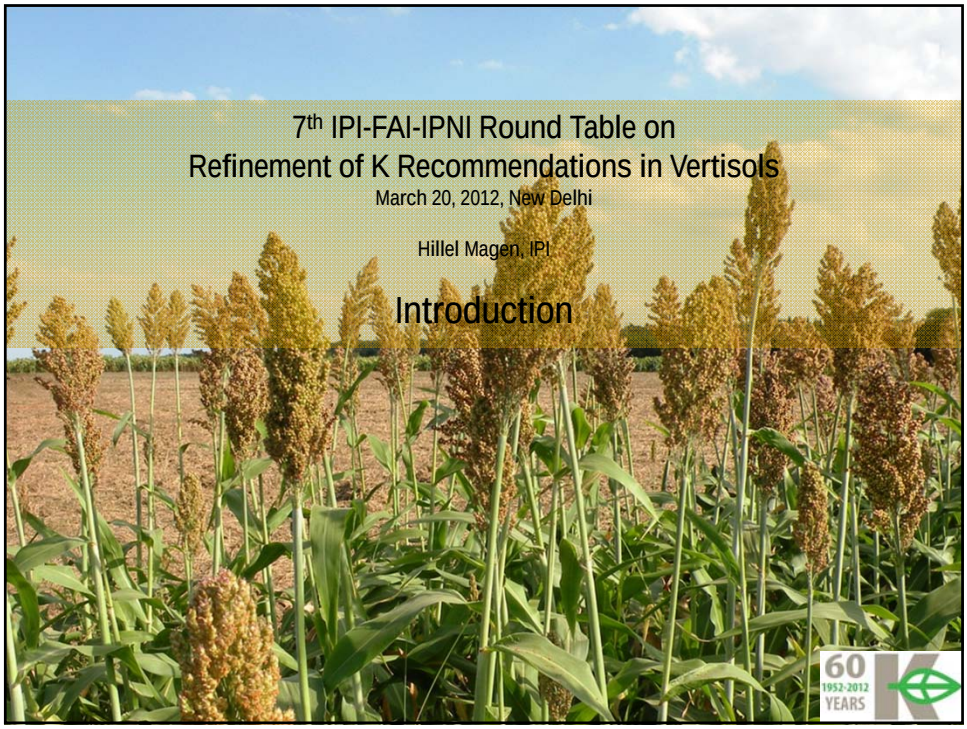
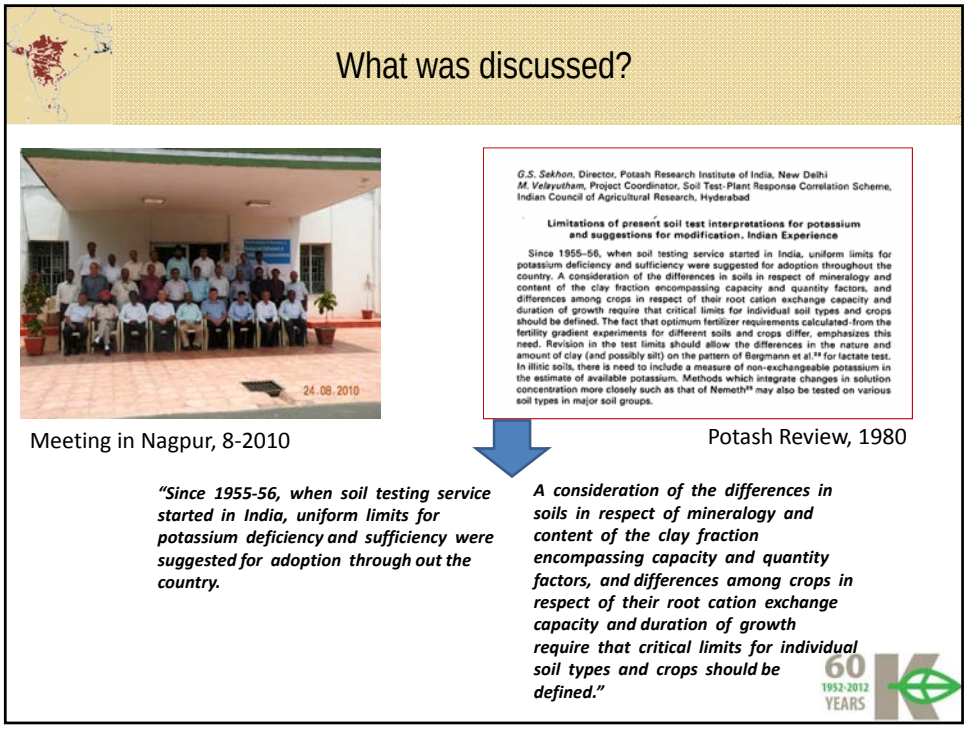
Event: 7th IPI-FAI Round Table in collaboration with IPNI
Date and venue: 20/3/2012; NAAS Committee Room No.1, NASC Complex, New Delhi
Theme: Refinement of K recommendations in Vertisols





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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

