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CONTENTS:

An Improved Truck for Electric Cars 183

The Influence of Learned Institutions upon the Progress of Modern Society.. .. 183

Notes and News..... 188

Should Farmers raise their own Vegetable-Seeds..... 190

Climatological Temperature... 190

Kilima Njaro 191

Book-Reviews.

Sound-English 191

On the Relative Advantage of Tubs with Bottoms and Tubs without..... 192

The Way out of Agnosticism... 192

Among the Publishers..... 192

Letters to the Editor.

Solar Halos. *John C. Branner*.. 195

Lake and River Temperatures. *A. T. Drummond* 195

Industrial Notes.

A New Drawing-Table..... 196

SHOULD FARMERS RAISE THEIR OWN VEGETABLE-SEEDS?

This is a question of considerable importance, and one to which attention is frequently directed by the agricultural journals. It has been made the subject of an experiment by George C. Butz at the Pennsylvania State College Agricultural Experiment Station, with a view to determining some facts that would aid in its consideration. Cultivated vegetables, as a rule, are further removed from their original or "wild" forms by the natural development due to high culture than are the cereals and other ordinary farm-crops: therefore the conditions of soil and cultivation under which vegetables are grown have much to do in fixing the value of the seeds maturing on these plants. We have only to compare the wild carrot of our fields with the cultivated form of the garden to note the change which has been wrought by cultivation. The former is an annual, with a slender root, toughened by much woody fibre; the latter is a biennial, with a fleshy, tender root. It has often been observed, too, that reversions are common among carrots growing in poor soil. These and similar facts concerning other vegetables should not be ignored in considering this question.

Undoubtedly there was a time when many farmers bought commission seeds with but few satisfactory results, for often these seeds were greatly impoverished and adulterated, and reflected much discredit on the seed-business. It is fair to say at this time, however, that the seeds found in country stores, bearing the names of reputable firms, are quite as good as seeds obtained direct from the warehouses. The results of some tests of such seeds made last year may be found in Bulletin No. 4 of the Pennsylvania station. The germinative value of the seeds thus tested compared very favorably with that of the seeds obtained in bulk. Considered from a financial standpoint, no farmer or gardener can complain about the price of seeds, when for a dollar a full assortment of good clean seed, in quantity sufficient for a family can be obtained. If, however, the farmer tries to save this expense by raising his own seeds, he finds in a few years that his vegetables are not so choice as they once were, because the seeds are not selected with care, and the proper cultivation has not been given to the garden.

The question in its scientific aspect presents itself in the following form: Are seeds which have matured under high cultivation (as on our best seed-farms) better for our less enriched farm soils than seeds which have matured in this poorer soil? The answer must be found in a comparison of results regarding earliness, productiveness, vigor, and quality of the products. The conditions at the station were very favorable to the work, and in 1888 seeds were gathered from the best of those vegetables that seeded. The ground in which they grew is not a rich garden soil, but only an ordinary farm soil. These seeds were planted last year along with seeds of the same varieties from the seed-houses of Landreth, Dreer, Thorburn, and others. In March the seeds were examined and careful weights taken of a hundred seeds of each variety. From the figures in the tables of tomatoes, radishes, and lettuce, it appears that in nearly all varieties of the first two vegetables mentioned the station-grown seeds were heavier than those from the seed-houses, while those of the lettuces in the majority of cases were lighter. Following this examination, a test of the germinative values was made by putting a hundred seeds of each variety in the germinators. These results are slightly in favor of the station seeds in case of radishes, but against them in that of the tomatoes.

The seeds of each vegetable were sown at the same time, and given similar treatment. The beans and tomatoes suffered somewhat from a severe late frost, and hence we cannot attribute much value to the figures on earliness and yield, except perhaps as comparisons under like conditions.

It was observed after the frost, which occurred on the 29th of May, that the plants from station seeds were, as a rule, more seriously affected than the others.

The indications of the tables are, (1) the station seeds were, as a rule, heavier than the purchased seeds; (2) the weight was no indication of the germinative value of the seeds; (3) in the majority of cases the earlier marketable products were obtained from the purchased seeds; (4) the greater yield, with but few exceptions, was obtained from purchased seeds; (5) lettuce from purchased seed produced heads that did not "shoot up" to flower as early as the plants from station seed: (6) radishes from purchased seeds were larger, more tender, and more uniform than those from station seeds; (7) on the whole, the results are strongly in favor of seeds from good soil, however rich that may be.

The experiment will not cease with the present results, however conclusive they may appear, as it is desired to determine how much is lost by several years' use of seeds raised on average soil.

CLIMATOLOGICAL TEMPERATURE.

It is well known that the sensation produced by heat and cold of the atmosphere upon the exposed surface of the human body has no direct constant relation to the rising and falling of the temperature in the shade, commonly regarded as the temperature of the external air. When overheated, we fan ourselves or court a draught, and wind produces a like cooling effect. In stagnant air the heat of the tropics is unbearable. In polar regions the cold of winter is unsupportable in high winds. Thus a cooling sensation is maintained by a breeze throughout the thermometrical range of temperature. But, whatever the temperature of the air may be, in sunshine we experience additional warmth, especially if there is little or no wind. Hence our sen-