

CLEANING SEED FOR SOWING AND MARKET.

The idea that certain of the foul seed in wheat, as chess for instance, is produced by degeneration in the changing of one variety into another may easily be settled by the employment of a good fan in cleaning grain. If absolutely clean seed be sown in soil certainly known to be free from other seeds, the product will be like the seed sown. One of the great difficulties is that the soil is constantly filled with the seeds of weeds, brought and retained there by various natural agencies, some of them, like purslain, chess, and other weeds of persistent vitality, remaining for a long time in the soil, until called into growth by favorable circumstances.

We will give a single instance to illustrate the point. The farmer cleans his seed thoroughly, (perhaps goes to the trouble to pick it over), and sows it, and, notwithstanding this care, finds the crop, the seed of which he thought he had so carefully gone over, is filled with foul weeds. The chaff or tailings from the fanning mill were thrown into the barn yard to be mixed with manure, and had been carted on the land and perhaps plowed deeply under, to remain—a portion of it—in the soil for years perhaps before it germinates. Or birds may have eaten the seed, and a portion—undigested—has been scattered on the soil. These are but two of the more common ways in which foul seed is disseminated, but are striking enough to account for their spread.

As a rule those farmers who are the most careful in cleaning their seed grains and the most thorough in their cultivation have the fewest weeds to contend with, and such are the most fully compensated in the end for their pains. One of the most prolific sources of the spread of weeds is sowing directly from the threshing machine, for however well these machines clean the grain for market purposes—and the better classes of them do it admirably—still there is no power machine that will clean seed in so thorough a manner as to fit it for sowing. This, however, may be accomplished by cleaning by the more modern fans, having sieves adapted to the various sizes and shapes of seeds and perfectly controlled by the blast given. With the use of these we have often secured a large advance over the ordinary market prices on account of the seed being perfectly clean.

One of the most difficult seeds to separate from grain is cockle and chess, and to do so thoroughly it is necessary to have proper sieves for separating these from the good grain, since the specific gravity of these seeds is very nearly that of barley, rye and wheat. In the case of chess the peculiar form of the seed, being long like wheat and rye, renders it especially difficult of separation. But with the modern fans but little difficulty will be experienced in their separation, and the value of the seed will be thereby much enhanced.—*Western Rural*.

PROFITABLE FARMING.

There are too many men who put their all in a single venture, and if that fails, are utterly used up. There is, perhaps, no business wherein "two strings to one's bow" are so important as in farming. Other pursuits have certain rules which have been founded on experience, and which the shrewd man of business can take advantage of with an almost assured certainty of success. But we cannot do this. We cannot tell what will happen to our crops. Sometimes it will be over dry, sometimes over wet, sometimes we are plagued with swarms of insects, at other times with blights and mold. Against none of these do we get the slightest hint. Trouble never strikes everything alike. Some will succeed. But independent of all this, the young farmer should not be cast down by misfortune. It is here where so many fail. We knew one once who had made by city work some eight thousand dollars; he had originally been brought up on a farm and had always made up his mind to return to it as soon as he had accumulated enough to warrant him in making a start. But he put away two thousand dollars, and invested only six in the farm and stock. It so happened that the next two years found him in terrible losses, but they brought experience, and he fell back on his small reserve, and this, with his new experience, gave him a new and a good start. He now considers himself worth about twenty-five thousand dollars, and is one of the most ardent advocates of the position that farming will pay.—*German town Telegraph*.

CANADIAN PRODUCE IN ENGLAND.

Mr. Potts, in an address at Macclesfield, England, speaking of the resources of Canada, showed that the United States frequently got credit in England for Canadian produce. The apples of Canada, now highly esteemed in England, were there supposed to be the produce of the United States. The following, from an English journal, is an extract from Mr. Potts' address:—

"There was a wrong impression abroad in this country as to the productiveness of Canada, and he might tell them that, if the Canadians had bought American produce and sent it over to England, the purchasing people in this country would have had a different idea of the Canadians. But what had Americans been doing? They had simply been buying Canadian produce and selling it in England as their own. A few days ago he went with a gentleman through St. John's Market, Liverpool, and they were admiring some "stands" piled up with apples. He asked the keeper of the "stand" what kind of apples he sold, and he replied that they were American. He turned to his friend and said, "There is not an American apple on the stand, as that gentleman understands America." They were nothing else than Canadian apples, and he ventured to say that in Macclesfield at present there was not an American apple to be found, though people imagined that they were all the while eating United States apples. Perhaps it was not generally known in England that the Americans themselves had to get their apples from Canada. The climate of America was generally so hot they could grow luscious apples, but they would not keep, hence the Americans were obliged to come to the Canadians for their winter stock.

DO PLANTS GROW IN THE NIGHT?

