

INTRODUCTION.

Velvet beans (1) are an extremely vigorous annual legume, the vines often reaching a length of fifty feet. The leaves are trifoliate, with leaflets rhomboid ovate in shape and up to eight inches long. The flowers, which, according to variety may be white or purple, are borne in groups on long pendant racemes. There are two main types of pod; one being covered with dense black velvety hair, as in the Florida variety; while the other type has the pod covered with white bristly hairs, causing an intense irritation of the skin in handling. As an example of the latter type we have the Chinese variety. The pods of different varieties vary in length from two to six inches; and also in shape, some being regular in form whilst others are club shaped. The seed may be a flattened oval, or almost spherical in shape, and may be black, brown, white or mottled in colour. The roots are mostly surface roots with a main taproot about a foot long, all the roots being well supplied with nodules. The crop is remarkably free from both fungus and insect attack.

It is thought that the velvet bean is a native of India for cultivated varieties of different species have been found in that region. The Florida velvet bean (*Stizolobium deeringianum*) was introduced to Florida some time before 1875. By 1890 the plant was used to some extent for green manure in citrus orchards in Florida. Though there are now many cultivated varieties the common name 'velvet bean' is used for all. The growing importance of the crop may be judged by the fact that the U.S.A. in 1914, grew less than 1,000,000 acres, whilst in 1917 over 5,000,000 were grown. (2). Since *Stizolobium* is primarily a tropical crop, there are great possibilities for this crop in the tropics, especially in regions where animal manure is unobtainable, and the whole of the requirements of the soil for organic matter and nitrogen are obtained by the use of leguminous green

manures (3). Belling (4) at the Florida Experimental Station has produced some early maturing varieties and has worked on the occurrence of sterility in the crop. That, so far as is known, has been the only work on improvement of the crop, when it was taken up at the Imperial College of Tropical Agriculture in 1924 with the following objects in view:-

(1) To investigate as far as possible the method of inheritance of various factors.

(2) To breed out pure lines, from which types could be selected with a view to improvement of velvet beans as a cover crop, as a green manure crop, as a fodder crop and lastly as a foodstuff.