down at the saw-mill; though before the machine it may have been as hard and firm as wood, behind the tool, as it advanced at work it was to lie as light and fine as sawdust. But it has at length been found that it is better, because cheaper, and more perfect, too, to leave this last refinement of the tillage process to the weather, which does it without cost. The land is now torn—smashed up—or moved and thrown about by plow or grubber in great clods and lumps. This is best done in dry autumn weather, and thus it lies till spring. Certainly no climate is better adapted for cheap tillage than the English—the rains and frosts of winter following a dry September and October must penetrate and thrust asunder the clung and hardened masses of the soil. No two particles shall remain adhering to each other, if you only give room and opportunity to the cheapest and most perfect natural disintegrator in the world. No rasp, or saw, or mill will reduce the indurated land to soft and wholesome tilth, so perfectly as a winter's frost. And all that you need to attain its perfect operation is, first to provide an outlet for the water when it comes—by an efficient drainage of the subsoil, and then to move the land while dry, and break it up into clods and fragments, no matter how large they be, and leave them for alternate rain, and drought, and frost, and thaw to do their utmost.

Too little regard is paid in this country to advantages that are to be derived from ploughing heavy lands in the fall of the year, and leaving them rough and exposed to the action of the frost throughout the winter. This winter fallowing is of great service in other respects; it tends to rid the land of weeds and of the seeds of noxious plants, which would otherwise germinate, but which to a very considerable extent are destroyed by exposure to the frost. So highly is fall ploughing esteemed in Flanders that the farmers of that country make use of an instrument unknown among our agricultural implements, but which is especially adapted to elevating the soil and leaving in ridges so that the largest possible surface may be exposed to the beneficial influence of the winter frost. The action of frosts mellows even the stiffest clays, breaks down the clods, and leaves the land in the spring far more light and friable than it could possibly be made with any number of ploughings, or even by the plough, the clod crusher and the harrow. In fall ploughing it is of course essential to the perfection of the work that the furrow slices should not be laid flat, but that they should be so turned as to lay at about an angle of forty-five degrees, the outer edge of the furrow resting upon the inner edge of the one that preceded it. The advantage of this mode of ploughing is two-fold—you present a much larger surface to the action of the frost, and at the same time an open drain is formed between the furrows, which not only carries off the surplus water, but allows the air to permeate thoug the mass, and thus renders the soil fit for tillage at an earlier day in the spring. Moreover the harrow breaks down more thoroughly a soil which has been thrown up into ridges, than furrow slices that have been merely reversed and lie flat upon the ground. Neither sands nor sandy loams are at all benefitted by autumn ploughing, but wherever there is a soil that has a tendency to bake and clod, exposure to the frost renders its subsequent tillage much easier, and exerts a singular beneficial influence upon the future crop. The action of the frost also upon such soil is peculiarly valuable in one other respect—it exerts a potent influence in rendering soluble the inorganic constituents contained in the soil, and setting them free for immediate use in the spring. All clay soils, says Mr Smith of Lois Weedon, whose experiments in spade husbandry, and in growing heavy crops of wheat upon the same soil for many successive seasons without the use of manure, have made his name known to the generality of farmers—" All clay soils," he remarks, " contain the elements of wheat, and perfect tilth dispenses with the need of manuring." This is pushing a theory a little too far. It was propounded years ago by Jethro Tull, but can never be acepted in its entirety. The reason is obvious. The richest soil contains only a certain positive amount of plant food, which must be exhausted eventually by constant cropping if a portion of those constituents are taken from the soil annually, and the loss is never replaced bymanures and fertilizers; but it is nevertheless true that an immense amount of plant food lies dormant, which in heavy clay soils can only be rendered soluble and therefore actively useful by thorough disintegration, whether that work be effected by spade husbandry or by action of the frost. English experience has come to the conclusion of late years that nature's agency in this respect is superior to the more costly agricultural implements, and that on such soils as those to which we refer, the most laborious and artificial means of reducing them to a fine tilth, and thus rendering their mineral constituents available, do not compare with the action of frost upon a rough exposed surface. The London Agricultural Journal in discussing this question declares that after all the expensive appliances which science has invented or industry has brought into play—"It has at length been found that it is better, cheaper, and more perfect too, to leave this last refinement of the tillage process to the weather—which does it without cost. The land is now torn up—smashed up—or mowed and thrown about in large clods and lumps. This is best done in dry autumn weather, and thus it lies until the spring. The rains and frosts of winter following a dry September and October, penetrate and thrust asunder the hardened masses of the soil. No two particles shall remain adhering to each other if you only give room and opportunity to the best disintegrator in the world. No rasp, or saw, or mill, will reduce the indurated land to soft and wholesome tilth so perfectly as a winter's frost." All that is needed is to provide an outlet for the water when it comes, by efficient drainage, and that drainage is accomplished when the land is deeply ploughed, and the furrows are thrown on edge just lapping each other, and presenting, as they rest on the subsoil, a channel through which the surplus water may pass off. —*Baltimore Rural Register.*