carbonate of lime, regularly watered, vegetated feebly, and died without coming to perfection—others again in a pot partly filled with garden mould and covered with 1½ inches of carbonate of lime, sent their radicles straight through the lime which ramify until they came to the soil. In a mixture where the lime was only one fifth, the plants were poor and sickly—quick lime with the aid of water immediately destroyed the plants.

Experience has proved that lime has different effects upon different soils, rapidly improving some, producing less benefit on others, and on others again retarding vegetation; this depends upon various unascertained properties in the soil, or upon differences in the qualities of the lime arising from its mixture with other earths.

Calcareous earth is found in the ashes of all vegetables—it abounds in wheat, clover and other plants, whose growth is promoted by calcareous manures. Some plants will not ripen in soils wanting this matter.—Experience has established the utility of lime as a manure, but science has yet to discover many important facts connected with the use of it.

Application of Lime.—When moorish or waste soils are infested greatly with the roots of rushes, and other weeds, which resist the harrow and putrefy slowly, the ground should be tilled, and allowed to lie in this state one or two years before the lime is applied to it. It should then be applied in the autumn, and immediately ploughed in, or thoroughly harrowed, so that the decomposing power of the quick lime may be applied to all the vegetable matters. "After these operations, the land may be sown two successive years with oats, without any other fallowing; along with the second crop of oats it may be sown with grass-seeds for pasture. Some farmers, after the first and second crop of oats, give the land a summer fallow for one season, and a green crop, with manure. On the following season another crop of oats is taken, along with which grass seeds are sown, and in this state it is committed to pasture."

Lime is the only known alterative, which upon poor, weak, and wet clays, has power to heal the soil. It is also known to impart peculiar vigour to certain plants, thus the roots of *sainfoin* grass penetrate far into the interstices of chalk, and grow luxuriantly, although only covered by a slight coat of inferior soil.

The *alternate* breaking up of pasture lands for oats, and again laying it down for pasture, *without manure*, is destructive eventually to the soil, "which is thus reduced to a substance almost incapable of producing vegetation. The application of lime is essentially necessary in breaking up ground from pasturage. Oats, barley, and grass, after the second application of *lime* upon land reclaimed from waste, prove its value. Lands which have been well laid down with a good coating of putrescent manures, and kept a considerable time in pasture, are greatly enriched by lime; but when manures have been neglected, or sparingly applied to a turnip crop before the land has been laid down to pasture, the lime is not so efficacious." "The additional crops of all kinds in the rotation, will amply repay its expence." "Some farmers take a crop of oats from the lea (or field,) without lime, and apply the lime after the oats for the benefit of the turnip crops, and those which are to follow. This is done either by scattering the lime on the stubble, and tilling it in with the winter furrow, or after the furrow is made, the lime may be applied and harrowed in. The land lies in this state until May, when it gets its final preparation for dung and sowing the turnip seed. Others apply the lime in the spring, when it is ploughed in shallow, and well harrowed. Others, again, scatter the lime in drills, immediately before applying the dung, without any other operation." Each mode has its advocate: but Jackson