

FARM AND FIELD.

THE CULTURE OF WHEAT.

Some twelve or fifteen years ago an impression prevailed—indeed the results seemed to establish the fact—that wheat culture in Pennsylvania, like fruit culture, had run out, and farmers' clubs and agricultural papers went full tilt to discussing the reason of it. But subsequently both took a turn, and we should like to know to-day if any one dares to say that both wheat and fruit can not be raised as successfully here as in almost any other State. Some said at first that it would last only a little while—now and then we may get along well enough, but who can say how long it will last, or in case failure should come again what we are to do about it. This was anticipating an evil which there was no reason to believe would soon occur again, and has it had not yet returned we hear no more about it. The grumblers are quiet; they take with thanks we hope, all they receive, and may entertain the best expectation for the future.

The greatest enemy of the wheat crop is too much water. It may be said that the wheat root is more susceptible to injury from too much water than many of us believe. To be sure, there is a general impression that an overdose of water is bad, but the full force of the impression is seldom felt as it deserves to be. Water laying around roots does not always kill the wheat plant, but many of the roots are injured, and the few that are left are not able to do the work that all were intended to take part in doing. If any one will dig up a wheat plant in spring which has stood all winter in a wet place, he will see exactly how this is. Only living roots close to the surface, and below this may be injured.

The English seem to understand this water injury better than we do, and provide against it on wheat lands by numerous furrows, in some cases of flattish land one-twentieth of the whole area may be counted as surface furrows; and yet with this waste of ground, as some would say, they beat us considerably in the number of bushels they get per acre.

It is supposed by many that whether we have a good wheat season or a bad one depends more on quantity of rain we get at various seasons, on the condition of the ground, or of the plants at the time rain falls. If it goes away through the ground rapidly, it is good for the plant, though in large quantities; but if it lies long it is an injury. Thus, if a piece of land is rather flat and the ground is frozen deep and stays frozen after the upper has thawed, and rain or melted snow let in the frozen bottom keeps the water from passing away, and so injury results to the roots. On sloping ground the water passes out on the lower position, and in these cases not much injury results.

There is no doubt many causes which conspire to injure crops; but this overdose of water is very likely to be one of them, and it will be wise for all those who are interested in wheat culture to take every precaution to carry water which may fall on the land. Open ditches or plough furrows, as many do; they are very useful to this end. Attend to this carefully and it will be found that wheat culture in Pennsylvania will be as productive as ever it was, and will continue to be so.—*Germantown (Pa.) Telegraph.*

WILL DRAINAGE PAY?

"Four years ago some one handed me a paper on this subject. I read it. The article which attracted my attention most was one about 'Thorough Work' in drainage, and what might be expected in the way of a per cent. annually,

by investing money in drainage. I thought it over and over. I had at that time three or four hundred dollars by me, and it was not making me anything, and I could not readily loan it at a good interest, and young stock was hardly to be had at any price. Finally I concluded to under-drain a twenty-acre field near my house, and I thought, 'Well, I will do it right.' To get a good outlet I had to dig first an open drain down the road about eighty rods. But having reached the point where we wished to enter the field, we commenced laying the tile three feet and a-half deep, and run out larger and smaller drains. Well, there is no use in my telling all about how I did it, only that the drains would average about five rods apart, and it cost me about \$21 per acre. Well, I said to myself several times, Will it pay? I finished up the work about the 1st of May, but I had the side where we began first ploughed before we finished the ditching, and we had the whole field ready for planting by the 10th of May.

"There was a great difference in working the land the first year. When fall came I had fully sixty bushels of corn to the acre, and I don't think I ever had more than forty bushels before, and the land had been much easier to tend. I said, Here is \$8 over the best crop I ever raised on this land before, and on an average it is \$10 better. Well, well, that does pretty well. But will it hold out? Since I have grown three more crops better and better. The money that I put in the ground has paid me fully fifty per cent. interest. This year I put in four miles of tile.

"I am truly glad of one thing, and that is that I got hold of that article on 'Thorough Work'; it caused me to begin right.

