

or the same quantity of ground bones, also 25 or 30 lb. pearlash, or 3 bushels ashes must be supplied to every acre every year, \$3.30, cost.

The land to be subsoiled and limed every ninth year at the rate of 35 bushels quicklime and well harrowed 1 acre.

The costs of working this farm are about as follows:

Two men with horses, 12 months at \$25	\$600
Two " 7 " " 25	350
Three " 5 " " 25	375
Two women 12 " " 15	360
Cost of seed grain, \$173; grass seeds, \$125	298
Lime, \$120; topdressing yearly, \$137	537
Interest at 10 per cent., \$72; on horses' value \$720; food for horses	591
Interest at 10 per cent. on implements, \$150; rent, \$900	1,050
Taxes, \$75; statute labor, \$15	90

Total costs..... \$4,274

Total value of crop unmanufactured..... 6,741

Cr. by balance in favor of farm..... 2,477

\$6,741

JOHN ROBERTSON.

Well's Corners, Ont.

Manuring Potatoes—Ashes—Lime.

EDITOR CANADA FARMER:—I intend planting twelve acres of potatoes next spring, and have on hand eight hundred loads of manure and three hundred of ashes that would be the best way to apply them to the land for the benefit of the crop. Is there any advantage in obtaining seed from limestone soil? My soil is a sandy loam.

I have thirty barrels of slacked lime which I wish to apply to four acres for mangels and carrots, and wish to know if it would be advisable to spread the lime on at present. Will it be slacked so as not to injure the crop in the spring, and by adopting this plan will the land receive the full benefit of the lime?

T. H.

Sarnia, Ont.

It would have been best, beyond doubt, that the manure should have been ploughed under in the fall. As that cannot now be done, the best way will be to proceed thus: After the land has been thoroughly worked and got into condition for planting, open out drills thirty inches apart (go along with a wagon or cart and spread the manure and ashes mixed in the drills).

The questions about lime will be found partly answered somewhere in this issue. For mangolds and carrots, the best way will be to proceed in the manner illustrated in the CANADA FARMER for July last, which we briefly summarize for the benefit of our new readers:—Having got the land in good tilth, sow the lime broadcast. Then row up ridges with a ridging, or double mould-board plough. The act of throwing up the ridge mixes the earth and the fertilizer about as thoroughly as it could be done. Along the channel run the seed drill.

"Mainstay," a New Wheat in England.

In its report of the Smithfield Show, the *Farmer* says:—There were samples of the "Mainstay" wheat, which is certain to become very widely appreciated. It is a new variety of white wheat, possessing very valuable characteristics, and was selected and propagated by the grower (Capt. Delf, Great Bentley) in 1869; it has been carefully cultivated since. The quality of the grain is very fine, white, and transparent; it is held in high estimation by millers—produce of flour in 1874, 82 per cent. Although it is white wheat of very fine quality, it is produced by a plant of very great robustness, the straw is a golden red, of moderate length, very stiff, and of great density; the ear is of average length; square, and the chaff red and rough. The "Mainstay" has been tested year by year by the side of other descriptions of fine white wheat, Essex rough chaff, &c., and has always maintained a great superiority in quality and quantity. It fills strongly, grows a hardy stout-jointed straw, has the property of resisting unfavorable influences of rapid alternation of temperature, combats successfully the ungenial effects of the frosts of early summer, now so common, resists blight, does not become root-fallen, and will stand the roughest weather in harvest-time, so much so that they may be left

uncut until after the barley is secured, if desirable. This year has established the reputation of the "Mainstay." It is well known to all how disastrously the wheats in this country were rolled and knocked down by the winds and rains of July. When ever grown, the "Mainstay" stood erect, or only slightly tilted, was free from blight, and produced from 9 to 11½ sacks per acre of good sample while other varieties grown on the same farms, were laid and blighted to such an extent that the produce does not come to more than 6 or 7 sacks of thin, poor grain.

Splitting Wood.

However adept a man may become with the axe, and however proud he may be of his expertness with that indispensable tool, there is one task which sooner or later will cause him to wish he had a coal mine on his premises—and that is, splitting fire wood. Any little hint that may lighten labor will therefore be acceptable to such of our readers as have to keep their own or some other man's woodpile going. The appended illustrations are copied from the *Country Gentleman*, and will be commended by their simplicity. After the wood is cut or sawn stove-length, a simple jack or box, as depicted, will enable the operator to do this splitting two or three times as fast as when he is compelled, after every blow of the axe, to stoop



Fig. 1.

and pick up the wood. Fig. 1 shows how this is done, a portion of a hollow tree being used for the jack. Every block is split in several pieces by successive rapid strokes of the axe, without stopping. A modification may be made as in fig. 2, consisting of a forked log, with an in-



Fig. 2.

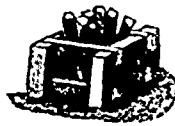


Fig. 3.

serted plank; or it may be made wholly of plank as in fig. 3.

The Necessity for Using Ripe Seed.

Twenty-five years ago, when the Masham was the potato, by careful selection, and by planting only the blossom ends, we increased its earliness fully a week, the yield being quite uniform in size, and free from blemishes. For twelve years we made no change of seed, and kept the standard good. This was accomplished by setting aside a certain portion of the crop, from which the seed was to be selected. That from which the seed was again to be saved was carefully sorted, and the balance planted for market. Thus we always had seed that could be depended on.

