

very low-rate, in the form of dried blood. we naturally look for an equally cheap source of phosphoric acid, and this we find in basic-slag, the refuse of the iron or rather steel foundry. Containing, in the best samples, about 18 oyo of phosphoric acid, besides being rich in lime, this phosphate can be laid down here, in Montreal, for about \$0.00 a ton of 2,240 lbs. or, say, \$9.00 for our ton of 2,000 lbs. This would make the phosphoric acid cost only 2½ cents a pound.

Now we suppose 40 lbs. of nitrogen and 54 lbs. of phosphoric acid will be admitted to be a full dressing for an acre of land requiring such manurial matters; the cost will be as follows:

300 lbs. of dried blood.....	\$2 10
300 " of basic slag.....	1 35
	—————
	\$3 45

But, it would, we think, be better to double the quantity of the slag to allow for slowness of decomposition, and, even then, the cost of manuring an acre of land would only amount to \$5.00.

The slag must be ground to the finest possible powder, and, like potash, should be sown broadcast before winter. Its chief quality, besides cheapness, is its faculty of duration; it is not, like superphosphate, washed out of the land or out of the reach of the plant-roots in one season, but, on the contrary, yields its plant-food up gradually for two or three years.

Slag is particularly suited to our black soils, on which it would, we believe, greatly increase the growth of clover; in fact, it may be used in every soil, as a source of phosphoric acid, and for every crop, except for swedes and turnips, where it would be better to use a quick acting superphosphate to push the young plant out of the fly's way.

For meadows, kamit might be added to the slag, though, as we have often observed, we have never seen the application of potash pay in this country. Where ashes have been profitably used, we have been generally inclined to attribute their good effects to the phosphoric acid they contain more than to the potash.

The slag may be mixed with nitrate of soda, but not with sulphate of ammonia, as the lime it contains would set the ammonia free, though, of course, if the fertilizer is to be applied at once and harrowed in immediately, the loss of ammonia will hardly be appreciable.

TREATMENT OF NEWLY CALVED COWS.

Do you want your mother cow to go about blaring after her calf when the latter has to be, as it must be, sooner or later, separated from her? If you do, then let her, as is often recommended by unpractical, unthinking people, suckle it for a few days—even a few hours will be enough. Our own practice has always been never to let the cow even see her calf, but to remove it as soon as dropped, and, except for an enquiring, doubtful glance, as much as to say: Why, what on earth has been the matter? the cows never seemed even interested in its progeny, of the existence of which they were, in most cases, absolutely ignorant.

Most of our readers have, doubtless, observed that, when a cow accidentally calves in a field or yard, the first thing she does on rising is to set to work and lick the calf all over. In fact, in our boyhood, we have often seen the farm bullock sprinkle the new born with salt to encourage the cow to

lick it. Therefore, as nature clearly points out the gluey matter as a medicine to the cow as well as a matter that should be removed from the calf's hairy hide, it is evident that some form of physic is needed by the cow, and as the first flow of milk acts on the indurated feces in the calf as a purgative, we think well of the habit of giving the cow, after she is quiet, a dose of her own *beistyn* mixed with such a quantity of thin oatmeal porridge as may induce her to drink it.

Do not cram your newly calved cow with grain or cake for the first ten days. Keep her moderately warm and well littered, and be sure that linseed crushed, or, if you have no crusher, ground with about double its bulk of oats, forms part of her food. Uncrushed or unground linseed, even if boiled for a dozen hours, is half wasted: take a gram of it into your mouth, and you will soon see why.

MILK IN THE SHADE—Every farm should have a road fenced on each side, from the cowhouse to the farthest pasture. The judges of Agricultural Merit, we are glad to see, lay great stress on this point. In cases where this road exists, there will be no trouble with flies driving the cows crazy and making them kick the pail over. When the cows reach the cowhouse, give each a handful or two of grain or cake: they will be all the more ready to go into their stall. For our part, we thoroughly believe in giving additional food to cows on pasture, except, perhaps, in the first rich flush of the grass. It not only keeps up the flow of milk, but strengthens the cow, particularly in such a season as that of the past spring and early summer. During the time of *washy* grass, when the cows are scouring, a couple of pounds of cottonseed-meal, or a quart of pease would tend to correct the looseness. And when, in October, the poor things begin to stand about the gate of the pasture, shivering with cold, and with their bellies only half filled, why not prepare some nice comforting mixture of chaff, meal, &c., to fill up the vacuum caused by the waning herbage. Winter butter will, we believe, pay well, but on condition that the cows go into winter-quarters in good condition and with their normal flow of milk unchecked, for you know, as well as we can tell you, that keeping up the flow of milk is one thing, and restoring it, when once fallen off, is another.

BROKEN-WIND.—In the county of Southampton, commonly called, though erroneously, Hampshire, there are more broken-winded horses than in any other two counties, of the same size, in England. In the same county, there are a great number of water-meadows: can there be any connection between the two phenomena?

The answer is "most undoubtedly, there is." Why? Because the "carriers" that take the water from the rivers (rather, *brooks*) run across the roads, and people allow their horses, heated with travel, to stop and drink at them whenever they feel inclined. The water from these brooks is not, like some of the trout-streams we have fished in the townships, bitterly cold, but moderately warm, or else they would not answer for irrigation. "Thousands of horses are ruined every year by this injudicious plan of watering after being heated by work or fast driving," says an American writer on the subject, and when we see the

man who looks after the City Passenger car-horses at Côte Street come out with a couple of pails of ice-cold water, we own we should like to upset them before they reach the horses. If a horse is allowed a "go-down" or even two, when he comes in to the stable, it will not hurt him, but he should be cooled off and have his hay, and then be watered before he has his grain.

