

thereof in each election district, and he shall also permit the clerk of the levy court or the commissioners of tax as the case may be, to take a copy of such course of lectures, to be retained and kept for the use and benefit of the county, and published by said levy court or commissioners of the tax if to them it shall seem expedient.

SEC. 6. Be it enacted, That the said chemist shall make an annual report to the House of Delegates if in session, and if not then to the Governor, whose duty it shall be to cause the same to be published, of his proceedings, and such other matters touching the agricultural interest of the State, as may be considered necessary.

SEC. 7. And be it enacted, That for the faithful discharge of his duties, the said chemist shall receive the annual salary of fifteen hundred dollars, to be paid as the salaries of other officers are or may be paid, and for the purchase of chemical implements and materials, the said chemist shall be allowed for the first year, the sum of two hundred dollars in advance, and on each succeeding year a sum not exceeding fifty dollars, out of such monies as may be in the Treasury not otherwise appropriated.

I had the honor to receive the appointment under the above law, and as soon as the necessary apparatus, tests and reagents could be procured, commenced the discharge of its duties.

A part of those duties was to analyze the varieties of soil to order to determine the presence or absence of the necessary constituents of crops;—to see whether they existed in sufficient quantities,—to recommend the application of such particular substances as would most economically supply whatever defects might exist; to render barren soils fertile, and retain the fertility of those which might be productive at the present.

To determine the *necessary* constituents of crops, we have only to examine them by the aids which analytical chemistry affords, and when we find particular substances always present in them, when we find that although in different plants they exist in variable proportions, yet that they *are always* present, we must conclude that they are the substances *necessary* to the existence of vegetable life. There are certain substances to be described hereafter, which are always found in plants; in no clime, in no country, under no circumstances do we ever find the one without the other. The conclusion then is, that these substances are necessary to the existence of plants. But there is another and a stronger proof. The object and aim of all cultivation is to sustain by the food which it produces, the human body. This food then, *must* contain all of the elements which enter into the composition of the body, if it did not, it could not subserve the purposes of nutriment. The human body is always losing something by exercise, something by disease, nay something by breathing—(the very act of life,) which is again supplied to it by the food which it takes under the instinct of the appetite. If this food did not contain *all* of the elements thus lost, some part of