

character, that on a trifling exposure to the influence of the atmosphere, they have been altogether deprived of any fertilizing power which they might possess. I believe the Pinguedo to be a compost the *most exempt* from what has just been stated, for I have seen its virtues tried, and know by analysis, that its intrinsic value nearly equals its price. I know that it contains, a large per centage of fixed ammonia, which I disengaged by adding quick lime, and then pouring water on the mixture. It contains also a good dose of carbonic anid, which I have set free by adding a few drops of sulphuric acid. It contains salts of potash, soda and magnesia, phosphates of potash and soda, and several other ingredients indispensable to the growth of plants of all descriptions. To return to the object of this paper, I would urge all those who call themselves agriculturists to penetrate by observation and research into the mysteries of nature, not with the idea of diving into obscurities or metaphysical questions, but in order to obtain clear views in tracing natural results to natural causes: for we are assured that agriculture, conducted on scientific principles, will not only be more sure in its results, but more economical in its details. That farmer who knows and properly understands the nature of chemistry, to the improvement of the soil, will gain credit as a man of science, and save money by the purchase of such articles as can be turned to the best use. Thus the unscientific farmer now might mix lime and guano, (which I know now to be done) whereas the chemical agriculturist well knows that he would lose, in the ammonia set free, what he had hoped to gain. I have little doubt that from the rapid strides by which chemical knowledge is gaining upon the darkness of old established custom—I have little doubt, I would repeat—that at no very long period from the present, England will see the sons of her soil sowing and reaping under the guidance of those immutable laws which have ever been found to preside over all natural operations.—G. M. Burton, Manchester.

## The Canadian Agricultural Journal.

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A highly respected correspondent has made some enquiries that is not very easy to reply to with any degree of accuracy, there is so wide a range between the lowest and highest returns of wheat obtained from land. We shall, however, endeavour to give the most correct reply we have in our power to make. 1st, What can be called an average crop of wheat per acre in Lower Canada, Upper Canada, and the Western States.

A fair average crop in Lower Canada, when the wheat is not injured by the fly may be from 20 to 25 bushels per acre, always provided the and is cultivated properly, and in good condition when sown. We have raised thirty minots per acre but on only one occasion. We know parties who have raised much more, but the averages we have first stated, may be readily obtained by good management, or merely cultivating and draining, in the way that wheat should always be cultiva-

ted. In Upper Canada, we know that much larger crops may be obtained on land that is summer fallowed, and sown in the "fall," but from all we can learn of the scarcity, and high price of labour, and other circumstances we do not believe that the general average of Upper Canada is much larger than may be obtained in Lower Canada, from the greater liability of fall wheat to rust. No doubt that in Upper Canada, very large crops are often raised under favourable circumstances; larger we believe than can be obtained under any circumstances in Lower Canada, but the general average we are convinced is not over twenty bushels per acre, and perhaps less. The same reply we may give with regard to the Western States; large crops are often raised under fortunate circumstances, but the high price of labour will not admit of cultivating so as to make the land produce all the crop it is capable of—the practise is, to take up new land, and cultivate it, at the least possible expense of labour with oxen raised upon the farm, whose keep cost very little owing to the favourable climate. Hence it is that large quantities of wheat can be raised in the Western States, not by large averages per acre, but by the cultivation of millions of acres.

2nd. What is the probable amount of wheat crop in Lower Canada, from 1832 to 46, and the same in Upper-Canada? From the year 1834 we have had the fly in parts of Lower Canada, and from 1835 their ravages have been general throughout that country. The consequence was, that with the exception of the two first years, and the two last years, very little wheat was produced in Lower Canada, nothing near the quantity required for its inhabitants. We have often calculated the probable loss sustained by the ravages of the fly in Lower Canada, during that period, and are fully persuaded, it could not be less than six millions of pounds, currency. In 1834, the produce of wheat, in Lower Canada was supposed to be from three to four million bushels, but since that period up to 1844, we not believe it has not been near half the quantity. We believe, the produce might be brought to eight, or ten million bushels, very readily by careful cultivation, and a suitable variety of seed.

3rd. What will be the cost price of one bushel of wheat to the farmer in Lower Canada, what in Upper Canada, and what in the Western States? Estimating the value of capital employed in the land, the labour, and seed, in Lower Canada, it will cost at least four shillings currency per bushel,