

The editor of the "North British Agriculturist" observes:—The exhaustion of a soil of the nutrient matter in a soluble state by a particular plant is one of the known causes which render a variation in the kind of plants cultivated desirable. But exhaustion may be remedied by the application of fertilising ingredients; still the plants do not grow with that healthful vigour necessary to produce a soil crop—showing that organised structures (plants) require to be placed in certain conditions apart from the supplies of the materials essential for promoting their growth. The theory of the excretion of plants was readily taken up, and for a time believed as the explanation of this; but recent investigations have tended to throw discredit on the theory. At present there is considerable uncertainty as to the cause, or more properly the causes, which render soils unsuitable for the frequent growth of the same kind of plant. Apart from the questions which relate to the excretion of plants, or the solubility of the nutritive elements, other causes, hitherto not much brought into view, affect healthy growth.

The most important point in question of rotation is, whether the frequent repetition of the same plant tends to induce fungi, or to increase insect depredations. There have been no well conducted observations as to the amount of influence the frequent repetition of the wheat plant has upon the presence of fungi or the propagation of the wheat midge.

So far as our observations go, the growing of wheat alternately with other plants appears to diminish the liability of the development of fungi. This, however, may be traceable to the higher cultivation of the soil, incident to the frequent repetition of the wheat plant. As regards insect depredations, the more frequent repetition of wheat, in East-Lothian for instance, has not increased the ravages of the midges—these appear to be diminishing; but the nature of insect attacks generally depends so much upon the character of the season, and upon causes beyond observation, that speculation is liable to mislead. It might have been presumed that the growing of wheat successively would have some influence in increasing the number of insects, but this does not appear in the Lois-Wcedon experiments.

Some strange anomalies are presented in connection with the frequent cultivation of certain plants, or rather varieties of plants of the farm, more especially of the oat, and certain of its more tender varieties. Oats can be grown successively for two, three, or even five years, and frequently without any perceptible diminution of their healthy growth, if hardy varieties are selected; but they cannot be cultivated successfully with a leguminous crop (beans, pease, &c), intervening; we have seen frequent examples of this. On the other hand an intervening turnip or potato crop does not appear to affect to the same extent the succeeding oat crop. Again, wheat can be cultivated alternately with green crops, without any apparent diminution of health or produce, or any increased tendency to disease. In experiment with beans and wheat alternately, the beans being grown in drills, receiving a light dressing of manure, at the end of several years the beans had almost ceased to yield either straw or grain, while the wheat crop appeared gradually to increase in straw, grain, and quality of grain. The frequent repetition of wheat, when the condition of the soil is maintained,

and especially if the soil is suitable for the growth of wheat, appears to diminish the tendency to become mildewed, or otherwise unhealthy in growth, either of the straw or grain. The tendency to fall, however, is exceptional, being more liable to recur unless considerable care is exercised. Beans and barley grown alternately on the richest carse soils speedily become sickly in growth, with a reduced produce and inferior quality of grain. Several examples of this have come under our observation, and the deterioration generally was very rapid and marked. It would appear that of all the cereals, wheat possesses the power of continuing to grow without any apparent diminution of the produce, provided the constituents furnished in the manurial elements are present. Oats are next to wheat in this respect, although certain anomalies are occasionally presented. Barley, of the three cereals, requires the longest interval to produce abundantly. Of the green crops, the turnip plant cannot be grown successively, except in very exceptional instances; neither can it be cultivated with certainty to alternate with a cereal crop. There have been full crops grown twice, alternating with a white crop; but the soil was a heavy loam in high condition, and the turnip crop comparatively new to the soil. Neither manures nor cultivation will overcome the tendency to diminished weight of roots. But, apart from the diminished weight of roots, with the increased tendency to be attacked with the fungus termed the dry rot, there is the tendency to anbury (finger-and-toe). Although this disease is uncertain in its appearance, sometimes attacking the turnip when grown at wide intervals of time, and even when turnips have been grown for the first time, and is one of the most anomalous of the diseases of the cultivated plants, it is now established that when the disease once appears in a field it rapidly extends, if the turnip crop is repeated at a short interval, unless the land has been manurially treated, as with lime incorporated with the soil in autumn.

The four course system, at no period a highly desirable one, has now become even more unsuitable, from the impossibility of securing a vigorous growth of the clover plant once in four years, and also of the turnip in the same short period. The difficulties connected with such a frequent growth of the turnip crop have been attempted to be obviated by alternating white or yellow turnip with the Swedish turnip, and latterly the mangold with the turnip. In the case of the clover plant, the substitution of white clover for red alternately in the four years, has also been acted upon, but this has not been very successful. The failures of the clover plant have been very imperfectly traced, but are so general that red clover cannot be repeated successfully every four years.

ONE of the most promising novelties in the way of Vegetables is the Alsace or Winter Cucumber, introduced to Paris, from Strasburg, by M. Weber, an Army Surgeon. It is eaten in the winter time just like a common cucumber, but it may be kept all winter on a dry shelf, without the trouble of pickling. Its flesh is less watery than that of the common cucumber, and it has an artichoke flavour with a dash of filbert, which is said to be

an improvement, especially when the cucumber is cooked and served with gravy.

THE new rose, "Saint George," has been figured in the *Belgique Horticole* and the *Lombard Florist*. No doubt it will be sought for next St. George's day, hence this hint to our enterprising rose growers.

## NOVA SCOTIA DEVON STOCK REGISTER.

(Continued from p. 259, No. for Aug. 1874.)

### BULLS.

CXVI.—SIR HASTINGS. Calved Nov-2, 1874. Bred by and the property of Colonel Laurie, Oakfield, N. S.

Sire, Havelock, cvi.

Dam, Maid of Miller Hill, by Wilmot. g. dam, Lady Anne, by Lord Elgin.

g. g. dam, Fanny, by Don Juan.

g. g. g. dam, Roulette (1483), by the Duke (570).

CXVIII.—LORD CLYDE. Calved 20th April, 1875. Bred and owned by Col. Laurie, Oakfield.

Sire, Havelock, cvi.

Dam, Primrose, by Wilmot.

g. dam, Lady Anne, by Lord Elgin.

g. g. dam, Fanny, by Don Juan.

g. g. g. dam, Roulette (1483), by the Duke (570).

### HEIFER.

CXVII.—TULIP. Calved 1st December, 1874. Bred by and the property of Col. Laurie, Oakfield, N. S.

Sire, Havelock, cvi.

Dam, Lady Pink, by Wilmot.

g. dam, Lady Anne, by Lord Elgin.

g. g. dam, Fanny, by Don Juan.

g. g. g. dam, Roulette (1483), by the Duke (570).

## ANOTHER NEW SOCIETY IN COLCHESTER.

THE people of Earltown, County of Colchester, are taking measures for the formation of an Agricultural Society, and have applied to the Central Board, through their Member, W. A. Patterson, Esq., M. P. P. The Society promises to be a strong one. The following letter will explain particulars:—

EARLTOWN, April 24, 1875.

Dear Sir,—Your letter, containing information concerning the forming, &c., of an Agricultural Society, came to hand. I am happy to inform you that we have succeeded in forming one, and to all appearances, a flourishing one, as all appear to be active and anxious. Our list contains forty-five (45) members, and the sum of forty-five dollars (\$45), is paid in to the Treasurer, (\$1 each.) The Society will be known as the Earltown Agricul-