

# Drainage: Its Relation to Crop Growing

Article No. 46 on "Farm Facts Every Boy Should Know"

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WITH the rapid increase in population in the Southern states and the increased demands from Northern states for Southern farm products, the necessity for greater production becomes apparent. In recent years the more general application of diversified farming and of better cultural methods has done much to increase crop production. There are many sections, however, where little attention is given to diversified farming or better cultivation of the soil. In these sections, the farmer's idea of increasing yields is to increase the amount of fertilizer. But commercial fertilizers are always expensive, and, at best, give only temporary effects. On most of the Southern farms there is another avenue open to increased production which, comparatively speaking, is seldom used, namely, the use of tile drains.

### Drainage Puts the Idle Acres to Work

ON ALMOST every farm there are low areas lying along small streams or depressions which are cultivated only during the driest years, but which could be profitably cultivated every year if they were tile drained. Of course, there are some areas, which, because of the distance they are removed from an adequate outlet, or because of lack of fertility of soil, it would not be profitable to drain at this time.

There are two principal reasons why tiling is not practiced more in the South; (1) either the farmer does not realize the purpose of and benefits to be derived from tile drainage, or, (2) he is alarmed by the first cost and does not have the necessary capital. If it can be demonstrated that the use of tile is a sound and profitable investment, then both these objections should be overcome. What the farmer must look at is not the first cost, but what return will be obtained from this cost. What the man to whom the farmer must go for capital wishes to know is whether his money will be safe, and if so, whether the use to which it is to be put will permit the farmer to pay promptly the interest and finally the principal. In other words, the farmer wants a sound business proposition; the banker, a sound investment.

No argument can be presented which is quite so convincing as that made by results obtained by farmers who have used tile, and, therefore, I shall present extracts of letters received from those who have installed tile drains.

### These Men Found That Drainage Pays

FROM one farmer in Alabama comes word that no crop failures occurred since the installation of tile three years ago. After the severe storms of July last, another farmer reports that while on his undrained land the water was standing to the surface, the corn was dying and the ground was so soft that it would not bear the weight of a man, on his tiled land, the crops were unaffected and the land so well drained that it would bear the weight of an automobile. From a florist in south Alabama comes information that the installation last spring of 3,000 feet of tile on a small tract which was planted to carnations, saved \$1,600. A South Carolina farmer writes that from a tract of land which was worthless before drainage he will make at least three-fourths of a bale of cotton per acre, while from the land still remaining untilled, he will not secure a bale from ten acres. He concludes: "I consider I have made enough on this land this year, to pay for drainage."

A Virginia farmer in one of the great potato counties, reports that last year, before drainage, he lost his

whole crop, while this year, despite the heavy May rains, he suffered no damage, concluding with the statement: "I have what is considered to be the finest potato crop in the county." Before planting this year he had installed tile drains.

A North Carolina farmer who had three acres of swamp in his farm tiled it at a cost of \$24.38. This is his return on investment: "Land was worthless before tiling, now, since I have it tiled, it is worth \$50 per acre." From another North Carolina farmer comes this statement: "About eight years ago, I bought a farm at \$55 per acre, two acres under water, average depth of 6 inches, and about four acres so sodded that it was useless. Was told that it could not be drained, as land between swamp and stream was several feet higher. It required a ditch 12 feet deep in places and about 400 yards long. I placed eight-inch sewer pipe in this main ditch, which could only be two and a half feet below the land surface in the swamp. I laid four inch tile, as I thought it required. This drained land is the best I now have. Am harvesting corn now more than 75 bushels to acre, without fertilizer. Refused \$300 per acre. Don't recall how much was the cost of this work, but it certainly was a splendid investment."

A farmer in another county in North Carolina writes: I have my whole farm of 40 acres tiled. The cost of the tile per acre has varied from \$18 to \$25. With truck crops it has fully paid for its cost in one year. Tile helps in a dry season. While we have had the driest summer, 12 weeks without rainfall, in the history of the county, I have tiled land that will yield 50 bushels of corn to the acre." From a farmer in another county came the report: "This year we made from 40 to 50 bushels of corn on bottom land that heretofore a team could not walk over."

### Important Points to Consider

FROM all over the South similar reports come, but without reciting more, you may judge from the experience of others whether you can afford to delay much longer tile draining the low, wet spots on your farm. Not only are low, wet places rendered productive by tile drainage, but much of the high land, composed of a heavy, dense soil, would be materially improved.

And now for a few factors which must be carefully considered when you undertake tile drainage.

1. Undertake it solely as a business proposition, and do it in a business-like manner.
2. Study your soil; learn its drainage properties and agricultural value.
3. Ascertain whether you can secure a good outlet within a reasonable distance of the tract to be drained. By "good outlet" is meant one which will be open not only during dry seasons, but one which will permit the free discharge of the tile when the rains pour and high water comes. A good outlet is a highly important factor in determining both the success and the life of usefulness of the drains.
4. Secure a competent engineer who is familiar with drainage practice, to design the most economical system. Usually several systems can be designed, but what the farmer wants is the system which will give the greatest return on his investment.
5. Secure good grade of tile.
6. Competent supervision during construction is essential, for unless tile are laid properly the system cannot be expected to work properly.
7. After construction, inspect the system regularly, especially outlets, and make repairs promptly.

Compared with what remains to be done, comparatively little tile drainage has been done in the South, but

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