

ishing as fine a stand of clover as any one could desire. I have (the third of August) just given it the fourth cutting. It was a mass of clover, as thick as it could stand, about eight inches in length. The whole plot is now covered with clover, though less dense where the grass was thickest. Very little grass is now seen; and it may disappear entirely at the next cutting. On a strip at the upper end—the plot is on a prettily steep hill facing the north—the roller was not used (or a test). Here there is some grass, and the clover is not so stout, a pretty clear case of the necessity of rolling the land well, under such circumstances.

It will of course be seen that frequent mowing favored the clover. Without mowing there would doubtless have been a failure. The encouraging point is that one cutting, or certainly two, will insure success, unless the sod is unusually heavy. But ordinary soil, say the average, which comprises most of our grass land will admit of it. Some may object to the necessity of passing the mower over it, fearing that it will lessen the yield and add to the expense of labor. But the cutting, it must be observed, will be an early one. And the object is less the grass than the clover. As the grass is yet short there can be but little loss; but really there is no loss, as it remains on the ground and is appropriated by it, aiding the growth of the clover that is to follow.

The case is the same should a second cutting be deemed necessary, which can be ascertained by the growth of the clover, which, if it is strong enough to sustain itself, needs no farther attention. But the second cutting, should that be deemed necessary, will take place early enough—about the middle or 20th of June—to still grow a crop of clover, of the medium variety, with sufficient time for the necessary amount of aftermath for winter protection. Perhaps the greatest advantage of the plan will be with a clover lot run out. In this case there need be no mowing, only the sowing of the seed, the land being bare and mellow. Giving a previous harrowing may be an advantage, followed after the seed by the roller. Let the roller be a heavy one, or, if less heavy, pass over twice, cross-rolling the second time. The two points that control in this mode of treatment are the plaster, which has little effect upon the grass, but a great influence upon the clover, and, as I have said, the mowing thus favoring the clover, and at a time when the plaster comes to its aid. Where the land is quite poor and the grass light, manure should be added, and the harrow passed over before the seed is put out. In no case sow less than a peck of seed per acre; a few quarts more, as a rule, will be safer. I shall give the plot one more cutting in a few weeks' time, and then let it stand for winter. I expect to have a yield of pure clover next season. In the spring following I shall sow down to grass early without manure, deeming that the land will be rich enough, and also sufficiently mellow to do without harrowing. The plot was a piece of barren land, growing nothing, and was soded a year ago. The sod was light and taken from poor soil, and had to be fed during the summer to establish it, the strength given it being pretty nearly all exhausted by the time the fall aftermath was grown, so that the growth, except on the one place mentioned, was not very strong.—*Cor. Country Gentleman.*

Sowing Winter Wheat.

The New York Herald says:—This may seem to be premature and injudicious advice to publish for the benefit of those farmers who are accustomed to raise a crop of winter wheat every season. But as the growing wheat is so frequently damaged during the severely cold storms and cold periods, and during the prevalence of cold winds, our judgment is that it will be more satisfactory in every respect to prepare the ground thoroughly during the autumnal months, as if winter wheat were to be sowed, and continue to work the land until winter, and then put in the seed of spring wheat at the proper period the next spring. By adopting such a practice the propriety will avoid all the damage incident to the growing crop when the seed is sown in autumn. As varieties of spring wheat have been recently improved to such an extent that white spring wheat will command about as high a price in market as white winter wheat, those who own land suitable for raising this sort of grain need have no hesitancy in discontinuing the cultivation of winter wheat and raising spring grain only. This practice will enable tillers of the soil to prepare their ground more thoroughly for the seed than it could be done if winter wheat were sown. Growing wheat needs manure. The soil must be rendered fat with fertilizing matter that will afford a generous supply of wheat-producing material to the growing crop. When this is not done it will be folly for a farmer to attempt to raise either winter or spring wheat. In some of the Western States, where the soil is naturally deep and sufficiently fertile to yield thirty or more bushels of excellent wheat per acre, a great many farmers have abandoned the cultivation of winter grain, and raise white spring wheat only. If farmers in New England and in some of the Middle States who have never raised spring wheat would give their wheat ground two more workings during Octo-

ber and November—that is, where the soil is dry and heavy—and would add a light dressing of muck, and collect sufficient barn-yard manure to spread over the surface lightly, they would meet with more satisfactory success in wheat culture than they have experienced at any previous period.