THE HAY FAMINE IN ENGLAND.—If we do not look sharp, we shall find ourselves behindhand in supplying the English market with hay. Russia is bringing hay from her great Southern steppes to the seaboard, and the Argentine Republic has already sent some very fine lucerno or alfalfa—as the Spanish call it—which sells for £5.15 the gross ton = \$28 for our ton. United-States and Canada hay was on the market June 19th, and sales were making at from £5.5 to £6.5 a gross ton. English hay was fetching from \$40 to \$45 a ton, and oats going up in price rapidly. The writer's brother sends word that "my tenants have not a bit of old hay left and hardly any new, and the cows are very short of food in the pastures"; and this on some of the finest alluvial soil in the county of Gloucester!

PRICE OF STOCK IN ENGLAND.—Best 60 lbs. Down sheep are worth 5 shillings a head less than last year, and 40 lbs. Down fat lambs, that last summer were selling for \$1.54 a stone of 8 lbs., now only fetch \$1.24 a stone.

As for lean stock for grazing purposes, they can hardly be given away. The only cattle that keep up in price are milch-cows, the best lots at Islington market being still worth £220. = \$10.92, but fat cows only fetch sixpence a pound, the four quarters. (1)

R. A. S. OF ENGLAND.—The first and second prize aged shorthorn bulls at the great annual exhibition—they call it *show* in England—of the Royal Agricultural Society, at Chester, were bred by the Queen, to whom Lord Feversham paid \$5,000 for the winner of the first prize.

There are 118 shorthorns and 60 Herefords on show; in sheep, Shropshires are the most numerous; about 200 head being on the ground. (2)

The sheep-shearing machines seems to have been, comparatively, failures, the wool being unevenly shorn and the sheep cut rather frequently.

A 5-horse-power engine, with common paraffin as fuel, only consumed a cents worth per horse-power per hour. Cheap work indeed, half a dollar for a day's work!

A machine for making butter into pats, shown by Messrs. Hucks, of London, turns out 2,000 pats an hour! A good thing for creameries near large towns.

The *disc-churn*, a new invention, made butter of perfect consistence in four minutes fifty seconds! the grain seems to have been perfect.

THE SEASON.—Always in extremes, has been the season of 1893, up to date (2nd July). If drought sets in soon, as it surely will, keep the horse-hoe going between the rows of drilled crops, even if the horse does set his foot

(1) We regret to see that now—July 13th—prices are still worse.—Ed.
(2) Cheshire joins the county of Salop, commonly called "Shropshire."—Ed.

on a plant now and then. When maize is intended to ripen its seed, no doubt it is dangerous to horse-hoe deeply, for fear of cutting off the roots, which would delay the ripening process. But where potatoes, swedes, mangolds, &c., are concerned, keep the horse-hoe well down until the depth of 5 inches is gained. The plants will stand the drought all the better for it, and if a rootlet is cut off, nature will replace it with two or three more, and the delay in ripening in the case of root-crops does not matter much.

"INTRODUCTION OF THE RAPE PLANT INTO CANADA."

"It is not known when rape was first introduced into Canada, but it is now certain that it has been grown for several years past in the county of Wellington and in one or two of the adjoining counties. In other portions of the Dominion it does not appear to have been grown to any considerable extent, if indeed at all. However, since the bulletins upon rape culture were first issued by this station, it has been ascertained by actual test that rape can be grown in *fino form* in every province of Canada. A large percentage of the Canadian lambs shipped during the more recent years to the Buffalo market have been finished on rape." *The Rape plant by Professor Shaw, Guelph.*

In 1872, 20 acres of rape were grown at Hillhurst Compton, P. Q., by the Hon. Mat. Cochrane. In 1874, the editor of this periodical grew 5 acres of rape at St. Hugues, P. Q., and fed it off with sheep. There is an engraving of the writer's lambs hurdled on rape, in 1884, at Sorol, P. Q., in the 6th volume of the *Illustrated Journal of Agriculture*, p. 184., the photograph for which was taken on December 7th of the above year, just as the lambs were finishing their last fold. A very uncomplimentary likeness of the writer appears in the corner of the field, and the land may be observed to be ploughed up to the last possible furrow, to bury the sheep-manure out of all danger of losing its good qualities. The succeeding crop of oats turned out 70 bushels to the acre. In the June number of the *Journal of Agriculture*, vol. I, p. 22, (1879) is a full description of the rape-plant, its cultivation, and an engraving of the hurdle used by the writer at Saint Hugues. We have never ceased recommending the growing of the plant for sheep-keep, as being the best, the easiest, and the cheapest way of restoring the fertility of the worn out farms of the province of Quebec. Unfortunately, if we may be allowed to say so, nobody paid the slightest attention to our advice.

WASTE PRODUCTS—Things are very much altered since the *waste products* of the gas-works were contemptuously run into the nearest stream. Now, not only are the tar and the ammonia washed out of the gas in the process of purification carefully preserved, but at the works, in the coal districts of Britain, devoted to the production of the hard, dense coke used in working up metals, where until recently all the ammonia was lost, as much care is taken to preserve it as at the gas-works. In the great iron-works, too, large sums have been expended in apparatus for the recovery of this product.

Although not strictly associated with agriculture, we may be excused for mentioning the marvellous success that has attended the persistent efforts of our English men of science in their