

allowed to feed that which is sown early is more likely to be injured by being pulled up, trod in, and eaten off, and that the berry will be as plump and the yield as good on fields that are sown late as on any other.

So much for the theories. I think in practice early sowing is to be preferred, although I have sometimes sown late with good results. The theory that grain will ripen at a certain time without regard to when it is sown is certainly incorrect. I sowed a piece to winter rye last fall near other fields which were got in early. Except the time of sowing, the conditions were equally favorable for all the fields, but mine were several days later than the others. As soon as ripe enough he cut it, ploughed narrow strips on which to stock it, and sowed these strips to rye. The remainder of the piece was sown much later. The result was that the early sown strips ripened a week or ten days before the rest of the piece, and they also produced a heavier crop of grain. But while the quantity was in favor of the early sowing, there was no appreciable difference in the quality.

While I prefer early sowing I should not hesitate to sow late, if for any reason I could not do it early. The quality of the seed and soil, and the way the latter is prepared, has more to do with making up the results than the time when the sowing is done. At least such is the lesson I have learned both from experience and observation.

### Keeping Manure under Cover

A correspondent expresses doubt whether it is, after all, a good plan to keep manure under cover. He says that instead of rotting down, it becomes overheated and fire-fanged. Hence, he is inclined to stick to the old fashioned way, and let the dung take its chance in the barn-yard.

There can be no question as to the superior value of manure kept under cover, if it be properly prepared. Leaving it to chance, whether out-of-doors or in-doors, is a course no farmer should adopt. Everything about a farm needs looking after, and in proportion to the carefulness of the supervision and management will be the success. Dung left to take its chance out-of-doors, has the chief part of its virtue and strength washed away by rain and evaporated by sunshine. The same article neglected under cover will get dry and musty, or become, as our correspondent complains, overheated and fire-fanged.

A certain amount of moisture is necessary to secure fermentation and decay in manure. If this can be supplied in the form of liquid droppings from the stock that are kept, it will enrich the manure, giving it a higher concentrated value. If liquid manure cannot be added to the solid portion in sufficient quantity to secure the result, then water must be supplied.

Not moisture only, but air must be given to a manure-heap, whether it be exposed or covered. Occasionally forking it over secures a supply of air, and confers the additional benefit of thoroughly mixing up and composting the mass.

What is wanted above all else in relation to manure-saving and making, is such an appreciation of the value and importance of this branch of farming as will make people willing to bestow time and trouble upon it. That it pays to do this, all experience abundantly proves.

### Antidote for Smut in Wheat.

A correspondent of the *United States Monthly Agricultural Report* says:

We have neither rust nor smut in any of our wheat fields. I beg leave respectfully to differ from the advice given on page 467 of the monthly report of the Department for November and December, 1871, wherein farmers are advised to "discard all idea of mixing ingredients with it (seed-wheat) to destroy smut." This question has been so well and thoroughly tested in our State as to be no longer even a matter of doubt. All our seed-wheat is soaked from eight to twelve hours in a solution of bluestone (sulphate of copper), in the proportion of six ounces to every 100 pounds of wheat. Smut being a fungoid growth, resulting from diseased grains, the germ or vitality of these diseased grains is killed by the solution of vitriol, and thus prevented from growing and contaminating the sound grains. A farmer here would be thought crazy were he to sow his wheat without subjecting it to the above process.

### Results of Lime on Land.

After having used many thousands of bushels of air-slaked lime, and with over 30 years' observation, I shall state a few practical results and the conclusions arrived at. When at home, while a boy, I often helped haul out and apply lime as we were directed on ploughed ground. During those years I often wondered why a certain knoll on one of the home fields invariably produced better than elsewhere; and during this time, when ploughing that part of the old field, we would plough up coarse lime and many partly slaked stones. Asking my father what was the cause of this, he told me that when his father had built the house (a large stone building) that a great quantity of lime and the refuse of what was used was hauled out on that old knoll, now some 60 years ago, as it was then badly washed and unproductive, and barren, and that in time it began producing again. He supposed the lime had helped it and was then applying it as above stated.

My farm, when I went on to it, was in a badly run-down condition and from the past experience and observations, I burned and hauled out thereon from 50 bushels to 500 bushels of lime per acre, applying it variably on the surface at any season we could, for I had for years a large force of men helping burn and haul out, always spreading as we hauled and always commencing to haul as soon as burned, continuing until finished. Then we set to work on another knoll.

As to crops, the former occupant said they consisted of pennyroyal. 1. Character of the soil, the higher land limestone, 2. sandstone, clay and gravel; 3. limestone, 4. gravel and sandstone, 5. sand and gravel. This takes us through the various layers from the hilltops down the sides. It slopes every way as far as cleared, hence we will not trace it on to the base or hollows. We tried to grow some grain, but we never used the lime on the ploughed ground as many do; nor did we plough it under as some have done; neither have I ever seen a farm improved where they followed those methods. Results. grain and grass now grow luxuriantly, and where the most lime has been used the crops grow to a wonderful extent. These are plain practical results and not the theory of one who never tried it.—*Cor. Rural N. York.*

You may manure wheat too much, the growth favoring the straw rather than the berry. When used, however, as a top-dressing to start the crop, it answers an excellent purpose. Harrow the manure in when the seed is sown.