The popular teaching is that plants do not grow in the night. This doctrine is accepted, I believe, by vegetable physiologists in general. The theory is that during the day or in the presence of sunlight the leaves of plants inhale or absorb carbonic acid gas, analyzing it and appropriating the carbon to the structure of the growing plant, while the oxygen is expelled again. But in the night—in the absence of sunlight—this operation is reversed, and the plant really loses instead of gaining substance. A little experiment that I recently made seems to show that some plants, contrary to the common belief, do grow in the dark.

I selected a stalk of growing Indian corn (*Zea mays*) about two feet high. Choosing the centre blade, the tip end of which was just making its appearance, I set a stable by it and marked its height at sundown. The night was very warm, clear and sultry. The moon shone a part of the night. At sunrise the blade had grown one and a-half inches. The next day was warm but cloudy, with a light shower early in the morning. During the day it grew one inch. The next night warm and cloudy; growth one inch. The second day warm and clear; growth one and a-half inches. The third night warm, with thunder clouds in the horizon the most of the time; growth one and a-half inches. The third day was warm and clear till 3 o'clock, when a light thunder shower came up; growth this day was one inch. It will be seen that during the three days and nights the blade increased in length four inches during the night and three and a-half inches during the day time, showing a greater increase during the night than day. The time of measuring in each case was at sunrise and sunset.

I find the opinion quite common among our farmers that warm nights are necessary to make corn grow well, and that it makes a large portion of its growth in the night. The above experiment seems to confirm this idea.

But, if this be true, what becomes of the doctrine of the absorption and elimination of the atmospheric gases during sunshine and the reverse during the night? Are the doctors mistaken, or are we mistaken in our observations of the teachings of the plant itself? *L. J. Trappin, in Rural New Yorker*.

There has not been such a crop of beechnuts, hazel-nuts, butter-nuts, cherries and other wild fruit in the woods of Central Canada for years as there is this season. Bear, partridge, deer and all kinds of game will be in splendid condition in consequence when the shooting season commences.—*Ottawa Citizen*.

BUTTER CONSUMPTION.

It is estimated that each person in this State (Chinese excluded) will consume on an average one pound of butter per week. This would make at least 25,000,000 pounds per year, or about \$7,500,000 worth at 33¢ cents per pound—about the average price. So the butter making, it is easy to see, is no insignificant part of farming, and, as butter is a cash article always when a good article, there is no deception about its value or the profit of its manufacture. At 100 pounds of butter a year as the produce of a dairy cow, it would take 250,000 cows to supply the demand in California.—*Cal. Agriculturalist*.

MIXED HUSBANDRY AND ROTATION.

The following is an extract from a speech delivered before the Maine State Board of Agriculture:—

"No one crop is safe enough for a speciality. Take any crop you please and see if this is not true. Specialties look well on paper, are fine in theory, but are poor in practice. The husbandry of England is due to a judicious rotation for its excellence. The climatic conditions that are favorable to one crop militate against others to some extent. The price demanded for skilled labor will not admit of specialties being generally followed. If we run to a speciality and that fails we are out in the cold. It takes more skill to run a speciality than mixed husbandry, and it will not pay to run specialties except with skilled labor. Near good markets this course may do, but for the farmers of the State as a whole it will not do.

ABOUT DRAIN TILE.

1. How deep should drain tile be laid to effect a thorough drainage on loam soil surface nearly level and no surface water only in a wet time? 2. Where can drain tile be bought? 3. What is the cost per foot or rod? 4. What size tile would I need for main drain, 50 rods in length? 5. What size for side drains 20 rods in length?—*L. M. W.*

In reply, we would not lay tiles less than three feet deep. We cannot answer where the tile can be bought, nor the cost per foot, for the cost will depend upon the size and the distance they must be transported. For main drains we should use 24 inch tile; for side drains, 14. In the soil you describe, perhaps inch tube would answer for the area you desire to drain for the side drains, and a two-inch tube for the main drain. We should think it would. You ought to be able to get the 14 inch tile and collars at not over 20¢ per rod.—*Rural New Yorker*.

HOME-MADE CHLORIDE OF LIME.

Prof. Nash gives the following directions for making this very useful disinfectant and fertilizer. Take one barrel of lime and one bushel of salt; dissolve the salt in as little water as will dissolve the whole; slack the lime with the water, putting on more water than will dry slack so much that it will form a very thick paste; this will not take all the water; put on, therefore, a little of the remainder daily until the lime has taken the whole. The result will be a sort of impure chloride of lime, but a very powerful deodorizer, equally good for all outdoor purposes with the article bought under that name at the apothecary's, and costing not one-twentieth part as much. This should be kept under a shed or some outbuilding. It should be kept moist, and it may be applied whenever offensive odors are generated with the assurance that it will be effective to purify the air, and will add to the value of the manure much more than it costs. It would be well for every farmer to prepare a quantity of this and have it always on hand.—*Home Journal*.

