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DEEP PLOUGHING.

Ultraism in agriculture is one of the greatest obstacles to judicious practice. A good illustration of this fact is presented in the ideas which have been promulgated in regard to ploughing. "Plough deep, you cannot plough too deep"—is the unqualified advice of some teachers No discrimination is made in reference to the character of the soil, the kind of crop to be cultivated, the quantity of manure to be applied, or any other circumstance. Others soften the tone of the doctrine so much as to admit that deep ploughing is not everywhere best, though they still recommend it generally, because it is supposed to be applicable to a "majority" of cases! But why should not every kind of soil be ploughed just as it ought to be! What would be thought of a physician who should adhere, undeviatingly, to a special course of treatment because it is adapted to more than half of his patients, when at the same time he knows it is more or less unsuitable to the remainder? The more intelligent practitioner would be surprised at such a disregard of the maxim, that there are no specifics in medicine—the proper management for each case depending on the peculiar temperament, organization or condition of the individual. There should be a similar modification and application of the principles of agriculture, as success must ever depend on the judgment exercised in devising the course of practice for every case which occurs.

Every farmer may have noticed the great difference there is in the texture and composition of soils. Some are physically too heavy and others too light: some are naturally rich,—the earth to a great depth containing abundance of the elements of plants; others are naturally barren,—whatever fertility they possess being the result of artificial manuring and limited to a few inches of the surface. These different conditions suggest different courses of cultivation. Heavy soil should be made lighter and light soil heavier. Deep tillage and pulverization are required for the first object, and a more shallow tillage and consolidation for the second. The one is as necessary as the other, according to the nature of the soil. In deep soils, we supply new sources of food or plants by bringing to the surface the fresh and unexhausted substratum. On poor and thin soils, the same operation would only bury the fertile matter beneath a covering of sterile earth.

These remarks relate to ploughing by the ordinary method of reversing the furrow slice, or that part of the soil moved by the plough. The effect of the subsoil plough is different from this, inasmuch as it loosens, without otherwise changing the former relations of the soil. This is advantageous where the subsoil is too compact for the roots of plants to penetrate readily, and may be useful in various situations where deep ploughing by the ordinary mode would by unadvisable.

Our ideas on this subject have been heretofore given more in detail; the object at the present time is to support them by reference to good authorities. At a late meeting of the Cirencester Farmers' Club, the subject of deep ploughing was discussed, and from a report of the discussion published in the *Agricultural Gazette*, we take the following extracts:

Rev. J. S. Haygarth, Principal of the Cirencester Agricultural College, said—

"A great deal [in reference to the depth of ploughing,] must depend on the composition of the soil, for it is clear that no amount of ploughing, stirring, or grubbing, can develop any fertilizing properties if the elements of fertility are not present in the soil. In clay soils, deep culture is so pre eminently successful, because such soils contain inexhaustible supplies of all the inorganic matters required as food for plants, which are rendered soluble by coming into more frequent and more perfect contact with the air, and because such stiff and heavy soils more than any other, require to be rendered more porous. But in purely silicious land, deep ploughing cannot possibly be attended with any benefit, since it is too porous already, and does not contain any constituents which, in contact with air, are rendered soluble. On the whole, deep culture will be found the more successful in its results the more the land resembles, in composition and mechanical condition, heavy clay, and its advantages will be less perceptible the more it approaches purely sandy soils."

Mr. Haygarth, however, admitted the advantages, in some instances, of subsoil ploughing, especially where acids are formed within the reach of that implement. At the same meeting, Mr. Lawrence said—

"I am no advocate for radical reform, and turning matters upside down, and bringing the subsoil to the