

From the same work I extract the analysis of the insoluble matter of birch-wood ashes, which is as follows.

Silica	5 50
Lime	32 20
Magnesia	3 00
Oxide of Iron	50
Oxide of Manganese	3 50
Phosphoric Acid	4 30
Carbonic Acid	31 00
Carbon	100 00

For my own satisfaction I made some experiments to test the quantity of lime present in the ashes of the birch, and found the above substantially correct. The presence of phosphoric acid would show the value of these ashes as a manure for wheat, for Professor Dawson, in an address delivered in Montreal in the beginning of this year, conclusively showed how absolutely necessary to man's health and well-being it was that a certain quantity of this substance should be found in the soil. If it requires, as he then showed, but four tenths of one per cent. to supply wheat with the necessary quantity of phosphoric acid, here is at once a means, too often utterly wasted, of restoring to the soil a part of what has been extracted from it. The unleached ashes of course, from not being deprived of their potash, are more valuable than the leached, of which the above is the analysis.

Trusting the above may be of use to some of your readers, I forward it for insertion, if you think it worthy of a place in your columns.

"GOSFORD."

August 6th, 1868.

Thin Sowing.—Have you tried it?

Do not, pray do so, especially if you are a lover of *£ s d*. No man should venture to say that such a thing will not answer, unless he can prove it has failed. A mere supposition or imagining in such matters has no value whatever. I have often brought color into the cheeks of agriculturists who stated positively that thin sowing would not answer, by mildly asking whether they had ever tried it?

There is nothing more easy than to try (as I have done) half an acre or an acre with a diminished quantity of seed, so as to deduce a comparative result. After some fifteen years of such experiments I have come to the conclusion that thick sowing in wheat, barley, and oats, not only wastes much seed, but inflicts a much heavier loss by preventing the full development of the plant, and thus greatly diminishing the crop in quantity and lessening its quality.

Farmers quite comprehend the necessity for giving ample room for the growth of their root crops, but it does not appear to me that they perfectly understand the nature of the wheat and other grain plants. I have heard many say that they sow thick to prevent tillering and to smother the weeds. Although I do not recommend a general sowing of so small a quantity as a peck an acre, I find that it produces an ample and superior crop, and it especially illustrates the natural habit of our grain plants, as may be now seen on half an acre in one of my wheat fields, the rest of the field, right and left, being a splendid crop, from one bushel per acre my usual quantity. Both thick and thin were sown, or rather drilled and dibbled, on the 20th November, which would be naturally considered much too late for a peck per acre. Well, up it came, a single stem or hodkin from each dibble hole, and we could only see that there was any plant by placing our heads low to the ground and taking a horizontal view. In fact, it looked like a bare fallow from November to April, the rest of the field (one bushel per acre) looking thick and luxuriant.

In April, and early in May, it still looked thin, but the original *boussa* gradually surrounded itself with from thirty to fifty other juvenile hodkins, shooting out horizontally. Well might the able and amusing correspondent exclaim, "Where can the wheat have come from?" Now (on the 20th June) the half acre strip of fallow has become a fine standing crop of wheat, with ears and kernels fifty per cent. larger than its neighbour. I have been amused by saying to my farm visitors, "you will soon come to the peck an acre," and several walked past it without distinguishing it from its competitors on either side. They evidently looked for a thin crop, which is not now to be found. I could, in the course of several years of experiment, have won a small fortune in wagers. But is it not strange that among some 400,000 British farmers, it is Mr. Mechi only that tries and records

these important experiments. Can it be a matter of indifference whether in seed alone we pay ten shillings per acre more or less? The field in which this peck an acre is sown will probably produce six qrs. of wheat, perhaps even more, so that the poor peck has a strong competitor. Which is to be the winner—the peck or the bushel? We shall all know some day. In 1864 and 1865 the peck gave a crop of seven qrs. two bushels, and seven qrs. one bushel—the best on the farm, and the finest sample, for I can distinguish the heap of thin sown grain at once, by its superior size and quality.

It has often surprised me that nearly every kernel vegetates, which is contrary to the opinion expressed by many. As we only put one kernel in each hole, we are enabled to see where any failure takes place. This is the fifth year of the peck an acre experiment, and it certainly promises to be an abundant crop. Farmers who sow two and a half to three bushels of wheat per acre, and five bushels of oats, seem surprised at the level or even appearance of the heads of corn. An up-and-down crop, like a mixture of tall grenadiers and tiny riflemen, is a sure consequence and evidence of a grand battle, in which the weaker have gone to the wall.

Mr. Hallett is doing an incalculable amount of good by laying down rules for the thin planting of his wheat and other grain.—*P. G. Mechi, June 24.*

Fall Ploughing.

Without elaborating the many strong points in favor of fall ploughing, a few of the more prominent benefits may be briefly stated as follows:—

1. August and September is a good time to turn over bound out sod land, and manure and re-seed it at once to grass, obtaining a crop of hay the following year.

2. October and November is an excellent time to break up sod land for planting the following spring.

3. The weather is then cool and bracing, and the team strong and hearty for their work; while the weather in spring is more relaxing and the team less able; and spring work being always hurrying, it saves time to despatch as much of the ploughing as possible during the previous autumn.

4. Soil land broken up late in autumn, will be quite free from growing grass the following spring, the roots of the late overturned sward being so generally killed by the immediately succeeding winter that not much grass will readily start in spring.

