A. The Inheritance of Seed Coat Colours in *Canavalia ensiformis* D.C.

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. It is described as having white seed, but K. Shepherd (unpublished) isolated pure lines.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 material is a maternal character and hence it is necessary to produce two complete generations.

2. Materials and Methods.

Four true breeding types of seed coat colour were isolated, namely:-

1. TYPE A, having a white seed coat, i.e. normal type.
2. TYPE B, having a white seed coat with brown spots and a brown ellipse around the hilum.
3. TYPE C, having a brown seed coat with a large white hilum ellipse.
4. TYPE D is brown, tending to be darker near the hilum.

A further type resembling C to some extent, which has white streaks in the brown at the opposite end to the hilum, was shown to be a hybrid C x A.

Initial crosses proved difficult, few flowers set, but all crosses were eventually obtained in at least one direction; and the F_2's have been obtained from these, with the exception of C x B, of which only the F_1 was obtained.