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"PERSEVERE AND SUCCEED."

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Selection and Preparation of Seed Grain.

As certainly as "like begets like," so must we expect our grain to be of inferior grade if we sow seed without bestowing sufficient care on the selection and preparation of the seed; and to this want of care as much as to the system, or, rather, want of system in its culture, may in a great measure be attributed the low produce, as well as the inferior quality, of our crops. We do not now refer to a comparison between several varieties of wheat or of any of the cereals, but to selecting the best and purest of the variety we decide on sowing.

All grain has a natural tendency to degenerate, and this degenerating may be retarded, if not prevented, by due care, while this tendency may be accelerated by the carelessness of the husbandman. It is also apt to become mixed with other and inferior grains and seeds of weeds. We know, also, that we can, by carefully selecting the best grain, improve the standard of our seed and crop.

None other than the very best and cleanest grain should be used for seed. Every inferior or foul sample should be rejected. If we take our seed from grain threshed by the ordinary method, the winnowing or fanning should be thorough, separating the grain for seed from inferior grain as well as seeds of weeds. If purchasing seed, be sure that your purchase is from a reliable person. You must rely greatly on the character of the seller, as you can in few instances examine the growing crops. If you have grown your own seed, be careful in its harvesting and threshing. This is too important a matter to be overlooked. Grain threshed by the machine is sometimes injured for seed in the process, and from this cause many grains never vegetate. Some farmers we have known so exact in this matter that the threshers were provided with slippers to be worn in the barn instead of their heavy shoes, that they might not bruise and injure the grain intended for seed, by treading on it, and this when the threshing was by the flail. How much greater need is there of care when a threshing machine is used!

In selecting seed wheat, it is necessary, above all, to see that it is free from the spores of smut. Farmers should, as far as possible, guard against the introduction of this pest into the crop. It is of the fungus tribe—a tribe too well known to farmers in some of its many forms. The smut hardly needs description. Few farmers do not know its appearance, resembling brown powder. It is most deleterious in its effects, rendering the diseased ear utterly valueless. Seed wheat should never be sown from a crop where smut has been, as the spores of smut are almost invariably sure to affect the crop raised from it; they are so minute as to escape observation, being invisible to the naked eye. In a work of high authority on the subject, the *Microscopic Fungi*, it is stated that the spores are so minute that nearly eight millions of them could be contained on one square inch of surface. And each of these spores possesses a germinating power. This proves the necessity of guarding against the introduction of smut by sowing seed in which it has been.

We are not without remedial agents for the prevention of smut. We know that the vitality of the spores may be killed, but the remedy may sometimes fail in having the desired effect, and

the spore may still retain enough vital force to vegetate and render the infested wheat almost valueless. Nothing of vegetable origin is free from their ravages when exposed to influences favorable to their growth. Knowing them to be of true vegetable growth, we are better able to contend with their subtle power. The only method to prevent their ravages is to destroy the spores. They may exist in our seed, adhering to every kernel, and we unable to detect their presence. Hence it is well to prepare all seed wheat as if it were known to be infested with smut. This was with us an invariable rule. We made a strong brine, so strong that it would float an egg. In this we steeped the seed for twenty-four hours, and then took it out of the brine, spread it on the barn floor and mixed with it quicklime to dry it, and as soon after as possible we sowed it. The brine killed every spore of smut, if any were in it, we never knew this remedy to fail.

Blue stone has been used for the same purpose, and we believe generally with good effect. A Pennsylvanian writes to an agricultural paper, saying that for upwards of sixty years he raised wheat, and for at least fifty years he never had any smut. Blue stone is also known by the names of sulphate of copper or blue vitriol. It is a preparation of copper, and used by many for this purpose. We give his prescription: "Have some vessel that will hold your seed, and take four ounces of vitriol to each bushel of wheat; dissolve in hot water; then fill into your vessel as much cold water as you think will float your quantity of seed; add your dissolved vitriol, then put your wheat in by small handfuls and skim off any refuse; when done, allow the whole to stand for two hours, and then drain off the water by a faucet at the bottom. Do this in the evening, and your seed is perfectly dry and ready to sow in the morning."

