GENOTYPIC VARIABILITY AND CORRELATIONS COEFFICIENTS
OF SOME QUANTITATIVE CHARACTERS IN FIELD BEANS
(Vicia faba L.)

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ABSTRACT

During the season of 1982-83, a collection of sixteen local and
introduced field bean varieties were assessed in two locations to eval-
uate the genotypic and phenotypic variability, genetic coefficient of
variation, heritability, genetic advance under selection, genotypic and
phenotypic correlations.

Significant location mean squares were detected for all traits.
Mean squares due to genotype and genotype X location were highly sig-
nificant for flowering date, number of branches, number of pods per
plant, 100-seed weight and seed yield per plant. For other traits,
however, mean square due to genotypes was highly significant along
with insignificant genotypes X locations interaction.

High relatively associated values of G.C.V., %, heritability and
A% were obtained for all traits, except number of seeds per pod,
first flowering node, and flowering date, indicating that selection for
these traits could be effective in improving field bean varieties.

Genotypic correlation coefficients in most cases were comparatively
higher than their corresponding phenotypic coefficients. Highly signifi-
cant and positive correlations were obtained between seed yield per plant
and each of seed weight, plant height, first fruiting and flowering node.
Also, highly significant positive correlations were detected between seed
weight and each of number of seeds per pod, plant height, first fruiting
and flowering node. Hence, the four traits viz. 100-seed weight, plant
height, first fruiting and flowering node could be effective aids to
improve seed yield in field bean.

INTRODUCTION

 Breeders give a great deal of interest to the genotype X environment
interaction in that breeders are interested in distinct variability in breed-
ing stocks in order to improve the agronomic characters of the new var-
ieties. In field beans Vicia faba L. information obtained from the geno-
type X environment interaction can help in suggesting efficient program
for breeding outstanding varieties. Because yield is a very complex