

THE USE OF SINGLE SEED DESCENT IN
SNAP BEAN BREEDING PROGRAMS

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The current 1973/74 season has provided us with our first opportunity to assess the value of the 'Single-Seed-Descent' breeding method in our bean improvement program. By combining it with the rapid generation turnover technique we progressed from the harvest of selected F-2 plants in April 1972 (middle autumn here) to the sowing of F-6 and F-7 lines in December 1973. With the major plot selection work for the season just finished, I feel very pleased with the technique and its results.

Glasshouse losses were initially high due to handling difficulties associated with high plant densities-too high-but these losses were replaced in the following sowing with the result that there were actually three different generation groups from the s.-s.-d. technique.

From a breeders viewpoint, the general quality of the lines in the field was very encouraging and the high level of uniformity made selection just so much easier by removing the large element of uncertainty which is associated with the G/E interactions in the F-3 and F-4 generation material, even in the best of fields.

I feel that my plant handling capacity will increase greatly as a result of this approach, particularly in the snap bean work where staggered sowing are not possible and pod quality assessment within a very limited period is vital.

While this trial period of our new approach did not involve the use of any major selection factors during the rapid generation turnover, it will be relatively simple to use them in the F-4 and F-5 stage and thereby further improve the handling capacity and efficiency.

PREMATURE GERMINATION OF IMMATURE BEAN SEED

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The occasional examples of premature bean seed germination within near-mature pods growing in the glasshouse had previously been thought to be the result of high moisture levels persisting in the pod due to faulty watering or some thing else, specific