Wheat Growing.

Some weeks ago, says a writer to the Lancaster Farmer, I saw a statement that Mr. J. M. Heiges, of York county, had grown seventy-one bushels of wheat on an acre of ground. These reports were so extraordinary that I was rather skeptical as to their truthfulness. To satisfy my doubts I addressed a letter of inquiry to Mr. Heiges. He very kindly answered my letter at length, saying the reports, as stated, were perfectly true; that he actually raised at the rate of seventy-one bushels per acre. Also, that he grew fifty-five bushels per acre of the Foltz wheat in 1874; and, in 1875, another variety produced him 49½ bushels per acre; and this season his choice variety produced him only 51 bushels and 21 lbs. per acre. He gave a neighbor 2½ bushels last fall, and this neighbor now reports 102 bushels grown on 2½ acres! This neighbor is a member of the York County Agricultural Society, is 65 years of age, and says it is the best yield he ever had. Now, when one or two farmers can grow 60 to 71 bushels of wheat to the acre, why cannot other farmers do likewise? At this rate wheat-growing will pay as well, if not better, than growing tobacco. My impression is that Mr. Heiges' soil is not naturally very strong or rich.

But to give Mr. Heiges' mode of culture, and which I apprehend is the main cause of his success. He sows his wheat on oats and wheat stubbles, but manures heavy and ploughs deep, and ploughs the second time still deeper, pulverizes his soil thoroughly, and sows his wheat about the 25th of September, and has not had a failure since he commenced his present mode of culture. One of his reasons for adopting this plan was that he thought he were not raising half enough wheat per acre, and as he would not plant ten grains of corn in a hill, or plant a field of corn and not cultivate it, he asked himself why it would not pay to cultivate his wheat as well? He tried a sixth of an acre, and his yield was a little over eight bushels. He tried an acre next year, and fifty-five bushels was the result. He has taken four crops of wheat from one plot of ground in succession, and intends sowing the same field again this fall. Had as good wheat on this plot as he saw on any other ground.

As before stated, his plan is to manure heavy and plough deep, pulverize his soil thoroughly, and, about the 25th of Sept., he ploughs again a little deeper still, and prepares his fields into ridges and depressions—the depressions about 12 inches wide and the ridges about 10 inches—thus:

12 in. 10 12 in. 10 12 in. 10 12 in. 10 12 in.

sowing the wheat broadcast, and going over with the harrow in the way of ridges and depressions; then dragging, so as to make the field perfectly level; thus the seed nearly all fall into the 12-inch depression, or spaces of a regular depth. Then, in spring, so soon as the ground becomes moderately dry to work, he goes through with some kind of a cultivator two or three times, until the wheat becomes too high, thus giving regular cultivation, the same as a field of corn. This spring cultivation, no doubt, is the cause of his great success.

He has two varieties of wheat—"Champion Amber" and "Heiges' Prolific"—that are very stiff in the straw, stand up well, and are both bald wheats. Though Mr. Heiges considers both these varieties as very superior, yet he does not believe that by the ordinary culture they would produce such great crops as by his mode of culture.

Fall Ploughing and Drainage.

We are not addicted to writing homilies upon the manner in which the ordinary work of the farm should be performed. Every farmer knows, or should know, how to plough, sow, reap and harvest his crops. He also ought to have studied the nature of his soil and the proper means to render it most productive. If he has not, no agricultural writer can instruct him; since, to profitably instruct, himself must know the location, soil, subsoil and other conditions present, and which are often varying ones, even on the same farm.

