

mote the improvement, and augment the quantity and value of the production of the now neglected lands of this country; and we tell them plainly, that never can be accomplished by a free trade, which will reduce the price of our agricultural produce so much below the cost of production, that it will at once put a full stop to all agricultural improvement, and we have no hesitation in saying, that the want of remunerating prices in time past has been a great check to improvement. The present state of our laws would encourage a better state of things; but it is sought to do away with the trifling protection which was lately afforded to the Canadian farmers, and thus put an end to all dependence upon our laws, as encouraging improvement. If a merchant happens to import goods this year, which he would find not to pay him, he will not import them on the same terms next year. Not so the farmer, he is obliged to continue his business, though he may be forced to discontinue improvements, and all attempts to raise any surplus produce. If Canada is to be brought to this state, to have no surplus produce for exportation, the country will not be worth retaining as a British Province. Whatever may be the pretensions of individuals, they alone can be the true friends of the inhabitants of this country, and of British connection, who make every exertion possible to instruct and encourage a better system of agriculture, and thereby augment the quantity and value of Canadian productions. If the chief dependence of this country for revenue and commercial prosperity is to be confined to the profits derived from the carrying trade of foreign agricultural productions, there will be no hope for Canada ever becoming that fine populous and prosperous country she is so capable of by the excellence of her soil, her favourable climate, and her connection with the greatest and most powerful empire that ever existed in any age of the world. We are not worthy to be a Province of such an Empire, unless we follow her example in the march of improvement.

DR. BUCKLAND ON SUBSTITUTES FOR POTATOES.

The following extract from a paper "On the Origin and Extent of the Prevailing Potato Disease, and on its Effects and Remedies," read by Dr. Buckland, a few weeks ago, before the members of the Ashmolean Society, Oxford, cannot fail to be interesting to a large portion of our readers:—

"Liebig has shown, in his *Organic Chemistry*, that it is one function of the vegetable kingdom to prepare the

elements of flesh and blood for the use of the animals. That carbon or charcoal, which is indispensable to the act of breathing, but contributes little to muscle or bone, abounds in potatoes, rice, sago, and sugar, brandy and beer; while the cereal grains of wheat, barley, rye, and oats, and seeds of leguminous plants, especially peas and beans, are loaded with the constituents of muscle and bone, ready prepared to form and maintain the muscular fibre of the body of animals, e. g. gluten, phosphorus, lime, magnesia, sulphur, &c. Hence the rapid restoration of the shrunk muscle of the exhausted post-horse by a good feed of oats and beans. Hence the sturdy growth of the Scotch children on oat-cake and porridge, and of broth made of the meal of parched or kiln-dried peas; on this a man can live, and do work, for 13d. a day; while the children of the rich, who are pampered on the finest wheat flour (without the pollard or bran), and on sago, rice, butter, and sugar, become fat and sleek, and would often die, as sometimes they do, from such non-nutritious food, but for the mixture of milk and eggs they eat in cakes and puddings. The best biscuits for children have an admixture of burnt bones, and the flour of bones is often mixed by bakers with that of wheat in bread, and (bating the fraud) the bread is better and more strengthening than if made entirely of wheat. Potatoes contain but little nutriment in proportion to their bulk; they are chiefly made of water and charcoal. Thus an Irishman, living exclusively on potatoes, and eating daily eight pounds, would get more nourishment and strength from two pounds of wheat brown bread (not white), or two pounds of oatmeal, and from less than two pounds of peas or beans; and as about six potatoes of middling size go to a pound, an Irishman will eat daily 48 potatoes, and a family of seven 336 potatoes.

"Before potatoes were known, the food of the poorest English peasantry and of soldiers was barley-bread and peas. Sir W. Betham has found in Dublin, records of a vessel that was wrecked in the 15th century near Liverpool, loaded with peas from Ireland for the army in England. In Hollinshed's *Chronicle* we read this passage:—'A large mouth in mine opinion, and not to eat pease with ladies of my time.' Pease were then the food of the ladies, and also of monasteries. Friar Tuck laid before his prince, as his first dish, parched pease. An old labourer at Axbridge complained to his master, Mr. Symons, (who died in 1844), that labourers feeding now on potatoes could not do so good a day's work now as when he was young, and when they fed on peas. 'Peas, Sir,' said he, 'sick to the ribs.' He uttered the very truths of organic chemistry.

"In beans we have vegetable 'cascine,' or the peculiar element of cheese. What is more restorative or more grateful to man, when fatigued by labour or a long walk? As we heat or toast it, it melts, and, ere it reaches our mouth is drawn into strings of almost ready-made fibre; and who has ever dined so fully as not to have room left for a bit of cheese?

"Economic farmers should feed their growing but not their fattening hogs, on beans, and finish them with barley-meal; their flesh is hard, and the fat not solid, and dissolves in boiling, if fed to the last on beans.

"What is so restorative as beans to the jaded hack or the exhausted race-horse? Sepoys on long voyages live exclusively on peas. The working and healthy man and beast want muscle, and want not fat; fat encumbers and impedes activity, and every excess of it is disease. We seldom see a fat labourer or a fat soldier, except among the sergeants, who sometimes eat or drink too much.

"Charcoal, which, next to water, forms the chief ingredient in potatoes, is subsidiary to life, though not to strength. The same is true of the charcoal, which is the main ingredient of rice, sago, sugar, butter, and fat. The woman at Tutbury, who pretended to fast for many days and weeks, sustained life by secretly sacking handkerchiefs charged with sugar or starch. During the manufacturers' distress in Lancashire, five years ago, many of the poor remained in bed covered with blankets, where