

SELECTION OF PEA - SEED.

J. BEVERLEY, Assistant Plant-breeder.

THE value of the pea crop, both as a fodder and grain, as well as for culinary purposes, is sufficiently great to warrant the best efforts of the plant-breeder to produce improved varieties, and for the seed-grower to maintain a high standard of purity, so that new introductions may not deteriorate in value.

Crops intended for seed purposes should be rogued at the flowering-stage, and sometimes it is necessary to hand-pick the several varieties also. Few varieties remain constant for long—that is, true to the type sent out by the raiser—because in a great many instances rogues are not destroyed, and through the consequent mixing with their progeny the type rapidly degenerates in purity.

Experience at Svalöf and elsewhere shows that the majority of these so-called rogues which appear in cultivated crops may be artificially produced by cross-breeding, so that what was formerly regarded as atavism or reversion is now looked upon in many cases as simply new combinations of already existing units.

In order to test his own method of selection the writer has made several experiments to ascertain if the number of peas a pod contains has any bearing on the future crop as regards vigour and yield. The following table shows the results for the 1916-17 season :—

Variety.	Number of Seeds grown.	Number of Peas in a Pod.	Plant-vigour expressed.	Seed-yield expressed.
Beverley's No. 1 pea	50 (control)	Ordinary, 8 or less	100	100
	50	Once selected, 10	105	140
	50	Twice selected, 10	105	156

From this it will be seen that the control planting of fifty seeds is ordinary, because the average number of peas in a pod for this variety is eight. Pods containing ten developed peas are above the average, therefore maximum pods are not found on every plant, and usually not more than one or two on a plant. The results as regards plant-vigour and seed-yield indicate clearly the value of selection in this respect.

It may be added that soya beans are fairly regular to a given number of seeds in a pod—more so than peas. In the several varieties tested at Moumahaki the maximum pod has been found. (See *Journal* for August, 1916, p. 140.)