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AMINO ACID ANALYSIS OF BLACK BEAN VARIETIES (*Phaseolus vulgaris* L.)

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Thirteen genotypes belonging to 2 intraspecific groups of *Phaseolus vulgaris* L. were studied: Negro Tropical and Negro Arribeño, both separated by geographical distribution, size and differences in seed form. The Negro Tropical group, with 9 genotypes, has oblong compressed seeds and adaptation to warm climates. The Negro Arribeño group (4 genotypes) has either elliptical or oblong compressed seeds and adaptation to temperate climates. The protein amino-acid analysis was done by liquid exchange chromatography on a Hitachi Perkin-Elmer automatic analyzer Model KLA-3B. The protein content of the genotypes of the Negro Tropical group is between 24 and 31.8% with an average of 27.7% on a dry weight basis. The lysine content is high, between 1.36 and 2.02% in flour, on a dry weight basis, equivalent to 4.73% and 7.61% in protein. The tryptophane is within the minimum limits of daily requirements and the methionine varies in flour between 0.39% (Chis. 4A-1) and 0.56% (Ver. 105); compared with egg protein 8 of the 9 genotypes have a chemical score of methionine higher than 100% (103-120); nevertheless 100 g. of flour is insufficient to cover the daily requirements of methionine (1.1g) in man. The Negro Arribeño group has an average of 28% of protein on a dry weight basis and it has less methionine and tryptophane than the Negro Tropical group. The Negro Arribeño group has high values of lysine (between 5.26 and 6.88% in protein).

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GENETIC VARIATION WITHIN PLANT INTRODUCTION LINES  
FOR DAYS TO FLOWERING

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Problems associated with maintenance of genetic variability in germ plasm collections have been discussed by Allard (1). Genetic shifts occur within an accession as a result of: a) differential survival in storage, b) selection during rejuvenation, c) outcrossing with other entries, and d) genetic drift.

The possible effects of differential survival in storage and plant productivity on population composition of artificial mixtures of snap bean seed have been reported (2, 3). In this report, results of a field study on time to flowering within several Plant Introduction (P.I.) accessions of beans are presented.

In May of 1977, 150 to 200 seeds of several P.I. lines were obtained from the Regional P.I. Station at Pullman, Washington. A single row for each accession was planted at the Colorado State University Horticulture Farm at