

at about 2d. each less than the cost price. Including the sacks, therefore, the cost comes to, roughly, £1 2s. per ton. Lime-spreaders are used to spread this lime, and it slacks on the ground. Several useful horse-drawn machines are on the market for this purpose; they can be set to spread from a few hundredweight to about 2 tons per acre; their cost runs to £20 to £25 per machine. Care must be taken to spread ground burnt lime as soon as received, otherwise it will air-slack and burst the bags. Ground burnt lime came on the market at a much later date than shell lime, but its use has increased very much during recent years. It costs more than the shell lime, but it is more convenient to spread, and it can be used in much smaller quantities.

#### GROUND CARBONATE OF LIME, OR RAW LIME.

This has only come into use comparatively recently. The raw limestone is taken just as it comes from the quarry. It is first broken into small pieces in a jaw crusher or other suitable machine, then dried by artificial means and ground to a fine state of division. The fineness of the grinding is important if quick results are to be obtained. Drying is necessary to enable it to be ground finely, as moist stone cannot be ground efficiently. Ground carbonate of lime is put up in sacks and sown through a lime-spreader in the same way as the ground burnt lime. It is often used, too, in smaller quantities by mixing it with manure and sowing it through the ordinary seed and manure drills. The price charged for carbonate of lime has varied from 16s. to £1 per ton, according to the fineness of the grinding. Bags are charged as extra as with burnt lime, and railage for 100 miles is free. Carbonate of lime came on the market later than burnt lime, and the total quantity of it used is very much below that of either of the two classes of burnt lime. The use of carbonate, however, has been steadily on the increase during the last few years.

#### RELATIVE VALUES OF BURNT AND CARBONATE OF LIME.

There has been considerable controversy on this question. Carbonate of lime when burnt in a kiln becomes quicklime. In the process of burning it loses 44 per cent. of its weight. When air-slacked and mixed with the soil it changes into carbonate of lime again and regains its former weight. In the ultimate result both are carbonate of lime, and looked at in this way 56 lb. of burnt lime should be the equivalent of 100 lb. of finely ground carbonate. Some years ago a series of experiments were conducted in the United States of America with the two classes of