AGRICULTURAL CHEMISTRY TAUGHT IN SCHOOLS.

At a late convention of parish school teachers in Scotland, Professor Johnston delivered two able lectures upon agricultural chemistry, the purport of which were to show the necessity of having agriculture taught in the common schools of that country. It is difficult to judge whether the tastes of the farmers of Canada would lead them to favour such a project or not, but *one thing is evident*, that other steps must be taken than those at present employed, or else much valuable talent will be lost to the country.—The highest order of talent may be found among the yeomanry of this province, but unfortunately in too many instances, it is like the marble in the quarry. In a new country like this, no effort should be spared in giving the young a plain practical education, and for this reason we would advocate that those branches which will ultimately be practiced by the rising generation, should be taught. We are aware that this is a dry subject to many of the farmers of this country, nevertheless we shall press it upon the attention of the readers of this journal, because the day will come when more interest will be felt in this and kindred subjects. The closer the subject of agricultural chemistry is investigated, the more interesting it will become. Every young man who follows the plough should carefully read the following lecture, and if the truths unfolded should not have the effect of creating a thirst for a deeper draught from this almost inexhaustible fountain, it would show most conclusively on the part of the reader, that he sets a low valuation upon the noblest and most interesting sciences that was ever studied by the agriculturist. This lecture being in our estimation of such great importance, we copy it entire, and recommend it to the careful perusal of our readers.

Gentlemen, there was a time when this hill upon which we now stand was nothing but a naked rock of lava. That old lava gradually decayed, as modern lavas do, and crumbled down and formed loose matter on the surface, in which seeds of plants grew, died, and left their remains. Thus by degrees the soil accumulated to such as you now see on the surface of this rock on which plants now grow. Such is the history of nearly all the soils on the surface of the globe. Suppose you take a portion of any one soil, and put it upon the end of a piece of metal, such as I am doing just now, and in any way expose it to the action of the fire, you will see that part of the soil will grow blacker at the edges; by and by that blackness will disappear, and the soil will assume a color more or less dark, according to the nature of the substances of that which remains consists. If you take this portion of the soil before it is heated and weigh it, you will find that after it is exposed to the fire it is not so heavy as before. That portion of the soil which has burned away consists of the remains of those vegetables of which I have spoken; of those animals who have died and been deposited in the soil; and of the manures which have been applied by the farmer. Thus vegetable matter forms what is called the organic, and the other portion of the soil the inorganic matter. The quantity of organic matter varies very much—in some soils it exists to the extent of two per cent., in others, 15 and 20 per cent., and in peaty soils, sometimes as high as 70 per cent. If you take a piece of vegetable matter, and burn it, such as this wood, you will find here, also, that a large portion will not burn away, but remains, forming wood-ash. It is the same, then, with regard to to the plant as to the soil,—a part burns away, and a part remains. If you look at the tables, you will see that different plants have different proportions of inorganic matter,—thus, meadow hay leaves nine or ten per cent. of incombustible matter. Again, as to the animal substances,—take a piece of muscle, dry, and burn it, and you shall find that the greater part of it will burn away, which is the organic matter, the remainder being, as in the soil and in the plant, the inorganic and incombustible matter. Now, one hundred pounds of fresh muscle contains phosphate of lime and other saline substances to the extent of one per cent. of incombustible matter. Thus, the three different substances, soil, vegetable, and animal matter, consist of organic and inorganic matter; but there is this difference, that in the soil there is a larger portion of inorganic matter than in plants and animals,—in the latter, the greater portion burns away. I shall call your attention now to the inorganic portion of soil. By looking at the table, you will observe that the inorganic matter consists of different substances, such as silica, which forms a very large proportion of flint; alumina, a substance which forms a large proportion of pipe-clay; oxide of iron, which is the rust of iron; potash, of which the potash you get from the shops may serve to give you an