

the powder contains a fairly high percentage of lime-carbonate. Where the land requiring lime is situated much beyond the limit of 100 miles free railage (on 6-ton lots), or is located some distance from the railway or source of delivery, thus involving considerable haulage, the burnt form is to be preferred to the carbonate. The reason for this may be stated as follows: In 100 tons of carbonate of lime there are only 56 tons of calcium oxide (burnt lime), the other 44 tons being a gas (carbon dioxide), and the carbonate would occupy more space and would thus not be as concentrated as the burnt lime, which is the more suitable form for long haulage. Where, however, light soils obviously deficient in humus occur some distance from the railway or source of lime-supply, the burnt lime when chosen simply because of its concentrated form can be adapted (after haulage) for application to these light lands by air-slaking—*i.e.*, through exposure to the air by spreading out under the cover of open sheds for not less than six months. Such exposure causes the lime to revert to the carbonate form, in which form it is not exhaustive of humus, with which light soils are not as a rule plentifully supplied. The co-operative purchase of lime by more or less remote farmers is also an economy worthy of consideration.

The purchase of manures on the unit-value basis instead of by weight is an important phase of an important feature of farming operations. This new and approved system of manure-purchase involves the payment by the farmer to the vendor for each unit (1 per cent. carried through the ton, or 22.4 lb.) of nitrogen, phosphoric anhydride (P_2O_5), or potash a particular manure may contain on analysis.* This system is specially applicable to the purchase of manures other than the standard manures—superphosphate, dried blood, nitrate of soda, sulphate of ammonia, potash fertilizers, &c.; but even for these less variable fertilizers it is desirable, for the farmer is paying for the nitrogen, or the phosphoric acid, or the potash they contain, and these constituents are the manurial elements he requires for crop-production.

In certain other countries which have adopted this system the standard prices per unit for the three essential constituents are set by qualified State officials, standard analyses of the various manures, and average prices per ton at definite centres from time to time, determining these values. Were standard unit values of the three manurial constituents periodically set so that comparison therewith of the unit values calculated by the farmer

* The simplified method of calculating the cost per unit is as follows:—

$$\frac{\text{Cost per ton of manure}}{\% \text{ nitrogen, or } P_2O_5, \text{ or potash}} = \text{cost per unit, according to the class of manure being purchased.}$$