1 of 217

Table 1

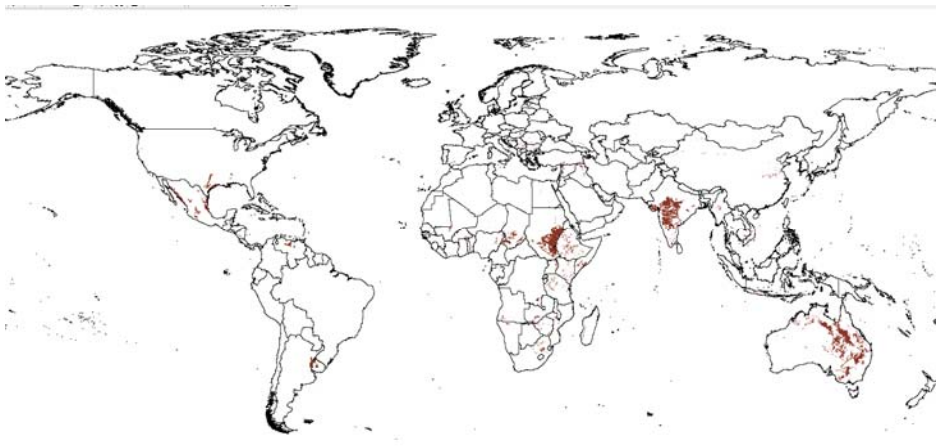
S.No.	Soil Nutrients	Soil Fertility Ratings		
		Low	Medium	High
1	Organic carbon as a measure of available Nitrogen (%)	< 0.5	0.5-0.75	>0.75
2	Available N as per alkaline permanganate method (kg/ha)	<280	280-560	>560
3	Available P by Olsen's method (kg/ha) in Alkaline soil	<10	10-24.6	>24.6
4	Available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

33

60 1952-2012 YEARS

Location of vertisols: Africa, India and Australia



Source: Harmonized World Soil Database Viewer V1.21 3/2012

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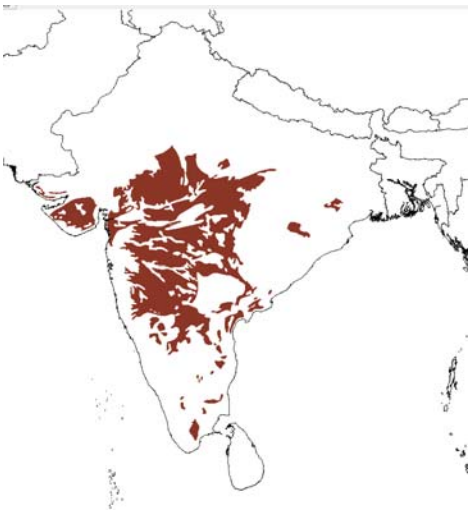
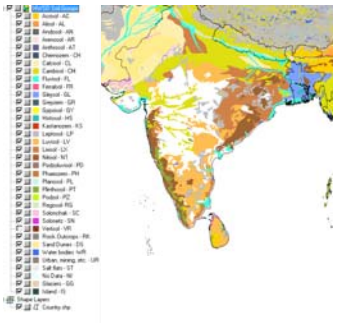
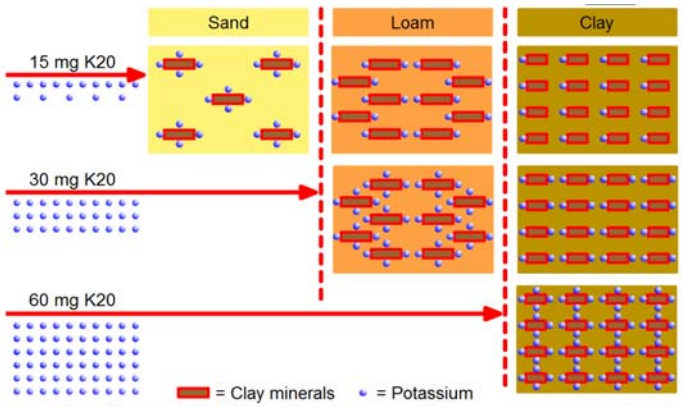
Vertisols are an important soil group of India





Source: Harmonized World Soil Database Viewer V1.21 3/2012

Clay content: the key to soil test results



For equal saturation of the clay minerals, heavier soils need much more potassium than light soils because of their higher clay content. 15 mg exchangeable K_2O per 100 g soil can mean high saturation in a sandy soil but poor saturation in a clay soil.

http://www.ipipotash.org/en/slides/kdits2.html

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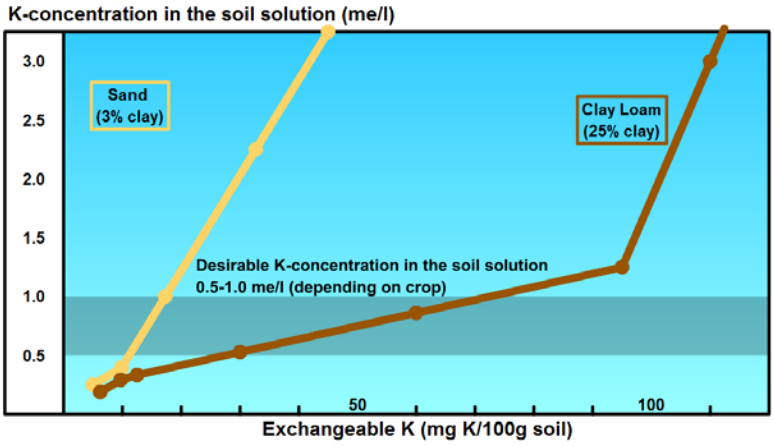
Soil texture affects release of K into the soil solution



The relationship between exchangeable K and K concentration in the soil solution of two soils clearly shows that a heavier soil requires far more exchangeable K than a sandy soil to reach the same K concentration in the soil solution.

http://www.ipipotash.org/en/slides/kdits2.html

1952-2012 YEARS

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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