WILD MUSTARD.

A correspondent of the *North British Agriculturist* writes:—In the summer of 1866 I had a field of 15 acres of oats very bad with wild mustard. When the oats were cut I observed the seed of the wild mustard lying thick upon the surface of the ground. Immediately upon the crop being removed, I set to work and harrowed the stubble well, the consequence of which was in a short time a fine growth of mustard made its appearance, and which in course of time was plowed down, and since that time there has been next to none in this particular field.

The production of beet-sugar during the last season in the north of France was estimated at over 350,000 tons, and the farmers there at preparing for a much larger return this Autumn.

FALL SEEDING GRASS.—Good farmers in the West are becoming, year by year, more convinced of the utility of spring seeding to get a good stand of grass when sown with another crop, particularly if that crop be oats. The reasons are simple, the principal one being that the young grass, being smothered by the crop, grows spindling and with but little root, and the usual drouth of summer, after the grain crop is gathered, often kills it entirely; or, if it does not, it is so weakened that the subsequent freezing and thawing of winter heaves it, or freezes it to such an extent that it takes sometimes years to fully recover. This is obviated if the seed be sown after the crop of grain has been harvested. The land should be lightly plowed, harrowed and rolled until perfectly smooth. Upon this sow the seed at the rate of twelve quarts of timothy, unless clover be used on the field, in which case eight quarts will be about the quantity for orinary seeding. It is true many good farmers sow less, but experience has shown that ample seeding gives the better and more equal stand. The seed being sown, harrow again with a light smoothing harrow or some other implement that will not clog, but will leave what trash may be brought to the surface equally distributed over the field. The seeding for grass should be made in the latter part of August or beginning of September; indeed, the earlier the better if seasonable rains occur, so that the grass may get a good root-hold before the ground freezes. If it be intended to sow clover as a part of the meadow or pasture, six to eight pounds should be seeded the following spring just as the frost is coming out of the ground; and this need not be harrowed in. When the land becomes settled it is good practice to roll it with a moderately light section roller, to compress the earth about the roots of the grass and clover.

FIRST PRIZE REAPING MACHINES.—The French Government, recognizing the importance of improved agriculture, especially at the present time, issued a few months ago a programme of the international trials of reaping machines on the Government farms at Grignon. These prolonged trials have just concluded. The American and English makers were there in full force; the former were Burdick, Johnston, Whiteley and Wood; the latter were Hornsby, Howard, and Samuelson. They also sent over their own trained horses and men. All the machines were severely worked for several days in heavy crops of winter and summer wheat and oats, a good deal laid and twisted, and after varied and protracted tests the judges—all of whom were appointed by the Minister of Agriculture—made the following award:—Howard, of Bedford, England, first; Burdick, of Auburn, America, second; Wood, of Hoosick Falls, America, third. Further trials were then gone through with selected machines in the English and French sections, and the judges gave Howard, in addition to the first prize, the gold medal of honor for the best machine in every class.

LOCUSTS AND CROPS IN AUSTRALIA.—The grain fields near the Berra promise an abundant yield this season. Our Koorringa correspondent writes on the subject and about the insect nuisance:—

"The frequent rains, although not heavy, have caused a luxuriant growth of all the early sown wheat, and even that which was put in late may amply repay the farmer. Locusts are often talked of, and frequent alarm is expressed about the eggs laid last year germinating when the warm weather commences. In patches of burnt ground and in sheltered situations a considerable number have been seen, but these would probably have not been noticed in other seasons. That the pests are in full array in the Murray Scrub is probably true. That, however, is generally the case there at this time of year."

AGRICULTURAL EXHIBITIONS—ONTARIO.—Provincial Exhibition, London, Sept. 22, 23, 24, 25 and 26. —Guelph Central Fair, Sept. 16, 17 and 18. —Hamilton Central Fair, Sept. 30, and Oct. 1 and 2. —North Riding of Oxford, Woodstock, Oct. 6 and 7. —South Riding of Oxford, Ingersoll, Oct. 2 and 3. —Mitchell, Sept. 29 and 30. —St. Mary's, Sept. 30 and Oct. 1. —Wingham, Oct. 2. —Stratford, Oct. 2 and 3. —Seaford, Oct. 2 and 3. —Hibbert, Oct. 7. —West Zorra, Oct. 10.

WHITE CLOVER AS A HONEY PLANT.

White or Dutch clover is the queen of honey plants. It is widely cultivated in this country, and continues to flower a long time. In Scotland, the farmers use more white clover seed in laying down the land in grass than the farmers of England, hence the clover fields are better there than here.

England raised 16,000 bushels of wheat a century ago—now 100,000,000 a year. How came the increase is suggested in part by the fact that since 1837 she has imported over \$150,000,000 worth of bones as fertilizers.