

the fibres and roots of noxious plants—the seeds of weeds and insects, all which it dissolves and transforms into mould. It is impossible to state with accuracy, any positive quantity of lime per acre, which land may require, as this varies according to the heaviness or lightness, depth or shallowness of the soil, and the quantity of calcareous matter which it may already contain. It is a curious fact however, that the *farther* the land is situated from the vicinity of lime kilns, the *less* it requires to produce fertility—thus in Yarrow, which is 20 or 30 miles from the lime districts 80 Winchester bushels are found equal to from 160 to 200 in Mid Lothian, where the lime is burnt. The soil in Yarrow is light—in Mid Lothian it is clay and moss.

The application of quick lime to soils containing much *soluble* vegetable manure is improper. It is also injurious to animal manures; owing to the chemical action which it exerts upon their various constituents.—Lime should never be applied to animal manures, unless they are too rich, or for the purpose of destroying noxious effluvia.—It is hurtful to common dung.—But in cases, where fermentation is useful to produce nutriment from vegetable substances, lime is useful, as for instance with Tanners Bark.

Judgment is requisite in the employment of lime, for although a certain quantity may promote the putrefaction of vegetable matter, yet, when too much is applied, it may have a contrary effect.

Quick-lime added in sufficient quantity to fermenting stable dung has set it on fire, when the whole mass has been destroyed. It should therefore never be mixed with farm-yard manure, unless a small quantity is considered absolutely requisite for the destruction of seed weeds or the decomposition of roots. It consumes growing herbage, but if it is prudently used it does not extend to their roots, as a fresh verdure soon after appears,

and seeds which had laid dormant, are excited to vegetation. If quick-lime be put too copiously upon sandy land, and its application be followed with much rain, it does mischief, and forms hard compact matter similar to mortar, and although the caustic action of the quick-lime is soon corrected by the moisture of the soil and the absorption of carbonic acid from the air, still the mischievous effects of its caustic nature are powerful, even in a short time, when it is injudiciously applied.

As the dust of quick-lime is injurious to health, the labourer should work to the windward of it, and the horse or oxen should be protected from its influence; it should be ploughed in at a dry time, immediately after the spreading of it, and although the dry powder does not injure, yet when this is moistened, it has been known to occasion serious mischief to a horse; therefore the animal, while working through it, should not be allowed to go through wet places, and the lime dust should be thoroughly rubbed from him, when he is stabled; but if either a man or an animal should have been *scalded* with the lime, the part should be immediately washed with vinegar or sour milk, to prevent irritation. When slaked lime has lost its causticity, it is said in chemical language, to be "*effete*;" this state occurs in about a week, so that horses may work in it then without risk; but if it has been allowed to run into clods, these will retain the acrid quality for several days, so that it has been recommended to postpone the ploughing in for another week.

Quick-lime deprived of its causticity is eventually converted into a mild carbonate of lime, when it does not act upon animal and vegetable matter with its former violence, nor has it any tendency to form a mortar-like matter with the sand or poor clays.

Lime, however, whether *quick* or *slaked*, when used by itself is not possessed of any vegetative quality. Seeds placed in a pot with powdered