

the public interest, when they see those who so act pocketing thousands and meeting with no condemnation? Let this office be abolished, and from whom can the agricultural public seek information? Either from hucksters and dealers, or their hireling advocates whose direct interest is to deceive it. If the office be abolished, the farming community will find that they are the great losers, and there will be no consolation in the reflection that they themselves were the cause of it.

It was my original intention to make up this report only from the actual details of examinations in the counties which I visited since my last report, but the very large number of copies ordered by your honorable body for general circulation, showed that you required something of general interest, and I therefore, have enlarged its original platform, and submit, in addition to the matter originally proposed, a treatise on manures and the above facts and observations of general interest.

MANURES.

It will be remembered that in writing the Third Report to your honorable body, I endeavored to give a description of the different substances which constitute the soil, most especially in reference to their chemical character, and to which I subjoined an approved explanation of their origin and mode of forming the soil. In my Fourth and last Report, I then spoke of them as matters essential to vegetable life, and, guided by the results of actual experiment only, established the relations which exist between them and plants, particularly those which are cultivated. At present I intend to treat of such substances as may be applied to soils in order to meet certain deficiencies that may either originally occur in soils in consequence of a defective formation, or be produced in them by their continued cultivation. Substances of this class, capable of restoring, in the one or the other way, the lost fertility of a soil, are generally known as Manures or Fertilizers, and have been used from the earliest times, long before science enabled us to account for their beneficial action. It is my object to devote the following pages of this treatise to a description of the various kinds of manures employed, and to found upon the resulting facts a series of conclusions relative to their mode of action, and of recommendations in behalf of the most proper mode of their management, as best accord with both practical experience and the present state of science.

We still remember, from our knowledge of the functions of the soil, that its fertility depends on two factors: mechanical texture and directly nourishing capacity, the product being the crop. This fact stands in close relation to the wants of plants. The various single substances which serve as nutriments to plants,