

run forward. The lambs remain with the ewes till some time in May, when they are weaned, and then go on to good sound grass till the fodder crops—rye, vetches, or trifolium—are fit to feed. They remain on vetches till about the end of June. As most of the lambs are fattened, they receive as much cake and corn as they will eat, the object being to fatten them off as quickly as possible. They receive about $\frac{1}{2}$ lb. to $\frac{3}{4}$ lb. of cake or grain per head per day, with some peas. With such keep they would in a good season be fit to turn out about the first week in April. The lambs born in October and November receive good feeding, and are generally ready for the butcher when from ten to twelve weeks old, when they average from 10 lbs. to 14 lbs. per quarter, and go to the London market. They then make from 40s. to 50s. each.

The off-going ewes are fattened off as well as the lambs, and, when they have been highly kept, are ready for market at the same time. They then average from 22 lbs. to 23 lbs. per quarter. It is not uncommon—especially when the lambs have been dropped early—for the ewes to bear a second crop of lambs in the same year; but this is not a good or general practice. (2) Dorset ewe lambs have been bred from under twelve months old, the rams being put with them in November and December, and their produce being fit for the butcher in the following midsummer, realising from 28s. to 35s. each.

These sheep do well on most lands. They do better on high sour farms than Down sheep, there being little risk in lambing them. On account of this, together with their hardiness, they have supplanted most Down flocks in those chalk districts where water meadows abound. This is especially the case on those farms bordering on the River Frome. Shearing generally takes place in June, when both the lambs and ewes are shorn; the lambs yield from 2½ lbs. to 3 lbs. of (washed on the sheep's back) wool, the ewes from 5 lbs. to 7 lbs., and yearling rams from 10 lbs. to 14 lbs. The wool of the Horn lamb is much prized on account of its whiteness and the fine point it possesses, whilst the fleeces command better prices than those of most other English breeds. The principal fair for the sale of Dorset Horn sheep, especially early lambing ewes, was formerly Weyhill, to which place they used to be driven a distance of fifty or sixty miles, and it was not an uncommon thing for lambs to be born on the road there. (3) They do not now to such a large extent undertake this journey, nearly the whole of them being brought on the last Thursday in September to Dorchester Poundbury Fair, which was established in 1848, at which fair a number of prizes are given for the best ewes shown, and where may be seen from twelve to sixteen thousand sheep, this being the only fair where they are to be seen in such great numbers, drafted from the principal flocks in the county, many of them have lambs at their sides, and realise from 48s. to 75s. per couple. Sales of ewes, wethers, and lambs take place at Dorchester, Toller Down, and Beaminster, when large numbers of wethers and wether lambs are bought, chiefly by Somersetshire graziers, as they find that Dorset Horn sheep are

well adapted to their requirements. A large annual sale of ewes, rams, and ram lambs is held at Dorchester in the month of May. On these occasions the ram lambs fetch from 5 gs. to 20 gs. each, and the best rams from 15 s. to 40 gs. each.

Owing to the careful breeding, the shape of the Dorset horn sheep can now favourably compare with that of any of the Down breeds. The rams have good heads and countenances, with a bright eye and splendidly curved horn, constituting one of the grandest heads of any breed of sheep in the world. They have good necks and shoulders, straight backs, wide loins, and are as fine in the bone, compared with the weight of mutton they carry, as the best Down.

The chief home of the leading Horn flocks is now in the southern and western parts of the county, with Dorchester as the centre, and in the Isle of Purbeck, where very old established and extensive flocks are kept.

Dorset Horn sheep have been crossed with but few breeds, but amongst those that have been tried, none have answered so well as that between a Horn ewe and a good Hampshire-down ram, producing, as it does, a sheep well adapted for grazing, and much prized by butchers, as it carries a large amount of lean flesh, with fine quality, and weighing from grass from 20 lbs. to 25 lbs. per quarter at eighteen months old. *Cultivator.*

Manures.

An Important piece of Advice.

In buying commercial manures, always deal with the most respectable houses: no goods have been so tampered with as these chemical fertilisers.

The best plan is to deal through the intermediary of a sound Agricultural Syndicate (1)

Bulletin No. 114 of the Connecticut Experiment Station says that the average cost (that is dealer's price) of the nitrogenous superphosphates, analyzed is \$35.28. The average valuation made by the station is \$25.66, and the percentage difference 27.8. During 1891 the corresponding figures were: Average cost \$33.93, average valuation \$28.13, percentage difference 20.6. The average cost per ton of special manures was, for 1892, \$38.23, the average valuation, \$30.70 and the percentage difference 25.0, a little higher than in case of the nitrogenous superphosphates. For 1891 the corresponding figures were: Average cost \$38.84, average valuation \$31.64, percentage difference 22.8. A judicious enterprise on the part of fertilizer dealers is not indicated by the above figures R. V. Y.

Green-manuring

What Mr Wiggan says in the annexed article on green-manuring will handily apply to our English practice of feeding off crops with sheep on the spot where they grow. If, and may it soon come, the time ever arrive when all Canadian farmers grow, and feed off *in situ*, so many acres of rape, they will find, as their English brothers found long ago, that he is wrong in saying that "the chances are that not one third of the crop is returned to the right place."

Notwithstanding the much mooted question of the economy of green fall-

lowing, I believe it still remains true that it should form the main resource of the farmer—it certainly must to some extent. The loss animal industries enter into one's operations the more important is it. Specialists in animal and vegetable production have their own methods drawn from their peculiar surroundings which they have mastered thoroughly. They can tell to a nicety the best disposition to make of any productions in their line. They belong to a higher order of beings. Whether or not any given crop will serve their ends better by being plowed in, depends upon their outside resources. Be assured that such men do not suffer their acres to lack vegetable humus from some source. The general farmer is always safe on the side of green manuring; for if he harvests his crop under the pretext of feeding it out and of returning the products to the soil, the chances are that his appliances for saving excrement are so inadequate that not one third of the crop is returned to the right place.

