NOVA SCOTIAN
JOURNAL OF AGRICULTURE

Published under direction of the Board of Agriculture of Nova Scotia.

VOL. I. *HALIFAX, N. S., DECEMBER, 1866.* *No. 22.*

CONTENTS:

THE FIELD AND FARM YARD,— PAGE.

Agricultural Chemistry 185
Pedigree of "Beauty," a Short Horn Durham Cow 186
Agriculture at the Paris Exhibition 186
History and Character of the South Down Sheep 187
Official Report of the Season's Crop in the United States 188
The Crop of 1866 in Scotland 188
On Peat Charcoal as a Fertilizer in Nova Scotia 188
Grants in Aid to Agricultural Societies, 1866 189

COMMUNICATIONS,— PAGE.

First Annual Report of the Onslow Agricultural Society 189
The Annual Fair and Cattle Show at Windsor 190
Ragwort, Beans, Pigs, and Potatoes, by D. CAMPBELL 190
Western Halifax Agricultural Society 191
To Correspondents 191

MISCELLANEOUS,—
Small Talk 191
Edinburgh Botanical Society 192
On the Plants of Otago, New Zealand 192

The Field and Farm Yard.

AGRICULTURAL CHEMISTRY.

Under an enlightened system of Agriculture, a knowledge of the science of Chemistry is essential for carrying on farming operations. The object of Chemical science is to teach the nature of the elementary substances of which the universe consists, and the manner in which these substances or "elements" as they are technically called, enter into chemical combination one with another, so as to give rise to compounds which differ in appearance and qualities from both or all of the substances of which they are composed. Thus the two gases, Oxygen and Hydrogen, when chemically united in the proportion of eight parts of the former to one of the latter both lose their gaseous condition, and form a new substance, WATER, which is therefore a compound substance, although long regarded by the ancients, and still spoken of in common language, as one of the "elements." Chemistry is therefore a most important science, and one of most extensive application, its laws pervading the whole of the organic, as well as the inorganic world. It is not, however, its general topics of interest that claim our attention in the *Agricultural Journal*, but those special phenomena which have a direct relation to the art of farming.—Even here, however, we shall find reason to admire the beautiful manner in which the hidden operations of nature are drawn forth and exemplified by the principles of science.

In the olden time, even in times that in Nova Scotia, are not yet olden, the application of farm yard manure was the only known means of enriching the soil, or of increasing the amount of produce; and this application was made without reference to those principles, upon the efficacy of which all manurial applications depend. But in the present day it is fully perceived by all enlightened agriculturists that a knowledge of the *theory of manures*, and the practical application thereof must proceed upon a knowledge of the chemical composition of *soils*, of *plants*, and of *animals*. The object of the farmer in all his processes of culture and feeding are to bring about certain results which act under invariable laws, or rather to avail himself of the conditions under which those laws are most freely developed. His text book is nature. And as all his processes, both cultural and feeding, are special modifications of general phenomena, having reference to organised beings, in their relation to inorganic matter, he requires to proceed under a full recognition not only of the laws of chemistry, but also of the laws of life. For the purely chemical studies of our agriculturists have resulted in too strong a tendency to regard the plant as a mere machine, to which certain materials are given in the crude state of soil and manure to be manufactured into a desired form. The delicate structures of the plant by which such processes are accomplished, as well as the whole vital phenomena attending them, are not sufficiently considered; but it is essential that these be studied if our object be to facilitate their action, which is indeed the great object of farming. To the agricultural aversion to physiological and botanical studies is no doubt attributable the neglect of those means of improving our farm plants which have in the gardener's hands borne fruit so bountiful, while it is equally certain that the repeated failures to add to our lists of known crops, arises on the one