

ce to prove that the doctrine of agricultural equilibrium was correct, and pretended that if the others would only decide upon following the same mode of culture which had been so successful with them, there would be an end to all their difficulties; that all lands were of the same composition as theirs spoke for itself, and therefore, conformable to their experience, the conditions of fertility should be with them inexhaustible. It was in reality conformable to true experience, that the fields of these happy cultivators still bore some large crops; but how many times over they would give them, was a question which no one was prepared to answer. The tradesman, or as they say in agriculture the practical man, did not trouble himself with such questions; it, nevertheless, he would perhaps have been wiser, had he taken them into consideration. What was most opposed to his thoughts was the doctrine itself; it had become an article of faith that the soil is inexhaustible; for if it had been exhausted, the system of culture had had no more foundation, and to doubt its exactitude would have appeared a wilful refusal of truth.

After some years, difficulties of every kind multiplied in culture, and still farther was felt the want of manure. Some by exerting all their powers could not succeed with the means at their disposal in increasing their produce of grain and meat. Others, in many places, appeared scarcely to avoid diminishing their produce. It is evident in this embarrassed state of agriculture could not satisfy the wants of a growing population.

During that time, amongst the natural sciences chemistry had made sufficient progress in her own reconstruction to enable her to take part in the development of other sciences; and while chemists laboured to search out the phenomenon of life in plants and animals, they found themselves in connexion with agriculture.

The chemist had begun to study plants in all their parts—he examined the leaves, stems, branches, the roots and fruits; he pursued the phenomenon of the nutrition of animals; he sought to discover what the aliments became in their bodies; in short he analyzed the lands of almost every country in the world. He recognized that plants absorbed certain parts of earth, which aided the formation of their bodies, and that it returned under the form of ashes after the combustion of the plants, and that these ashes are for the nourishment of other plants. That as bread and meat are of man, and fodder for cattle; that a fertile soil contains much, and an infertile soil very little of these nutritive principles—that if they are increased, the poor soil will become fertile; that good soil would speedily become infertile when by the production of plants, and gathering them from the fields where they had vegetated, the provisions the land had become lessened: and in order that the soil may remain fertile he must completely restore what was taken from it; if the

restitution was not complete, he could not reckon upon the return of the same harvest; and it was only by giving to the soil more than he took from it that the produce could be increased. The chemist showed further (to serve as a comparison), that the aliments of men and animals operated in their bodies as in a furnace where they are burnt. The urine and solid excrements are the ashes of nourishment, mixed with soot and the produce of imperfect combustion, and the good effects that they produce upon fields are easily explained, because they supply to the land what was taken from the crops grown there but with stable dung, produced on the farm, he cannot cultivate for many years together, because it returns nothing to the land, of all its produce, which had been transported into the towns. The farmer should then endeavour to draw from other sources the fertilizing principle which are wanting in dung, and it is only by using artificial manures that he can render fertile the exhausted land. The task of the cultivator does not consist in producing, at the expense of his land, large crops of what impoverishes the soil; but he should, on the contrary, try to produce good harvests without diminishing, but rather increasing its fertility from year to year.

(Concluded in next number.)

Agricultural Intelligence.

ROTATION IN CROPPING.

EDITORS OF THE CANADIAN AGRICULTURIST:—
Sir:—I beg to inform you that we have at last organized a Farmers' Club in our Village. They have made me President. We have had only two meetings; have some twenty-five names on our list, and expect a large increase. I am most anxious it may prosper; it is much wanted in this county. I have not met a man in the County of Kent who has the slightest notion of farming, or has any idea of rotationary cropping. They are ruining the splendid land of this country, and keeping themselves in beggary.

The subject for discussion on last night of meeting, 24th inst., was the best mode of farming 100 acres, 60 cleared, 40 in woods. I made a poor attempt to lay before them some plan of rotationary cropping; you will find it, with all its faults, subjoined. I think if you would let us have a plan of a well-worked farm, something in the form I submit, it would be most valuable. You see I go back for seven years; I attempt to show the crops raised in each field for that period; then, at a glance across my seven fields, you see the crops I raised each year on my farm. By glancing across the diagram, from North to South, you see opposite