1. **INTRODUCTION**

*Canavalia ensiformis* D.C. is a member of the papilionate Leguminosae. The genus is pan-tropical and *C. ensiformis* is widely grown as a cover crop. The bean may be eaten if the bitter testa is removed. The normal colour of the seed coat is white but coloured variants have been noted. Natural outcrossing is evidently rare and from a mixed population K. Shepherd (unpublished) isolated pure lines. Using these pure lines as parents, crosses were made with a view to investigating the genetics of seed coat colour.

Seed coat colour is a maternal character and hence it is necessary to produce two complete generations. In the time available it has only been possible to obtain *F*_1 data.

2. **MATERIALS AND METHODS**

Four true-breeding types of seed-coat colour have been isolated namely:

- **Type A** having a white seed-coat i.e. the normal type. Two cultures of A were found to differ in mean seed weight and were termed A1 and A2, of which A1 was the larger.
- **Type B** having a white seed-coat with brown spots and a brown ellipse round the hilum.
- **Type C** has a brown seed coat with a large white hilum ellipse.
- **Type D** is brown tending to be darker near the hilum. A further type resembling C to some extent was shown to be a hybrid C x A.

The hybrids available in the investigation were:

- A1 x B
- B x A1
- C x A
- D x B
- A1 x C
- B x A2
- C x D
- A1 x D

No hybrid B x C was available.