micro nutrients which were initiated in 1967 and many State Agricultural Universities (SAUs) are engaged in refining the limits and categories of soil fertility classification. It is important to note that over the decades, only 3 levels of available N, P, K as determined with the testing method as indicated above, continue to be most operative. In many situations, the testing method and the limit fixed for available K is not found to be satisfactory while nitrogen content continues to be represented by organic carbon which at times has no direct relation with soil available nitrogen. The broad classifications for soil nutrient Status is too general and may be only indicative for national level appreciation of soil fertility status and not for the benefit of an individual farmer. This classification needs refinement.

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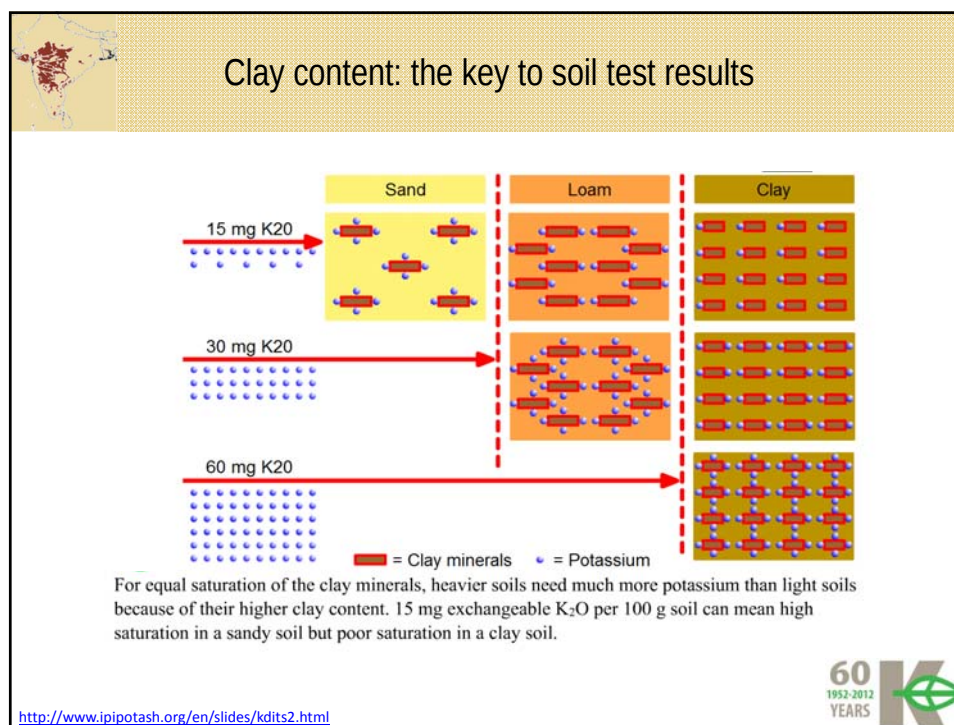
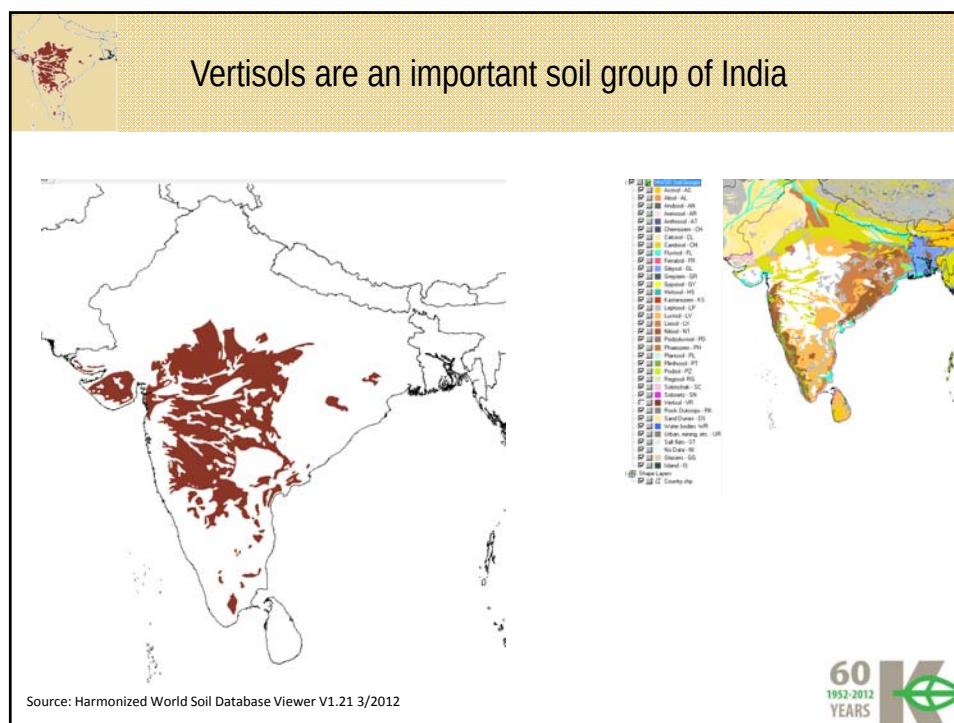




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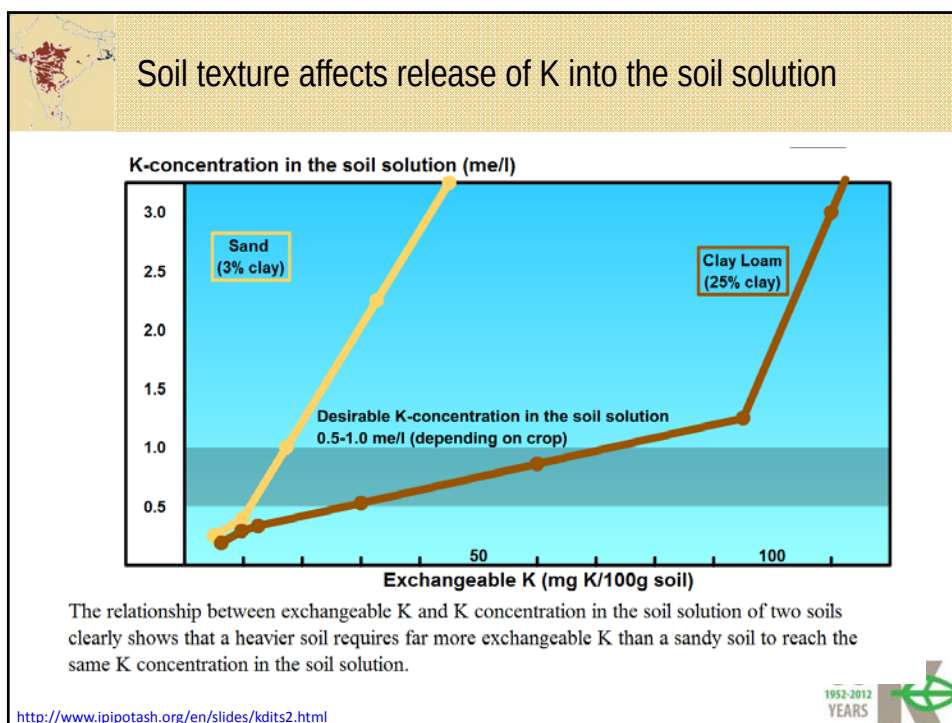
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Objectives of this meeting

- To confirm the need for updating K fertilization recommendations in vertisols
- To agree on the required steps to be taken
- To draw the procedure for the needed change
- ***Reaching consensus and sticking to our conclusions will enable us to better optimize K fertilization in Indian vertisols***

Thank you

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1952-2012
YEARS