"Several of my neighbours are draining the low places with tile that are altogether too small, but they think that I put too much tile on my land; but while the money in the tile continues to pay me so well, I shall keep on draining until I get all my land drained.

"Then, do you know, I have loaned a little money; not much, but I was always peeking into my neighbour's business if he had any of my money. I could not help it: I was somehow afraid I'd lose it. Now I am not the least uneasy; it is better than putting it in bank for some gambler to use in trading in bargains. After a while I will divide my land among the children, and they will have a good investment of money in drainage for them—better than any I could make for them, and big dividends if they work it. You can hardly say too much for drainage."

Is it not infinitely better for farmers to invest their capital in their own land and get good dividends, and certain dividends, than in any outside stock that can be named? And where is the stock that can guarantee such large dividends? A quaint writer once truly said, "The farm is a machine." Then keep it in good order, and it will give in return large dividends.—*The Drainage and Farm Journal.*

THE SOURCE OF PROFIT.

The principle on which all farming rests is the profit on fertility: whether the fertility be purchased in the land or in the manure applied, the manure being eventually the main dependence. The more manure, therefore, that can be used, the better, if it be intelligently done. To bury manure in the lower soil is to lose a large share of it; to overcharge the soil with it, is to incur loss in the manure and the crop; to inter-mix it intimately with the soil and in sufficient quantity to grow a full crop (which must be determined by practice) is to get the greatest benefit; and this is the true testing point between the cost of the manure and the value of the crop. The differ-

ent kinds of soils and their condition must also be considered in the amount of manure to be used. A full benefit can not be realized on rough and poorly-tilled land. There will be an increased waste and less effect of the manure, and a reduction in the crop. This is because the mechanical condition will not admit of that free passage of the roots and their close contact with the soil as in well-fined mellow ground. It is for this reason largely that thorough working of the soil is held to enrich it. It is in a con'tion the better to favour the manure; hence less manure is required, and hence the profit on it is increased. Those farmers, therefore, that use most the implements of culture get the most profit on their manure, have a cleaner soil and more easily tilled, where there is a large proportion of clay, which constitutes the greater part of our land, and requires the most care and work.

CROPPING AND MANURING.

Farmers are frequently advised by certain agricultural journals to double-crop their land for the purpose of increasing their profits. Though well meant, the advice is often mischievous, because based on serious misrepresentation of facts. True, there are some cases where such a system of cropping would prove a good practice; and these are quoted as examples worthy of general following. A closer investigation, however, shows that farmers who successfully grew two crops in a single season from the same field have soil well drained, well manured and under thorough cultivation. It may be safely assumed that farmers who have succeeded in bringing their land into this high condition are not greatly in need of advice from any quarter. They are a law unto themselves, and if they do or do not follow a certain course the result justifies their action. For the great majority of farmers the attempt to grow two crops in a season on the same land is, however, a mistake. As a rule they cannot make or in any way procure manure enough to cultivate all their land, so as to produce one maximum crop per year. So long as this is the fact their wiser course is to do as they have been doing—cultivate what they can manure thoroughly and let the remainder rest; or, in other words, sow clover and grass seed and thus slowly recuperate its wasted fertility. If all that is ploughed is well manured and thoroughly tilled, it will probably make a profitable crop. It is on the profits of cultivated crops that all agricultural improvement must be based.

REMEDY FOR RAGWEED.

Nearly all our wheat is now sown following a spring crop, and a rotation of crops is generally adopted, which destroys all annual weeds by thorough tillage. And that is the way to destroy ragweed—thorough cultivation and a rotation of crops. Plant corn, follow the next season with oats, turn in the stubble as soon as the crop is harvested, and before any seeds mature and fit well for wheat; then seed to grass to lay down one or two years, this course to be repeated. Under this system no annual weeds will give any trouble. I now regard ragweed as no more troublesome than the common pigweed; it is just as easily killed and no more damaging to crops when allowed to grow, but neither should be allowed to grow to the injury of crops. The man who cultivates his land to the extent beneficial to crops will not be troubled with foul weeds of any kind. It is the slipshod of half-way tillage that enables weeds, drouth and other causes to rob the farm of profitable returns.—*F. P. Root, in N. Y. Tribune.*