

Using the three conductivity quality groups, the % K levels of 150 leachates were examined against the corresponding conductivity readings. Based on this, the following three quality groups were found:

<u>Seed Quality</u>	<u>Conductivity Grouping</u>		<u>% K Grouping</u>
Good	< 200 mhos/gram	equivalent to	< 0.40%
"Average"	200-250 mhos/gram	equivalent to	0.40-0.50%
Poor	> 250 mhos/gram	equivalent to	> 0.50%

At this stage these % K quality groupings in beans should be regarded as having only experimental value; the practical value of these % K seed quality groupings need further and more extensive testing.

By the same token, visual checks on vigour ratings on seedlings of the same seed lines appear to be consistent with the above conductivity results.

In conclusion, it appears that the results of the Single Bean Conductivity Tests on seed, the Vigour Ratings on seedlings, and the % K analyses of leachates are all indicators of bean seed quality, and can be used to distinguish quality between seed lines in Phaseolus vulgaris.

#### Reference

Brouwer, H.M. 1978. A novel vigour test in Phaseolus vulgaris. Ann Rep Bean Improvement Coop 21:7.

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#### EARLY FLOWERING - THE HERITABILITY OF NODES-TO-FIRST-FLOWER

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In variety trials with dry bean, Phaseolus vulgaris, it is frequently observed that much of the variation in flowering date can be accounted for by variation in emergence date and number of vegetative nodes. For example, in a field trial with 17 bush varieties, the correlation between flowering date and nodes-to-first-flower was  $r = 0.577$  (15 df) and this improved to  $r = 0.919$  (14 df) when allowance was made for differences in the date of emergence. The numbers of nodes to the first flower in these varieties ranged between 3 and 7. It is possible to find almost as big a phenotypic range as this within a single variety. For example, we have found plants of cv. Prelude with 4, 5, 6 or 7 nodes to-first-flower. But we were unable to find evidence that this intra-variety variation is heritable. The correlation between the value for the parent plant, and for its offspring (10 offspring per parent, obtained by selfing) was  $r = 0.0818$  (12 df). Thus we conclude that the variation in numbers of vegetative nodes which can be observed within bean varieties, is phenotypic and not genotypic in origin. It would be interesting to find out the factors which cause flowering to be delayed to a higher node in some plants; but we are unlikely to be able to use the variation for genotypic advance.