This remedy, though we have long been acquainted with it, we never put into practice, as we know lime, as we have said, to be an effectual preventative. It is an old remedy, and, though we have no idea of depreciating the benefits derived from the investigations of modern science, when any remedy has stood the test of at least a century's trial, we desire no change. The blue vitriol is not without its failures. The *Agricultural Gazette*, in Farm Notes, says of Kent:—"There is an unusual degree of smut upon the ears of the wheat in many parts of the county, in some places more than has been noticed for years. Wheat whose seed was thoroughly well blue-stoned has by no means escaped the visitation of this smut, and, in fact, in many cases is quite as bad as where no sulphate of copper was used."

We give in connection with this subject a brief note of experiments made with salt as a preventative:

REMEDY FOR SMUT IN WHEAT.

A farmer in Ireland whose wheat was much affected by smut, succeeded in remedying this evil by adopting a simple preventative, which he learned had been practised successfully in Flanders for many years. The remedy is a steep composed of sixty pounds of quicklime and thirty pounds of salt made into a solution sufficient to cover 600 pounds of wheat.

In order to test this remedy he procured the worst smutted wheat he could find, and after steeping for different periods, he sowed 112 pounds

divided into four equal parts on equal portions of land.

- No. 1, merely steeped so as to cleanse it.
- No. 2, steeped in the solution 12 hours.
- No. 3, steeped 24 hours.
- No. 4, steeped 48 hours.

At reaping time, No. 1 was dreadfully black; No. 2 had a good deal of black in it; No. 3 none at all; No's 3 and 4 swelled very much, but did not burst; No. 2 swelled also, but not so much. Seeing that No. 3, which was steeped for 24 hours, succeeded as well as No. 4, he has practised steeping for 24 hours, and has continued to do so with perfect success for 32 years. He has not had the slightest appearance of smut in his wheat since he commenced using this remedy. After taking the wheat out of the steep, he lets it lie in a heap to drain. In broken weather he has kept it after being steeped for ten days, turning it every day, without any bad results.

This remedy, it will be seen, differs little from that given by me from my own experience. An old farmer whom we first knew to use brine for the purpose, had used it for half a century and always with success. In fact, in that part of the country it was used invariably.

Crop Prospects.

When we wrote our report for last month, the prospects were very bad on account of the drouth, but the rain descended ere the paper was issued. The alteration in the appearance of the country in a few hours was such as to astonish us all. Since that time the weather has been most favorable for the growth of crops, and the prospects have changed as if by magic from apparent scarcity to indications of an abundant harvest. The winter wheat and hay crops are deficient, but the present appearance of spring crops in general is such that we may expect over an average. A few pieces in some parts of the country may be light, but throughout most of Canada, as far as we are able to judge from personal observation and reports, we have every reason to expect a bountiful return from spring wheat, barley, peas and oats.

Corn will be a fair crop. Potatoes promise an unusual return. Root crops in general will be good, although some early sown pieces may not yield well; those who sowed a second time will be well repaid for their labor. Hops are also promising well. Apples will not be as heavy a crop as they were last year. Plums appear much less affected by the *Curculio* than for some years past. Peaches will not be a large crop, although much better than was anticipated.

Not only are we cheered with the prospect of a good harvest, but prices of wheat have very materially advanced. When wheat advances in price, generally all other cereals advance also. We do not advise farmers to hold their wheat at the present prices; run out your old wheat as soon as you can, and thresh and sell your new wheat as soon as possible, if prices remain as good as they are now. In fact, as a general rule, it pays farmers better to sell wheat as soon as they can before navigation closes. Leave the speculation in the hands of those who can command any amount of money and good storage. The losses from waste and risks generally more than balance any profits made by farmers holding wheat; more especially is this the case when a fair paying price can be obtained.