A life-long experience in working the soil, however, has taught us that, upon our ordinary prairie soils, and especially upon those inclining to be tenacious in their character, the necessity of fall ploughing. It not only tends to destroy a vast amount of weeds through the germination of the seeds already ripened, but turning under the trash and stubble, assists to render the soil dryer through mechanical action, and adds to its fertility by the decay of the vegetable matter ploughed under. Then again, the opening of dead furrows between the lands assists greatly in allowing the superabundant waters of late autumn and spring to run quickly off, enhancing the earliness of the soil to be worked, sometimes a week or ten

days. If the land be left rough and open to the disintegrating action of the frosts and rains of winter, it then comes out in the spring in the most proper state to receive the seed; and the work carefully done, in nine cases out of ten all tenacious soils will produce better crops of small grain than if left to be ploughed in the spring. If necessary to be reploughed for later crops, this need only be a superficial one, so that instead of the farmer being driven by his work, he drives the work and often has his crops in a fair state of forwardness when his more dilatory neighbors are only thinking of getting ready to work.

The subject of drainage is also one too much neglected. A very little work in the fall, opening furrows and water ways, will result in drainage that will surprise those not accustomed to it. This should be continued as late in the fall as possible, and, in planting either late or early, no land should be left until the dead furrows and water ways have all properly been attended to, since, if left, these may afterwards be forgotten.

Portable Pig-Pen.

The writer has used the following plan for a cheap and portable pig-pen for store pigs, and finds it very convenient. It consists of two portions—the sleeping box and the yard, both portable but not fastened together. Two men can lift each part separately and carry it into fresh ground, when the yard needs cleaning out, and weeds, rubbish and potato tops can readily be thrown into the yard from a cart.

The yard is made of inch spruce fencing strips, four inches wide, 10 or 12 feet long, nailed to three by four inch spruce posts, placed at the corners and in middle of each side. As the posts do not enter the ground, two men can easily lift the yard and carry it to fresh ground. Five strips are used on each side, with three inch spaces between the strips. On one side of the yard, two of the strips reach only half way, leaving an opening from the yard to the sleeping box. A trough of 1½-inch spruce, six inches wide, nailed together at right angles, is used for feeding in the yard.

The sleeping box is of matched boards, four feet by six feet on the floor, 30 inches high in rear, and 42 inches high in front, which is partly open, and stands against the opening in the yard. The roof slopes from front to rear like a lean-to shed, and there are two handles at each end, by which two men can lift it for removal. This box stands on legs, which raise the floor eight inches above the ground, keeping it dry in wet weather. By littering it well the pigs will thrive in quite cold weather; but this arrangement is intended chiefly for summer use, when we generally carry a larger stock than can be accommodated in the more comfortable winter quarters. Eight or ten pigs just weaned are put in one yard, but as they grow larger, a smaller number only should be allowed. The yards will need removal and cleaning out once in two or three weeks. This plan could be used, perhaps, by those farmers who feed their their pigs on growing clover, removing the pens daily, much on the same principle as the English farmers feed their turnips and other crops to sheep, in the so-called "hurdles." Yard and box together will need about 250 feet of spruce lumber, and can be made in half a day by an ordinary man who can handle tools.—*Country Gentleman.*

Another Method with Manure.

A writer to the New England Farmer says

A large class of farmers at the present time apply the manure in the spring, do a good share of their ploughing in the spring, when the team is the least able to endure hardship, and it is really harder ploughing at that season than any other. Now I have become satisfied beyond doubt that the best time to plough and apply manure is in the summer, as soon as may be after haying, and as late as the middle of October. I commence to draw the manure as soon as the first of September, spreading it invariably from the cart, and all the better if harrowed in the same day, as I believe that manure loses its strength by evaporation. Land thus prepared will not only help facilitate the work in spring, but will give better crops than by any other way that I have tried. I have handled from 100 to 150 loads of manure the last of March and put it in large heaps to lay till the middle or the last of May, and have then applied it to the soil, and I had rather have two loads put on in the fall direct from my barn cellar than four loads in this way, as it leaches and dries up so that it becomes of much less value. I have for years applied my manure both ways, but should have adopted the new way years ago had my cellar been large enough to hold a year's stock of manure. In most cases, when I seed down to grass the first year, I get splendid crops of grass—the reason of it being that the land is not all worn out by cropping before I seed it down, and the manure gets incorporated in the soil and is ready to act at once. How many times I have seen little heaps of manure (about six to the load), lay over ploughed fields and on the grass land, to be spread the next spring. Where the heaps lay the soil is