

pends. The removal of unnecessary supplies of water, whether arising from the tenacity of the surface soil retaining too much water, or from springs exuding to the surface, is unquestionably necessary; and was thorough drainage more extensively practised in this country, it would be found immensely beneficial. In England and Scotland it is very generally practised with the most favorable results.

Extensive tracts in Great Britain and Ireland that were formerly perfectly useless have by thorough drainage been, within a few years past, brought into profitable tillage. Such would no doubt be the result in Canada; and large tracts that now produce nothing but mosquitos and fevers, might be the most fertile lands in the country. But as the subject cannot be fully discussed here, I recommend attention to the article on draining in the American Farmer's Encyclopedia, where will be found a correct description of the most approved methods adopted in Great Britain and Ireland.

Professor Johnston in his Address before the New York State Agricultural Society says;— "Amongst the greatest of those practical improvements in the treatment of the land, by means of which British Agriculture has been advanced to its present condition may be mentioned, a judicious rotation of crops. In this work Flanders was probably earliest among modern European countries to make decided and important advances. The introduction of thorough drainage to a certain extent and in a certain way, under drains have been made in almost every country in Europe, and are at least as old as the time of the Romans. But the necessity and almost universal profit of the system, as it is now understood and practiced was first demonstrated in Scotland, and owes its general introduction to Mr. Smith, of Deanston.

"As the accompaniment of thorough draining, we have the introduction of deep and sub-soil ploughing. These practices have renovated shallow, worn-out soils, by bringing up new materials; have opened a passage for the roots to descend deeper in search of food; and have provided a more ready outlet for the surface water into the drains below."

The same author also refers to the judicious application of lime, the use of bone dust, the extensive culture of green crops, the making of home, and the purchasing of various kinds of manures, and to a great extent the rearing and fattening of improved breeds of stock, for the conversion of one form of produce into another, which meets with a more steady market, or is otherwise more profitable; the principles of nutrition and feeding, both for plants and animals, from early youth to full maturity, the introduc-

tion of improved implements—these are what are termed "High Farming;" and such are generally the practical methods by which British husbandry has been advanced to its present condition, and by similar processes we, in Canada, arrive at the same results; and we should not cease to strive until we have improved our natural advantages to the fullest extent of which they are capable.

But the most important element to secure the prosperity of the Farmer, it should ever be borne in mind, is a thorough, careful, and painstaking attention to every minutia of his business; that every branch thereof be attended to in its proper season, that there be no clashing, or wasteful expenditure in any part of his work. Fences good, and lawfully repaired, when necessary. Gates and buildings should be in good repair; he must sow under proper conditions in Spring and cultivate well in Summer, if he would reap an abundant harvest in Autumn. If he desires comfort and independence, he must take care that there is no recklessness or neglect of anything. Tools must be kept in order and in their proper places, that they may always be ready for use when required. With proper attention to such matters, and with a cheerful, ready-handed industry, his life will be one of rational enjoyment, and he will have the satisfaction of aiding in an eminent degree, in placing his country on a substantial basis. For a highly improved state of Agriculture must be the means of exalting a nation and of contributing to its enduring happiness and prosperity. On this foundation must all other classes build their prosperity; mechanics, traders, and commerce must flourish or decline, as this first and greatest of occupations advances or recedes.

We live in an age of the world when we have reason to be thankful; an age in which the best energies of the human mind are turned to the study of the most effectual means of advancing the science and art of Agriculture; and the chemical experiments and investigations that have occupied the minds of eminently learned men, have opened a wide field for investigation, which we have reason to hope will not be left unoccupied by the youth of our country, under the enlightened system of Common School Education, (to say nothing of our higher institutions of learning) that now pervades the land. And although every farmer cannot be a chemist, nor is it necessary he should, yet there are many special points that might be enumerated, in regard to which Chemistry may be said to have been, or is capable of becoming of obvious money value to the farmer. Examples are not wanting that clearly indicate the kind of connection which exists between practical agriculture and practical chemistry, and the use to which scien-