The same plan was adopted with seed corn. None but the ripest and farthest ears were saved for seed; and this, again, was sorted carefully, the selections being used for the seed crop, and the rest planted for marketing. So the best of any given variety of grain may be selected by throwing it across a barn floor, from side to side. The heaviest and plumpest seeds will fly farthest, and if saved and passed through a sieve that will retain only the largest grains, these may be sown for the seed crop, and the rest for marketing. Thus, in a few years, you may have crops of superior excellence, and at comparatively light cost. But in no case must any seed be gathered until it is fully ripe; for as surely as like produces like, so surely will immature seed depreciate the quality and diminish the vigor of the plant, until it finally becomes a prey to every disease, or climatic conditions unfavorable to growth; and it perhaps eventually dies out entirely, to be supplanted by something new.

Take wheat, for instance. If perfectly ripe, the starch and gluten is in its best state for being absorbed by the young plant, giving it vitality and vigor, and the bran, or skin outside, will retain its shape for a considerable time. If the seed be unripe or shrunken, the plants come up weak, and never become as vigorous as they should.

There is no doubt but a great deal of trouble from the attacks of insect depredators arises from this lack of vigor in the growing plant; and this is essentially true as

respects its ability to resist fungus attacks and other diseases.

Up to about thirty years ago grain was not harvested until ripe. Then came the mania for harvesting wheat while in the dough state. The evil increased until the reaction came, and now this species of insanity has pretty nearly run its course. It is true that the bran on wheat so cut will be thin and light; and it is as true that the wheat will be soft and the flour sticky.

The bran from ripe wheat is thin and tough, and from unripe wheat is dry and brittle. Ripe wheat grinds freely, and, when ground, is soft and elastic in the hand, and gives off a pleasant smell. The flour absorbs, and continues to absorb water freely upon being mixed and kneaded, and the loaves of bread, when baked, are light, moist and soft.

Unripe wheat, when ground, feels dry, and is more like meal. It lacks the pleasant odor of ripe wheat, absorbs but little water when kneaded—for, the granules being hard, the water lies around it rather than in it, and when baked, the loaf is dry and hard.

Therefore in saving seed grains, it is the wisest economy never, under any circumstances, to save for sowing any but the most thoroughly ripened samples.—*Chicago Tribune*.

Soot.

EDITOR CANADA FARMER:—I wish to get your opinion as to the value of chimney soot. What should it be worth per 100 lbs. How should it be applied to secure best results, and how does it compare with other fertilizers, such as superphosphate, guano, or bone.

A. A. D.

Cobourg, Ont.

We cannot pretend to say what soot should be worth per 100 lbs. As a fertilizer it is of little value. Compared with superphosphate, guano, or bone, it may be said to be nowhere. It is useful in orchards and in gardens, and is a first class absorbent for stables, privy vaults, hen roosts, etc. It is also of value to dust upon turnips and cabbages to prevent the attacks of the fly and grub. The time to do it is when the dew is on the plants.

A Bean Harvester.

Mr. Root described at a meeting of the Farmers' Club of Lenawee, Co. Mich., a bean harvester of his own invention, which has given him much satisfaction. He uses a frame, three by four feet, resembling the frame of a wheel-cultivator, which is mounted on wheels, with a seat for the driver, and a lever within his reach for elevating or depressing the cutters. From the forward corners of the frames depend two standards, upon which are bolted two cutters, made of steel, two and one-half feet long, which extend obliquely backward toward the centre, but do not meet, allowing stones or rubbish to pass between. A tongue is bolted to the centre of the frame, and the horses are so spread by long neck-yoke and whiffletrees as to have two rows of beans, 2½ feet apart, between them. The driver mounts the seat and guides the horses between the rows. The cutters run from 1 to 2½ inches beneath the surface, cutting off the roots, raising the surface slightly as it falls over, but leaving the beans standing upright as they grow. They cure much better left in this way than in bunches, as when pulled: dry out much quicker after rains, and may be thrown into bunches with forks or raked together with horse-rakes, he preferring the former way. With this machine he harvested from ten to twelve acres a day, and can harvest and store a crop for \$1 an acre, and shell less than where pulled by hand, which costs \$2.50 an acre for pulling alone. In addition to harvesting the beans, this machine tills the land, cutting up all weeds and leaving the surface mellow.

Classification of Soils.

Soils have a rocky origin. Professor Johnston classifies them according to the clayey or sandy proportions as follows:—

1. Pure clay, from which no sand can be washed.
2. Strong clay or brick clay, which contains from five to twenty per cent. of sand.
3. Clay loam, which contains from twenty to forty per cent. of sand.
4. Loam, which has from forty to seventy per cent. of sand.
5. Sandy loam, which has from seventy to ninety per cent. of sand.
6. Light sand, which has less than ten per cent. of clay.

Sandy soils, then, are those which consist mainly of grains of sand, or silica, or flint, and is called a silicious soil. Nature never bestowed upon man a soil of greater capability of being made lastingly fertile than the sandy, light soil of New England.

Gravelly soils need no description, though there are rich gravels and poor gravels depending upon the rocks of