with a pipe over them (as shown in the annexed) and I will assume it to be the minimum of perfect drawing, and as used on my farm), seem to pre-drainage.

tance of pressure from the sides, absence of immense volume of water, which, on the second, offering but small resistance to its passage.

9th. That the passage of waterin a pipe or drain hours, instead of eighty. is always quicker than its percolation through the earth or material of the pipe.

yards in length (fifty or sixty would be better), has become of the water, for none has appeared in without opening into a leading drain of great di- the ditches;" and he seemed quite surprised at my mensions. If the drain were in any part full, it drains running so much. What is the inference ?would delay percolation.

ishable material, should ever be used in a drain.

12th. That the deeper the drainage, the better the crops; but in no case should any portion of the the same time, distance, depth, and soil, with scuds drain be nearer to the surface than 18 inches.

13th. There should be a leader to every 300 yards of drains, giving it ample capacity.

14th. There should be an open ditch (but no we shall re-drain it. The fence) for every seven or eight acres drained. absence of an occasional open ditch is what ren- that it stagnates and remains in the soil, keeping ders so much drainage useless. Long continuous the roots cold, wet, and sour, resulting in late crops narrow streets without frequent outlets get fre- and densely working land. I hope, after this, we quently obstructed; the same may be said of drains shall hear no more of scud cr bush draining. a full drain with a slow egress sadly retards the filtration of water. Drains should be never more draining, no water has ever run off the surface, than half full of water-the other half air. In this whether in winter or spring, although our fields have way the superior weight of water causes proper a pleasant slepe. filtration by displacement of air and replacement of water by quick passage.

the subterranean area of porosity and the depth of per acre, and carried out my theory completely. area of porceity than deeper ones; because (as only, the full size of the drain, or a pipe and stones. drain combined. Shallow drains want a greater water presses equally on all sides toward the vacant space in the drain) the deeper the drain the greater the weight and column of water. Consequently, the greater the pressure the more rapid the filtration: filtration at two feet will be double that at one---at four feet four times as great, and so on in proportion to the superincumbent weight of water pressing equally on all sides towards the drain. It is on this principle that deep pipe drains act quicker and lay dry a greater extent of ground than shallow ones-consequently, the deeper your drainage the smaller may be your area of subterranean porosity. Pipes at the depth of five feet would hardly need pounds on every square inch at first, and as the gaping cracks, and a baked impervious surface. water escapes and diminishes, so will the drain run slower and slower, in a ratio proportioned to the March last. diminished pressure.

Still stones with pipes, in my opinion, are the quickest conductors of water generally in heavy land.

Now, although my drainage is considered the it is expensive even so, I must be content with it; grass can keep so much stock per acre as the tur-

sent all the advantages desired, viz., the impossi-bility of choking by superincumbent earth, resis- very dry time, the pipes and stones poured out an capillary attraction; the round hard stones having third, and fourth day, gradually decreased; proving but little mechanical affinity for the water, and my calculation correct, that if my drains had been perfect, it would have all run away in seventeen

On comparing notes with a farming friend of mine, who has bush drains from 2 to 300 yards long, 10th. That no drain should much exceed 100 in the same quality land, he said ' I know not what that bush and straw drains of great length are 11th. That neither bushes, straw, or other per-perfectly worthless as compared with pipes and stone drains of mcderate length.

In fact, in one field I drained about three acres or bands of straw tightly fitted over the vacant space, and find it as compared with the tile and stone drained part, almost useless, so much so, that

The consequence of my friend seeing no water is,

From the moment our land was ploughed after

So far my drainage has answered, although I still maintain it is only perfect in degree. It would 15th. That the rapidity of percolation depends on have been real economy to have spent another £5

I am not able to say which answers best, a pipe The latter I give the preference to, the stones having less capillary attraction.

I consider drainage almost as important in a very dry season as in a very wet one. This spring we had a practical illustration of it at Tiptree. The crops never looked yellow as they used to do, but always a healthy green, and the very first rain caused an amazing quick growth.

It is very easy to perceive that porous drained land on a cool bottom keeps moist in dry weather, by capillary attraction (like lump sugar resting on meisture).

At night the insiduous dews fill its surface. No such effects can take place in sodden land, with

For further details of my spring and other draining, I beg to refer you to my letter of the 28th of

If I am wrong in my theories or practice, I shall feel obliged to any gentleman who will correct me, my object being to arrive as near perfection as possible.

Permanent grass on very still clays must be most perfect in the county of Essex, I only consider ploughed up before the drains can act. The im-it one-fifth as perfect as it should be. My drains pervious pan requires to be broken up. This may have one foot of subterranean porosity for every five be a subject of regret, hut it ought not to be; for I feet of surface, instead of having five feet: still as quite agree with Mr Morton, that no permanent