It is held that stirring the soil favors moisture, and hence is good in a drought. Crops have been nearly doubled in this way. But it is not the moisture alone that does this, it is the increased fertility as well, which the stirring of the soil favors—a double benefit.

**WHEAT GROWING MAXIMS**—Somebody has been at the trouble of condensing a great deal of information about wheat-growing in a very small compass, and somebody else has set it afloat without credit. If we could, we would gladly give the name of the author:—

The best soil for wheat is a rich clay loam.  
Wheat likes a good, deep soft bed.  
Clover turned under makes just such a bed.  
The best seed is plump, heavy, oily and clean.  
About two inches is the best depth for sowing the seed.

The drill puts in the seed better and cheaper than broadcasting.

From the middle of September to the last of October is the best time for sowing.

If drilled, one bushel of seed per acre, if broadcasted, two bushels.

One heavy rolling after sowing does much good.  
For flour, cut when the grain begins to harden, for seed, not until it has hardened.

**PRESERVING MANURE**—The *Boston Journal of Chemistry* states that the sources of loss in the storage of manure are two first, the escape of volatile ammonia and other gases, and secondly, the loss of valuable salts by leaching. The first difficulty may be obviated by covering the excrement with eight or ten inches of good soil or loam, which will absorb all escaping gases. A bushel or so of plaster may be advantageously scattered over the heap before the soil is thrown on. The whole mass should be per-

fectly covered, leaving no "chimney" for gaseous exudation. The danger of leaching may be avoided by covering the heap with hay or straw sufficiently thick to shed most of the rain. If kept in this way a sufficient time the manure will undergo spontaneous decomposition, the products of which will be ready for immediate assimilation by plants. The usual process of carting manure to the fields in the autumn to waste, by both the above processes, some of their most valuable constituents should be avoided.

**WHITE AND RED WHEAT.**—It is said that the hard wheats are all natives of warm climates, such as Italy, Sicily and Barbary. The soft wheats are from northern climates, such as England, Russia, Belgium, Denmark and Sweden. There is, however, one exception to this general rule, as the celebrated Polish wheat is hard, and for this reason it has been contended that it was not a native of Poland, but was introduced here from some milder climate. The English atmosphere is so humid that it is impossible to ripen wheat hard, but in many cases it requires artificial heat to harden it before it can be ground into flour. Different soils and climates materially change the nature and variety of wheat. The difference between red and white wheat is not in variety, but is owing chiefly to the variety of soil on which it is grown. A generous dressing of wood ashes applied to the growing wheat in the former part of the growing season, will exert an excellent influence in rendering wheat of a lighter color than it would be without potash. Lime is excellent, also, for the same purpose.—*N. Y. Tribune.*

**THE RAPE AND THE THISTLE.**—The Berlin correspondent of *Land and Water* writes: "There are some curious matters I have to communicate to-day. Whoever knew of two plants being so inimical as to kill one another? This, however, seems to be the case when the rape grows near the thistle; and though I like the thistle, and have no antipathy against the rape, still I can be just, and, in acknowledgment of the rape being so useful whilst the thistle is merely romantic, I will make no secret of my tremendous knowledge. If a field is infested with thistles, which are very difficult to get rid of, give it a turn of rape-seed, and this machine-oily plant will's arve, chill, and suffocate the thistles out of existence. The case is this. A trial was made with different kinds of rape-seed in square plots. The ground was full of thistles, and it was thought that the rape-seed would not have a fair trial. But it had, and as it grew the thistles vanished, faded, grew grey, and died up as soon as the rape-leaves began to touch them. Other trials were then made in flower pots and garden beds, and always the thistle had to give in, and was altogether annihilated, whether the plants were old and fully developed or young and tender. No doubt this is owing to the greater impetuosity of the rape; but it is curious, as the thistle is so much deeper and stronger rooted, and its desiccation does not set in until it has been actually touched by the leaves of the rape. Electricity must be the secret. At all events, this plant and white mustard are the best remedies against thistles, when drilling and such-like things cannot be applied.

**LIKE FOR WHEAT.**—One of my neighbors is trying an experiment with his wheat which I shall watch with some interest, and even now cannot help theorizing as to the probable result. The ground was manured for corn (first crop), produced two crops of corn, and is now drilled in with wheat. After ploughing the first time, air-slacked lime was spread and ploughed in, in about half of the field; over the remainder it was placed on the top and only harrowed in, no yard manure put in for wheat, but instead, a good coat of phosphate. Will he have a crop of wheat? If so, where does its nourishment come from? To my mind, lime is not a manure, but like cheese in the old couplet.—

"—The lazy elf,  
Digesting all food but itself."

That is, lime compels other products of the soil to work by rendering them available as plant food, but furnishes no nourishment itself, hence the old saying—"Lime enriches the fathers but impoverishes the sons." That it will enrich the fathers no one doubts, but whether it impoverishes the sons, will depend altogether upon what use the fathers make of the increase, if they feed the products on the farm, and then return it to the soil, it cannot impoverish the sons. I prophesy a crop of straw and wheat for my neighbor at the expense of future crops of grain.—*Cor. Country Gentleman.*