INTRODUCTION

Common bean (Phaseolus vulgaris L.), with its origin in America, reached Iberian Peninsula during the 16th century, receiving the same Spanish names given to the Old World beans, including faba bean and some other pulses. Nowadays, common bean is a crop of considerable importance, mainly as a grain legume (dry bean) being an important source of protein in the Iberian Peninsula, where landraces are usually grown by farmers on small farms and in gardens by means of traditional methods. For this reason, a high degree of diversity is still maintained within this species, and it is therefore possible to collect valuable germplasm.

Since 1987, a project involving germplasm collection, maintenance and evaluation of common bean landraces from the Iberian Peninsula has been carried on at the Misión Biológica de Galicia of the Spanish Council for Scientific Research (CSIC) in Pontevedra (Galicia, Spain) with two main goals. In short term; the project is concerned firstly with the evaluation of landraces for diversity trying to identify those with promising values in agronomical and quality traits (Santalla et al., 1995). The second goal is a long term one; aimed at preserving diversity in this species.

This work shows several common bean landraces from Iberian Peninsula which deserve special attention from the breeder's point of view because of their desirable yield traits.

MATERIAL AND METHODS

One hundred and fifteen common bean landraces from Iberian Peninsula and six elite cultivars, used as controls, were sown in a lattice design with two replications during the summer seasons of 1993 and 1994 at Pontevedra, Lalín and Vitoria (Spain).

An experimental plot consisted of a single row 3.5 m long, spaced 0.8 m apart with a plant to plant spacing within rows of 0.25 m for a total of 15 plants per plot. Two seeds were hand sown per hill, and after seedling emergence, the plants were thinned to one per hill. Plots were kept free from weeds, diseases, and insects throughout the growing season. Soil fertility and moisture conditions were adequate for normal crop growth at all the locations.
At harvest time, data collected were: number of pods per plant; number of seeds per pod determined on five pods; seed yield as: no. pod/plant x no. seeds/pod x seed weight (Adams, 1967). After storage at 0°C and 50% of humidity during six months, the following seeds traits were evaluated: seed dimensions (length, width, and thickness) were measured as the mean of a sample of ten seeds, and seed weight was determined with one hundred seeds.

RESULTS AND DISCUSSION

The analysis of variance shows significant differences among populations for all the characters evaluated. Significant populations-environments interactions were observed for yield and yield components, which indicate a marked inconsistency of population responses to seasonal variation. These results are in agreement with those presented by Escribano et al. (1994). However, several landraces (PHA-0039, PHA-0508, PHA-0599, PHA-0619) had more high and stable yields than the six commercial cultivars included as controls in all tested environments. Some of those populations could be parents in breeding programmes with the goal to improve dry bean yield.

REFERENCES

