Durability of Drains.

The opinion was expressed that deep, well made drains, would last at least fifty years. If they would last fifty, we cannot see why they would not last a hundred and fifty. The only thing in the way of their continued durability appears to be sediment accumulating in the tile and choking it, or the settling of the earth about their exterior and filtering into their crevices, and thus shutting up the access to them from without. In clay soils, there appears to be little liability to internal choking. In those of a sandy and gravelly nature, the danger is greater, and is to be prevented, (in addition to the uniformity of descent already mentioned,) by using collars at the junction of the pipes, by surrounding the pipes with gravel or broken stone, to be covered with flat stone, hard-wood slabs, or brush, or using brush alone in contact with the tile. In quick-sand, all these remedies may need to be combined. The same remedies will of course prevent external clogging. This difficulty was found to be much greater in shallow than in deep drains. Fifteen years ago, two feet was regarded as deep, many drains being less, but they soon lost their efficiency.

Advantageous Results.

G. Donaldson mentioned a piece of land in Clydesdale, drained in 1821–2. The land was previously so wet and boggy that it was unfit for cultivation. It was drained from three to five feet deep, and the third year afterwards it produced a crop of wheat of six quarters (48 bushels,) to the acre, and 64 lbs. weight per Winchester bushel and had ever since been in profitable cultivation. Another instance,—300 acres in Lancashire,—never before cultivated, producing only coarse grass and heath; after thorough underdraining, was ploughed and produced a crop of oats which sold at public auction for 9 pounds (45 dollars), per acre, and the land was let for the next year for £11 ($55) per acre. In another instance, mentioned in a letter from W. Hulton, of Lincolnshire, land which "four horses had found a difficulty in ploughing, is now producing excellent crops of wheat, worth almost the fee-simple of the land in an unimproved state." In another case, mentioned by J. B. Denton, the Speaker of the House of Commons (his name not given,) had several farms to drain, occupied by tenants much prejudiced against deep draining. A single farm was therefore drained four feet deep. "When this was done, the tenants one and all, begged that their *wet* lands might be drained—they selecting the *wettest* portions. On the completion of this second job, the same tenants, with greater earnestness, begged now to have the same lands drained that they had withheld as *dry*,—because they found by comparison with the drained land, that the excepted dry land was *insufferably wet*."

The following calculation shows the great importance of deep draining, and after it, of deep tillage, — viz. that every *inch* of additional depth of drainage, drains and renders porous for the cultivation and the penetration of the roots of crops, *one hundred tons* of soil per acre. The following interesting and striking facts show

The depth that Roots will Penetrate.

J. B. Denton (who is high authority) says, "I have evidence now before me that the roots of the wheat plant, the mangold wurtzel, the cabbage, and the white turnip, frequently descend into the soil to a depth of three feet. I have myself traced the roots of wheat nine feet deep. I have discovered the roots of perennial grasses in drains four feet deep; and I may refer to Mr. Mercer, of Newton, in Lancashire, who has traced the root of rye-grass running for many feet along a small pipe-drain, after descending four feet through the soil. Mr. Hetley, of Orton, assures me that he discovered the roots of mangolds in a recently made drain five feet deep; and the late Sir John Conroy had many newly made drains four feet deep stopped by the roots of the same plant."

The Distance of the Drains Asunder.

Most of the speakers thought that this distance should not be less than 30 feet, and on the whole recommended 25 to 30 feet. Some of them seem to think there was a definite distance to be observed, for the remark was made that "a single yard too near may be a pound per acre thrown away, while a yard too wide may occasion dissatisfaction for ever." We cannot see how so distinct a line may be drawn. The soil nearest the drain is of course made dry first, and then that more remote, in gradual succession; and the greater the distance the longer the land would require to become properly drained. There is a certain medium, pointed out to observation and expediency, which a view to economy may make greater distance, where labor is costly and land and crops cheap, than otherwise; although the saving of labor in tillage by underdraining, should not be forgotten in the estimate. The quantity of rain that falls, and which rains in differents places, may have an important influence on the number of drains to carry it off speedily.

The Keythrope System.

This is a system of drainage, extensively practiced by Lord Berners (who had previously expended several thousand pounds in shallow drainage, in the common or *gridiron* arrangement of the drains.) In the Keythrope system, the arrangement of the drains is entirely irregular, and dependent solely on the natural seams and strata in the soil—and is of course only applicable to such soil as have these seams and strata—and which are more common than many suppose. In some places, a single drain, properly located, will affect complete drainage of a large piece of land; in others, numerous parallel or branching drains may be requisite. To ascertain this very important point, *trial holes* are dug at regular intervals all over the piece of land to be operated on; the rapidity with which they fill, and the quantity they contain, will afford a guide for the commencement of operations. A ditch is cut in such places as appear best; and then its effects are observed on the trial holes. Those which are soon laid dry by this means, show that no more drains are needed there, even if at some distance. While those that continue filled with water indicate that further drains are required, the position of which must be governed by observation and circumstances.

The chief recommendation of this system is its *cheapness*. The drains being cut only where they are actually wanted for use, a great saving of labor is effected, the cost by this mode sometimes being not more than one half that of the regular or gridiron system. Several gentlemen who had visited Lord Berners' lands after a long and heavy rain, affirmed that the drainage wns effected by this system in the most complete and thorough manner.

We have no doubt that in many portions of the country, the adoption of the plan of digging trial holes *at regular distances* over the whole field to be drained, would afford much valuable knowledge on the requirements of the land, and on the position of drains; and that much land supposed to be quite dry and to need no labor of the kind, the water would be found to stand a long time in the holes, showing the amount of stagnant water in the subsoil.

Position of Drains.

The general voice of the members of this meeting was in favor of running drains down hill by the shortest or steepest course. If the drain descends *obliquely*, and if water will leach into it from above, it may also leach out again on the lower side; but once in the directly descending drain, it cannot flow out again, but takes the shortest cut down the hill, in the bottom of the ditch. In the Keythorpe system, however, exceptions are made to this rule, wherever the nature of the stratified earth seems to demand it.

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MONTREAL MARKET PRICES.

Rates at which produce is purchased from the Farmers.

20th April, 1856.

Hay from 9 to $10 per 100 bundles.
Straw from 2 to $3½. do.
Fresh Butter, per lb. from 1s 3d to 1s 6d.
Salt Butter, do from 10d to 11d.
Country Cheese, from 6d to 8d.
Wheat, 6s 6d to 7s.
Barley, 4s 9d to 5s.
Rye, none.
Oats, from 1s 6d to 1s 8d.
Yellow Indian Corn, from 5s to 5s 6d.
Indian Corn, 3s 9d to 4s.
Buckwheat, from 2s 9d to 3s.
Peas, from 3s 9d to 4s.
Beef, per 100 lbs, from $6 to 8.
Pork, $9 to $10 per 100 lbs.
Mutton, per lb., from 5d to 8d.
Veal, 7d to 7½d.
Eggs, 8d to 9d.