

## DRAINAGE WITH SMALL PIPES.

A correspondent of the *London Gardeners' Chronicle*, gives his experience in draining as follows:

"The quantity of land experimented upon was thirty-three acres, of a cold putty-like clay. The expense of drainage, three pounds, (about 14½ dollars,) per acre, cost of pipes of 1 inch bore and 15 inches long, 15 shillings, (\$3.75) per 1000. The drains are placed thirty-three feet apart. The pipes are placed five feet below the surface, the pieces being butted against each other. No stones or bushes placed over them, nothing but the clay soil is returned into the drain. I have several times examined these drains after rains, and find they run admirably, like so many tea-pots, leaving the surface soil dry enough, in a short time, to plow, hoe, or subsoil. The soil is a very strong, brown, brick earth, varying occasionally to a yellow color with much iron in it. *The difference in the wheat crop this year, between the drained and undrained land on my farm is fully eight bushels per acre and one load of straw, being more than the whole cost of drainage.*

"I am aware that the use of pipes so small a calibre as *one inch* is objected to. Doubts are suggested that they are not large enough to carry off the water. I have never, yet, however seen them run more than *half full*, although possibly in the course of years, when the soil becomes, as it will, more friable, water must have a freer access to them. We have the authority of Mr. Josiah Parkes, whose calculations cannot be controverted, that one inch pipes at 33 ft. or two rods apart, and four feet deep, will carry off all the water that falls from the heavens for a given space in a given time.

"There is something very absurd in the opinion held by some that clays are impervious to water. How often one hears "Oh, but water can't get through my soil." Well, then, if water cannot get in, how does it get wet? It is true, clay, already saturated with water, will hold water on the surface like a basin, for a very good reason that *it is already full of water and cannot take any more.*

"But once provide the means of escape from below, and it would puzzle a conjuror to keep the water from sinking through the clay. Tapping the land when full of water, is after all, very much like tapping a cask—the liquor runs out at the bottom, and the cask dries at the top. The deeper the drain or tap, the greater the pressure from above. As the liquor flows, the air must follow.

"Independent of the capillary attraction that assists in causing deep drains to act best, we must consider also, that the deeper the drain *the more steep the decline*; and we all know that water will rush quicker down a steep hill than a gentle slope. Those who consider 1 inch pipes too small should bear in mind how soon such a pipe running constantly, would empty a large pond. It must be bad policy to be at the expense of procuring large pipes where small ones will answer better—no rats or vermin can enter one-inch pipes. It is lamentably painful to contemplate the condition of our heavy undrained lands in winter. Filled with water to the surface, they are wholly incapable of receiving or appropriating the best of manures, the heavenly rain. Every hasty or continuous shower scours the surface, driving down the furrows, in turbid and wasteful streams, the very essence of the soil—while the fertilizing ammonia in the rain itself, finds no entrance there.

"Nor is the appearance of these lands less dismal and distressing in April and May. The blessed sun shines it is true on the saturated soil, but it is dead and impervious to its invigorating rays. The imprisoned water having no escape downwards, can only be released as steam, by evaporation, carrying with it the heat that should warm and invigorate the soil; and leaving behind a clammy and death-like coldness, which is well attested by the sickly and yellow plants. Poor things many die leaving their hardier companions to struggle on, in hopes that a parching summer may do that naturally, by gaping cracks, which man is too poor, too niggardly, too ignorant, or too prejudiced, to effect by cheap and profitable drainage."

CHEAP PAINT.—If any of your readers wish to use a very cheap and substantial paint, of a drab color without lustre, let water lime be mixed with skimmed milk, to a proper thickness to apply with a brush, and it is ready to use. It is too cheap almost to estimate, and any one can put it on who can use a paint brush. It will adhere well to wood, whether smooth or rough—to brick, stone or mortar, where oil paint has not been used, in which case it will cleave to some extent, and forms a very hard substance, as durable as the best oil paint.—*Cor. of Country Gentleman.*