

now enabled to have agricultural seeds tested free of charge, and with considerably more expedition than has formerly been the case. It is hoped that farmers will take full advantage of the facilities that are now being provided by the Department in this connection. Indeed, the large number of samples being received makes it apparent that the value of this work is being recognized. With regard to the methods adopted by the Department, some of these are at considerable variance with those in use in many of the main seed-testing stations in other countries, and a consideration of the reasons that have led to the rejection of certain of the foreign methods appears necessary.

THE FUNCTIONS OF A SEED-ANALYSIS.

Before discussing the merits and demerits of the system employed by the Department in the testing of agricultural seeds it is well to briefly outline what the proper analysis of any sample should determine.

The functions that should be performed by a proper and exhaustive analysis can be grouped under three headings, namely,—

(1.) The accurate determination as to whether the sample is a suitable one for sowing.

(2.) The determination of the relative value of one sample to another.

(3.) The determination whether the price asked is a fair one, taking the average market price of the highest-grade seed as a guide.

In many cases, especially with regard to those seeds that represent distinct or improved strains, trueness to type is also a very important consideration; but this cannot be determined by an analysis. It necessitates the critical examination of the growing crop from which the seed is to be harvested.

The fitness of any sample for sowing depends primarily on the character and number of the foreign or extraneous seeds that it contains. If these foreign seeds are those of plants that will in any way seriously affect the crop that is to be grown, the sample must be considered quite unfit for the farmer to use. They will not only cause a reduction in the crop, but may also act detrimentally on the productive capacity of the land for many years—indeed, perhaps permanently reduce its value for agricultural purposes. Thus the accurate determination of the amount and kinds of foreign seeds present is essential in any seed-analysis.

The other factor that determines the fitness for sowing is the capacity of growth or germination. Samples that show a very low germination are comparatively valueless. They should always be rejected, as their price rarely compensates for the small percentage of living seed they contain. A low germination, however, need not