

above the proportion which is considered to be proper and most fit for prospering vegetation ; whilst the putrefied stable manure, which in the course of putrefaction has lost most of its humus, will supply nothing but the deficiencies of ammoniacal and mineral matters that may occur in these soils, and with them, all that these soils want for being restored to fertility.

All classes of soil, with the exclusion of their extreme members, stiff clays and light sands, possess more or less the properties above alluded to, or may easily obtain them by their own exertions, in a regular course of cultivation. For all these the application of putrefied barn-yard manure is the most advisable and rational. This is not less the case with regard to the improvement of meadow land. Here is no loosening, nor any other mechanical effect intended to be produced for the purpose of improving the texture of the soil, and the application of humus, therefore, of no use whatever. A manure for meadow land is rather expected to contain a maximum of directly nourishing substances in a form ready for assimilation, and as it can only be applied as a top dressing, to possess such physical properties as will most facilitate its uniform distribution over the ground. In both respects, the putrefied manure deserves the preference. It contains, as we know, its fertilizing principles in the most concentrated form, and being, besides, reduced to a state of great fineness and subdivision, offers advantages, as to its management, which fresh stable manure, on account of its coarseness, cannot equally present.

Stiff clay soils and light sandy soils, on the contrary, require, first of all, a change in their mechanical texture ; and here fresh stable manure affords the best means on hand to meet the deficiencies in this respect. The humus which it contains in considerable quantity, will render the clay soil more voluminous, loose and porous, and thereby fit to communicate freely with the atmosphere ; also, by generating a slow and regular evolution of carbonic acid in the very body of the soil itself, it will, to some extent, compensate the inability of these soils of appropriating carbonic acid from without. Light sandy soils, on the other side, which suffer mostly by an excess of dryness and heat, the necessary consequence of the predominance of quartz-sand in their body, obtain, likewise, in humus a most valuable fundamental constituent which will impart to them the power of retaining moisture and soluble nutriment ; and as it envelops and joins the quartz-sand particles, materially aid in tempering their excessive power of absorbing heat. The immense benefit which is derived from the practice of manuring with green crops, is most apparent on these latter kinds of soils ; they, very properly, are usually turned in with the stiff clay soils, whilst their application in the form of a top dressing is generally adopted for the improvement of the light sandy varieties.