## On the Land

The most economical way of applying nitrogen to the soil is by growing leguminous plants, such as clover, lucerne, peas, etc.

An abundance of humus makes a soil friable, and thus permits the roots to penetrate easily in search of moisture and plant food.

Soot may be used for many purposes in the garden. The ground might be dusted with it once every three weeks where onions, carrots, parsnips, and any of the cabbage tribe are grown. It gives the foliage good color, and helps to drive away insects and slugs. It may be used in the same way amongst roses, hardy border perennials, etc. Spread it on the ground, not on the foliage.

In the course of an address at the opening of a new cool dairy store at the Bluff, Sir Joseph Ward dealt with the rapid development of the dairying industry, and said the time was close at hand when dairy produce would be second in importance in point of value in our exports. Commenting on the action of the Imperial Government, through the New Zealand Government, requisitioning the meat exports and a third of the cheese exports, he said that since March 3 to November 22 there had been shipped in round numbers 354,000 quarters of beef, 2,068,000 carcases of mutton, and 2,999,000 carcases of lamb. Of this 221,000 quarters of beef, 1,471,000 carcases mutton, and 2,174,000 carcases lamb had already arrived at their destination, of a value of nearly £6,000,000.

The following prices ruled at Addington last week: Fat Sheep.—Woolly wethers, 29s 3d; prime shorn wethers, 20s to 28s; others, 16s to 19s 6d; shorn merino wethers, 13s 1d to 15s; woolly ewes, 22s; prime shorn ewes, 20s to 28s 6d; medium ewes, 16s 6d to 19s 6d; lighter, 11s to 15s 6d; hoggets, 12s to 21s. Fat Lambs.—Prime lambs, 19s to 24s 6d; light sorts, 12s to 18s 6d. Fat Cattle.—Extra prime steers, to £21; ordinary steers, £7 17s 6d to £12 10s; extra prime heifers, to £11 12s 6d; ordinary heifers, £7 7s 6d to £10 10s; extra prime cows, to £15; ordinary cows, £6 to £9 10s. Pigs.—Choppers, 40s to 100s; baconers, 55s to 111s 6d; porkers, 30s to 42s; medium stores, 22s to 26s; smaller, 14s to 21s; weaners, 4s 6d to 13s.

There were large yardings of fat sheep and lambs at Burnside last week, and as a result prices were somewhat casier than those ruling at the previous sale. Fat Cattle.-189 yarded. Only a few prime heavy cattle were forward, and the competition for these was keen. The sale opened well above previous week's prices, and continued pretty good right through the auction. tations: Best bullocks, £17 to £19; extra, to £21 7s 6d; medium, £14 to £16; light, to £12 10s; best cows, £10 10s to £12; extra, to £14 15s; medium, to £9; light and unfinished, to £7. Fat Sheep.—2251 penned. This number proved more than sufficient for butchers' requirements, consequently prices were easier than those ruling at previous sale by about 1s to 1s 6d per head. Quotations: Best shorn wethers, 27s to 29s; extra, to 33s; medium, 23s 6d to 25s 6d; best woolly wethers, to 39s; extra. to 50s; best shorn ewes, 23s to 25s; extra, to 28s; medium, 19s to 21s; woolly ewes, extra good, to 47s. Fat Lambs.—187 penned. Quotations: Best lambs, to 21s: extra, to 26s 3d; medium, to 18s; light, to 15s 6d.

## LIVE STOCK OF VARIOUS COUNTRIES.

Most countries are either suitable or noted for some kind of live stock, and it is from these special breeds or types that other countries replenish their stock of pedigree animals. Having at one time and another travelled extensively in Europe, Africa, and North America, one cannot help noticing the class of animal for which each country or district is more or less noted (says a writer in Farm, Field, and Fireside).

Taking, for instance, the northern parts of Norway and Sweden, reindeer are the peculiarity, and recently

several herds have been introduced into Labrador, where they are doing very well.

Northern Europe produces a hardy, stocky pony, which is imported into England for use in the coal mines.

Belgium was noted for a heavy cart horse, which was exported in large quantities to Canada and America, but at the present time these animals aremore or less scattered, some being taken to Germany, and a good number of the best studs have taken refuge in England.

Belgium and Holland produce the finest funeral horses in the world, and it is from these parts we obtain our supply. Strange to say, neither the mare nor gelding is quite the intense black of the stallion. America has for some while been a large importer of the famous Percheron cart horse, whose home is the north-west districts of France, and in the winter months several large horse fairs are held, and it is no uncommon thing for 10,000 to be on sale at the biggest fair of the year. These horses are, if I may call them so, the Suffolk Punch's first cousin, and are generally one or two colors, grey or black, the greys being the most sought after. They are carefully bred and seen to, and every true Percheron is branded.

Strange to say, in certain districts of North America, the horse is dying out, farmers being unable to breed and rear them. It is to these districts and the newly opened-up ones that these horses are sent, as they are noted for their steady pull, more like that of an ox than a horse, which makes them so valuable in breaking up new land. Also, they carry little or no hair on their legs, which is a great advantage in a partially settled country.

The largest and finest jack donkeys are bred in Spain, and are often 15 hands high, costing locally from £200 to £300, and are used for breeding those fine mules, which may be seen working along the quays of Marseilles and New Orleans. I have seen a mule 18 hands high, but this is exceptional. Spain is also the home of the merino sheep.

Taking the other parts of Europe, Holland produces a special deep milking cow, suitable for marshland, and Switzerland the largest and deepest milking goat—namely, the Toggenburg, some show specimens of which have produced seven pints of milk in one day.

It is to these various countries that the remainder of the world from time to time turn to replenish their live stock, as in most countries, what from want of care, special feeding, selection, climate, and environment, there is a tendency for certain kinds and varieties to deteriorate. Take, for instance, the donkey. It is found that even if the large Spanish donkeys are bred in England they gradually lose their size and characteristics, and the same, more or less, is going on in different parts of the world. Certain districts and countries will always be more suitable for certain breeds of live stock than others.

## CROPS AND WATER.

Experiments conducted for the past fourteen years have led to the following conclusions of interest to the practical farmer in the matter of rotation of crops.

Potatoes require the least water, and leave the subsoil rich in moisture. They therefore leave the soil in a more favourable condition for subsequent crops, provided that the getting in of the potatoes be not unduly delayed, and that nitrogen be added to the soil in a readily assimilable form.

Peas are another crop which absorb little moisture from the soil; oats, on the other hand, take up much.

Clover exhausts the moisture of the soil in the highest degree. Thus, in dry years, a crop sown after clover will find the conditions of the soil unfavourable and will develop slowly.

Besides rain, heat, character of soil, and all the well recognised factors which enter into the question of plant growth, there are some subtle influences at work which have hitherto been little, or not at all, taken into account. Among these influences is the influence of the rays of the sun, the sunrise rays, and the sunset rays.

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