### THE CALCULATION OF FOREIGN SEEDS BY NUMBERS.

All seed-control stations calculate the percentage of impurities by weight, no matter what interpretation is given to the term "purity." This is not wholly satisfactory, as the germination percentage is always calculated by numbers. The ideal way, of course, would be to reckon both percentages in the same terms; but, so far as germination is concerned, no method has been, or is likely to be, devised to ascertain it by weight. Again, with regard to the foreign seeds present in a sample, their weight often gives no proper indication of their relative abundance. It frequently occurs that these are slightly smaller and weigh less individually than the average-sized seeds of the kind being sold, and therefore when the percentage by numbers is taken it is found to be greater than the percentage by weight. It has been shown that the essential feature in the determination of purity is the number and character of the foreign seeds, and that this determination clearly indicates whether the sample is a suitable one for sowing. The Department therefore calculates the foreign seeds by numbers, and not by weight. Thus, a sample containing three foreign seeds per hundred is said to be of 97 per cent. purity. It will be at once said that the weakness of this system is that the inert matter, which is also an impurity, is not taken into consideration. This weakness is, however, in the majority of cases of comparatively minor importance.

### THE CALCULATION OF INERT MATTER NOT ESSENTIAL.

In the first place, in all machine-dressed samples the percentage by weight of the inert material is inappreciable, and if it does occur in excessive quantities it is a certain indication that the cleaning has been faulty. Again, the inert matter does not in any way depreciate the value of the pure seed for sowing, nor has it any prejudicial effect on the resultant crop. The presence of inert matter certainly reduces the price that should be paid, but only exactly by that percentage in which it occurs in a sample. Thus, in two samples of equal germination and freedom from objectionable foreign seeds, in which one contains 2 per cent. more inert matter than the other, the difference in price should be 2 per cent.; and as the percentage of inert matter—at any rate, in New Zealand machine-dressed seed—rarely exceeds that figure, it need in practice hardly be taken into consideration. Whenever a sample contains a large amount of such material a special note is made of the fact, and mention is made in the report submitted to the sender. With regard to fungus-spores, living insects, &c., their presence is also always indicated, and if they are likely to prove of detriment they are especially emphasized.