5. The frosts of the winter disintegrate the ploughed land, so that it readily crumbles in fine particles in spring, and a deep, mellow seed bed is easily made. The chemical changes and modifications resulting from atmospheric action during the winter, develop latent fertility in the upturned furrows, which, with the mellowing influences, materially increase the crops.

6. Most kinds of insects are either wholly destroyed or their depredation materially checked by the late fall ploughing.

7. Corn stubble land may be ploughed late in the fall, and thus be all ready for very early sowing in spring, thereby going far to insure a good catch of grass; the roots of the new seeding hold well, being well established before the droughts of the summer come on.

8. Most land needs deeper ploughing than has generally been practised. Where the sub-soil is fine grained, unctuous and close, or where there is a hard pan of good quality, deep ploughing may be at once resorted to, with decided advantage. Where the sub-soil is poorer, the ploughing may still be advantageously deepened by degrees, say an inch at each new breaking up. But in by far a majority of cases, deep ploughing may be practised at once—indeed, it may be the rule with safety, while shallow ploughing may be the exception. Plough say nine, ten, eleven, or twelve inches in November. The sub-soil turned up will grow several shades darker by spring. The frosts and atmospheric influences of winter will mellow the soil; the inorganic elements, and all latent fertility, will be made more active for benefiting the crops. In spring, spread the manure and plough it in, or otherwise work it in or mingle it with the soil, to the depth of four inches, or a little more or less, and you have the very best attainable condition for realizing good crops. Deeper ploughing may thus be practised than would at all times be safe, or expedient, if the ploughing is delayed till spring.—*Maine Farmer.*

Treatment of Clay Land.

I had a patch of hard clay land in one of my fields, containing about half an acre; it was so hard that we could not plough it with two horses, and when it was ploughed, it came up in large lumps from one foot long to three; the harrow would bound and bounce

along over it, and you could not see where it had been; we could not plant it for the lumps. It was a source of trouble and vexation to me, and I determined to do something with it; so I went to work. I put a large blind drain through the middle of the patch; this was my main drain. Then I ran from the main drain small ones each way, twenty feet apart, to the outside of the clay patch. I laid in a two inch tile drain. Then I drew on a large amount of corn cobs and coarse manure; then summer fallowed; then in the fall, I drew on a large amount of well rotted manure, and sowed wheat, and it was by far the best wheat that I had in the field, and I never after saw any clay lumps to speak of in the patch. It was the best land to plough that I had, and raised the largest crops, and I am satisfied that if farmers would drain and manure their clay lands heavily, it would richly pay them for the trouble and expense, and be a saving in horse flesh and harrow teeth.—*Cor. Country Gent.*

When to Sell Grain.

The *United States Economist*, after speaking of the abundant grain crops in this country and Europe, and the prospect that, as a consequence, the prices of grain will gradually decline to a certain extent, says:

Our surplus, whatever it may be, will have to be sold in the Liverpool market, and must come down to the prices there current, and the price at which we can sell the surplus will determine the value of our entire crop. The farmers would do well to look these probabilities fairly in the face. If they hold back their produce, in consequence of declining prices, they may delay the shipment of our surplus for a few weeks or months, but ultimately they will suffer from a decline much more extreme than would otherwise have occurred. Year after year has the West adopted the policy of keeping back its supplies until the close of navigation, compelling England to supply her wants from Europe, the result being that in the spring the surplus is rushed to the seaboard, and, under the pressure of receipts, prices fall, and Liverpool is enabled to make its own prices upon the grain we are obliged to realize upon. As a rule, an early market is always the best for the farmer, and especially so in periods of abundant crops.

SHARP IF TRUE.—The latest swindle is a Rochester, (N. Y.) invention. When hay is sold by the ton, a man conceals himself in the load and is weighed with it. While the load is driven to the barn of the purchaser, the man leaves his hiding place and goes back to the hay-market to be sold again. The trick was not discovered till last week, though it is understood that it has been practised for years. *Ex.*

RINGLEADER PEAS.—Our quotation from the *Mark Lane Express*, and remarks on the difference between the English and Canadian ideas of "quick growth," have elicited the following communication from a correspondent in Pickering.—In the *CANADA FARMER* of Aug. 15th, on page 254, there is a short paragraph on the early growth of Sutton's Ringleader Peas in England. For your information I may say that I procured, last year, one quart of the same peas from Mr. James Fleming to grow for seed. The spring of 1867 was wet, and I did not get the ground in a state to please me until the 31st May, when I sowed them, and I harvested them fully ripe on the 24th July. This year I sowed the produce (about one peck) on the 9th May, and harvested them fully ripe on the 13th July. The difference in the time of growth will thus be seen to be rather less in Canada than half that of England."

MEASURING GRAIN IN THE BIN.—The rule and mathematical calculation for measuring grain in the bin will be found in the first volume of the *CANADA FARMER*, page 175. It is in the number for June 15th, to which we refer our correspondent from Hilton. A simpler method, sufficiently accurate for all practical purposes, is given on page 200 of the same volume. It is the method we have usually employed, and as it may be useful to many farmers at the present season, who have not an opportunity of seeing the back number referred to, we here repeat it.—Multiply the length, breadth and depth of the grain together in inches, and divide the product by 2,150 (the number of cubic inches in a bushel), and the quotient will be the number of bushels in the heap or bin.