In lower latitudes, where the seasons are so long, green manuring is specially applicable. One or two crops can be harvested, and the second or third turned under to maintain fertility. I am experimenting on a field of corn. Last spring I plowed an old field covered with broom straw. I found three loads of manure on the place, which I managed, by dint of much bossing of a colored man, to get over a whole acre. The corn was drilled with 200 pounds of guano. As nearly as I can estimate at present, that acre has 70 to 80 bushels of ears. The first week of September I sowed 10 pounds of crimson clover in the corn. Next April I expect that clover to stand in full blossom 12 to 18 inches high. This will be plowed under and planted to corn without additional fertilizer. Can this be kept up indefinitely? I think so. I shall try it, and I believe the result will be an annual maximum crop of corn at the simple cost of tillage and 10 pounds of clover seed." OLIVER C. WIGGIN.

Country Gentleman.

Nitrate of soda.—The price of nitrate of soda, in England, has fallen 15s. a ton—\$3.21 per 2,000 lbs. It is very much to be hoped that some sensible dealer in such stuffs will import a moderate quantity of this most valuable manure, and sell it out here at a fair price. In our short summers, a fertilizer so soluble as this is more likely to turn out successful than other forms of nitrogen which, though equally useful in the long run, are slow to become available as plant-food.

It was rather amusing to see, in a United States agricultural paper, the statement that, "without going into minutiae, we may mention practically that nitrate of soda should be well pulverised before applying, spread broadcast in spring at the rate of from 200 to 300 to 400 pounds to the acre; and that superphosphate in rather large quantities may be applied, either in autumn or spring, and well intermixed with the soil." The vaguest advice we ever met with. What is "a rather large quantity" of superphosphate? That depends entirely upon the percentage of phosphoric acid contained, of course. And why apply a very soluble fertilizer in autumn? Carolina-rock, coprolites, and other forms of phosphate undissolved, may very wisely be employed in the fall, since their refractory nature demands that considerable time elapse before the phosphoric acid they contain is set free. The same with kainit and other potassic manures. But superphosphate should always be applied in spring.

And as to those extravagant quantities of nitrate of soda; not a word about the crop that is to be treated! Not a word about the previous crops grown on the field to which they are to be applied! And the cost is left on tirely out of the question!

At present prices, the expense of treating an acre of land, as advised by the writer of the above, would be something like eighteen dollars: 400 lbs. of nitrate of soda at \$3.00 = \$12.00, and, say 500 lbs. of superphosphate at \$1.25 = \$6.25; and, allowing that this dressing is applied to the wheat-crop, with a possible increase—an increase very seldom realised—of 3 bushels an acre, \$2.28 cents a bushel of extra expenditure is hardly likely to be made by anybody but an idiot.

Farming with Chemical-Manures, BY A YOUNG PLOUGHMAN.

(Continued.)

We must remember that the elements that are most frequently wanting in the soil are: first, nitrogen, then phosphoric acid, lime, and sometimes magnesia or iron.

That mixture, then, that contain these different elements in due proportions we shall call a *complete manure*.

Now, what are the materials that can furnish us with these elements at the cheapest rate?

NITROGENOUS MANURES.

Four-fifths of the air we breathe is nitrogen gas. Plants in general, cannot, unfortunately, absorb much of this gas by means of their leaves and roots. It is on this partial absorption of nitrogen by their leaves and roots by certain plants that the practice of ploughing in green-crops depends. On this subject we shall enlarge hereafter.

Nitrogen, moreover, exists in nature in combination with hydrogen in the form of *ammonia*, and with oxygen in the form of *nitric acid*. Ammonia combined with *sulphuric acid*, forms *sulphate of ammonia*, and nitric acid with potash or with soda, forms *nitrate of potash* or *nitrate of soda*.

These two last are the chief forms in which nitrogen is utilised in agriculture.

In every 100 lbs., sulphate of ammonia contains about 20½ lbs. of nitrogen, nitrate of soda about 15½ lbs., and nitrate of potash, 13 lbs.

Besides these materials which are salts, purely mineral, the market affords the following organic matter containing nitrogen:

Dried blood, finely ground, containing 10% to 14% of nitrogen, *dried meat*, 8% to 13%, *dried and ground horns*, 10% to 14%, *disintegrated leather*, 8% to 9%, *woollen rags*, 5% to 8%, according to the treatment they have received, *guanoes*, 3½% to 9%.

Again, there are the different oil-cakes, in which the nitrogen varies from 2% to 7%. These are less used as fertilisers than as food for cattle.

PHOSPHATIC MANURES.

Phosphoric acid is a combination of phosphorus and oxygen. It is never found alone in nature, but always in combination, especially with lime; it then constitutes phosphate of lime. Of this, half the bones of animals are composed. Bone-dust and animal black (*burnt-bones*) form excellent phosphatic manures.

But the principal source of phosphoric acid is the natural phosphate works, of which many are found in almost every country: in France, in Ardennes, Vaucluse, &c.; in England,

(1) I. e. through the *creeps*, or holes in the hurdles. *Ed.*

(2) This is worth notice, as some breeders in the U. S. have been trying to make people believe that the double crop of lambs is the rule and not the exception. *Ed.*

(3) A cart always accompanied the flock to receive the newly born lambs. *Ed.*

(1) A Syndicate, for this and other agricultural purposes, will shortly be established in Montreal, for Central Canada. *Trans.*