

"lime enriches the father but impoverishes the son." The fact would have been, that lime, whenever employed, would have not only enriched the father, but the son also. Let the conditions become known on which its profitable employment depends, its use would be then only in similar conditions, and profits would always be the result. How many men now in our own state, wise men, acute men, practical men, who have employed lime without one cent of benefit, might have been at least saved their expense, had they consulted some other rule than that given by its successful employment by another on a different soil. Many persons employ lime merely because somebody else has done so with benefit, whilst if a survey had been made of all the facts, reasons sufficient for a contrary practice would have been obtained. The many and various recommendations when, where and how to use this manure, are so many concessions of the ignorance of one general catholic truth. Had a true theory of vegetable physiology, and a true knowledge of analytical chemistry been employed, then the principles of the application of lime and all other manures, would have dictated their use only where properly required. There not being this knowledge, speculation wild and vague, because it had no bounds of control, took the place of true philosophy, and the reasons given for the use of lime were as many as the places in which it was used.

Error, however, always yields in form at least to truth, and the necessity for a knowledge of the nature and character of the soil, was conceded by speaking of the adaptation of lime to stiff clays and light clays, to loamy clays and clayey loams, sandy loams and loamy sands, to stiff and light clays. These terms are all so many definitions—short descriptions of the composition of the soil; and if any description of a soil is of value to indicate the propriety of the employment of a manure, that is best which is the most thorough and comprehensive.

In the classification which has been given of manures, it will be seen that lime not only acts by affording itself as material for various parts of the plant, but that it also causes substances which may be present in a soil in an insoluble condition to assume a soluble form; it also decomposes the vegetable matter in a soil. Lime, therefore, has a wide range of efficacy, and the indications for its use are equally extensive.

1. Whenever a soil is so deficient in lime as not to have a sufficiency to give a skeleton to the plant.

2. Whenever a soil contains minerals insoluble to ordinary agencies, which contain any of the inorganic matter necessary for the food of plants.

Whenever it contains a large quantity of undecomposed organic (vegetable) matter, then lime should be used. These are the only occasions on which it should ever be employed.