

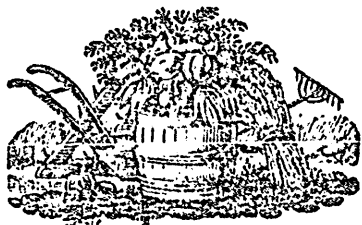
THE COLONIAL FARMER,

DEVOTED TO THE AGRICULTURAL INTERESTS OF NOVA-SCOTIA, NEW-BRUNSWICK,
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LEIBIG'S AGRICULTURAL CHEMISTRY.

No person hitherto appears to have discovered in what manner Gypsum operates as a manure. It is well known that upon some soils a spoonful in a hill of corn will increase the crop at least one third; while near the sea it has no visible effect. Leibig, whose works on Agricultural Chemistry and Physiology are at present attracting considerable attention, thinks that it attracts and decomposes the Carbonate of Ammonia which falls in rain water, thus forming soluble Sulphate of Ammonia and Carbonate of Lime. Dr. Partridge, a Chemist at New York, has denied the possibility of such a combination at a common temperature; and Dr. Bond, of Yarmouth, has also stated that no decomposition would follow if Gypsum were added to Carbonate of Ammonia, but that if Sulphate of Ammonia and Limestone were brought in contact, Gypsum and Carbonate of ammonia would be formed; and the Doctor supported in his reasoning by all the Tables of Chemical affinity which we have seen. We are not, however, prepared to say that Leibig is certainly in error, as we know from experience that the attractive forces of certain substances differ considerably at different temperatures, but in his works we find many paradoxical assertions,* so intermixed with demonstrated facts, that the person who has no knowledge of Chemistry would, we think, be liable to stray if he took Leibig for a guide, notwithstanding the great quantity of real Chemical knowledge he possesses. A chemical book, to be useful to the farmer, should teach what has been discovered, rather than what has been conjectured. We think the following extracts from a sensible Agricultural Chemist much to the purpose:—"The farmer is too anxious that the Chemist should once shew him what can be done to improve the present state of agriculture, and cannot well understand why Chemists are not advanced as far as he is on the road to improvement. It is evident very little reflection is necessary to point out the incorrectness of such a conclusion. It is calculated that two hundred millions of individuals spend their daily toil in the practice of agriculture, and that this state of things has continued for thousands of years; whereas, as regards the science of agriculture, it has never yet occupied exclusively the attention of even twenty individuals in the whole civilized world, and even these during scarcely more than the present century. How then is it possible that a science so recent and so sparingly cultivated, should be capable at once to keep pace with a practice the most ancient, and the most extensively pursued, of all the varied arts with which man is acquainted?

"I have noticed with regret, that almost all the popular works hitherto written upon agricultural science, have fallen into one common error of endeavouring to make a Chemist of the practical farmer—the authors all seem to think it necessary that in order to the improvement of agriculture, every farmer must study Chemistry. In this respect, however, I hold a totally different opinion. It appears to me that it would be a precisely analogous case, if writers on climate had said, that in order to preserve health, it were absolutely necessary that every individual should study Medicine. It is not an extended knowledge of Chemistry that is required—it is only a confidence in the results obtained by Chemists that is absolutely necessary. If the farmer becomes acquainted with the facts as they apply to his practice, and if he has such confidence in these facts, that he is willing to act in accordance to them, there is not the least necessity that he should occupy his time and burden his mind with all the abstruse processes of reasoning and experimental proof by which the Chemist has been enabled to trace out their connection with the complex phenomena which they serve to illustrate.

"I admit that it is requisite, in the first instance, to enter just so far into chemical detail as to convince the farmer of its accuracy, but still I believe that this can in general be much better accomplished, by merely pointing out the connection which subsists between various phenomena, and their mutual dependence on each other, than by attempting to follow out, step by step, the chemical reasonings which form the ground work of these opinions. If a person satisfies himself with book knowledge for his practice, and contents himself with sitting in his closet, and drawing up codes of agriculture according to his preconceived opinion of what is right, he will never be able to render any real service to the practical farmer. He may indeed, by his scientific investigations, throw some light upon some abstruse question as to be essential in guiding others, who understand both theory and practice, into the right path of enquiry; but still I feel confident that the farmer cannot be too cautious in receiving the advice of the purely scientific, of those who consider it essential to make Chemists of every farmer who comes to them for advice. by those he may frequently be misled, but seldom will he be essentially benefited. The man of science who would devote himself to the improvement of agriculture, must himself become acquainted with all the minutiae of practice."—Dr. Henry R. Madden, "On the state the soil should be in when the seed is deposited in it;" Published in the 58th Number of the Quarterly Journal of Agriculture."

"The opinion that the substance called humus is extracted from the soil by the roots of plants, and that the Carbon entering into

* Some virgin soils, such as those of America, contain vegetable matter in large proportion; and as these have been found eminently adapted for the cultivation of most plants, the organic matter contained in them has naturally been recognized as the cause of their fertility. To this matter the term "vegetable mould" or humus, has been applied. Indeed this peculiar substance appears to play such an important part in the phenomena of vegetation, that vegetable physiologists have been induced to ascribe the fertility of every soil to its presence. It is believed by many, to be the principal nutriment of plants, and it is supposed to be extracted by them from the soil in which they grow.