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[...]

Dr. Darwin's new work on the fertilisation of plants (*The Effects of Cross and Self Fertilisation in the Vegetable Kingdom*. By Charles Darwin. Murray.) is said to be of considerable importance to plant-growers, and especially to seed-growers and to raisers of hybrid or cross-bred plants.

"The keynote to the whole book was struck when Mr. Darwin observed that cross-bred seedlings were almost universally more robust and more vigorous than those which were the product of self-fertilisation." The mere act of crossing by itself does no good.

"The good depends on the individuals which are crossed differing slightly in constitution, owing to their progenitors having been subjected, during several generations, of slightly different conditions, or to what we call, in our ignorance, spontaneous variation."

The common practice of gardeners obtaining seeds from different localities is justified by Mr. Darwin's experiences. But, say Mr. Darwin-

"With all the species which freely intercross by the aid of insects or of the wind, it would be an incomparably better plan to obtain seeds of the required variety which had been raised for some generations under as different conditions as possible, and sow them in alternate rows with seeds matured in the old garden. The two stocks would then intercross with a thorough blending of their whole organisations, and with no loss of purity to the variety; and this would yield far more favourable results than a mere exchange of seeds.

For instance, plants of *Ipomoea* thus crossed were to the intercrossed plants of the same stock with which they grew in competition as 100 to 78 in height, and as 100 to 51 in fertility; and plants of *Eschscholtzia*, similarly compared, were as 100 to 45 in fertility. In comparison with self-fertilised plants the results are still more striking: thus cabbages derived from a cross with a fresh stock were to the self-fertilised as 100 to 22 in weight. Florists may learn from the cases recorded that they have the power of fixing each fleeting variety of colour if they will fertilise the flowers of the desired kind with their own pollen for half a dozen generations, and grow the seedlings under the same conditions. But a cross with any other individual of the same variety must be carefully prevented, as each has its own peculiar constitution."