says, "There can be no doubt that the best plan is to scatter the lime, when the land is in grass, before tillage for oats." The operation of lime is gradual, therefore, "the sooner it is put into the land, the sooner will its effects be felt."

Lime, when mixed with animal manures, "has a tendency to destroy, to a certain degree, their efficacy." But when it is thus used by some farmers in turnip drills, it is said that it checks the ravages of the turnip-fly. In all arable lands, impoverished either by nature or bad management, a first dressing of lime occasions a sensible improvement in the soil—a second-dressing does some good, but unless that and every succeeding repetition be accompanied with a liberal supply of farm yard or putrescent manure to supply the loss occasioned by exhaustion of vegetable power, every future crop will be diminished until the land eventually becomes fruitless.

Lime not only benefits sheep and dairy pasturage, but grains, which belong to the tribe of grasses, grow luxuriantly under its influence, and it is found in conjunction with putrescent manures and good drainage to correct the tendency of moorish and wet lands to swell with the frost, and throw out the plants during the winter. "The usual rotations on well managed dairy farms are, 1. Potatoes or turnips with dung. 2. Oats or barley. 3. Grass cut for hay, or, in pasture. 4. Continued pasture for four or more years, according to the extent of arable land, which the farm contains. By this mode, if the lime is always applied when the pasture is broken up, or when sown out, the application will be once in eight, or, more years. On light soils, or moorish mossy grounds, this is supposed to be rather frequent, unless the lime be compounded with earth. In this state it is always found valuable, when applied in quantities corresponding with the nature of the soil. The longer the land continues in pasture, the application of lime becomes the more efficacious, as it must have a greater quantity of vegetable matter to act upon. On turnip soils, this way of applying lime, is the best that can be adopted for dairy husbandry.

The best mode of applying lime frequently to the soil—is an important subject of inquiry. In applying it we must remember that *quick*-lime favours the decomposition of hard vegetable substances in the soil, fitting them as food for plants—that it improves a soil destitute of calcareous matter, and becomes one of its earthy ingredients—that it *separates* the particles of cohesive or close soils, and that it gives firmness and cohesion to light soils.—Lime, when applied to land abounding in vegetable matter, should be in a hot and powdery state. Its effects in this state continue long after its stimulating qualities have ceased to operate, and it thus converts new into the character of old and well cultivated lands. But when lime is re-applied in a quick caustic state to land almost constantly in tillage, without being subjected to pasturage, it has no vegetable matter to act upon, and therefore can have no other effect than to make the soil expand, and become one of its earthy ingredients. The *re-application* of lime to most sorts of ground acts as a *manure*, and not, as a stimulant. As a manure, it gives luxuriance to the crop, and is a powerful auxiliary in husbandry. It is to be regretted that chemical writers have not sufficiently devoted their inquiries to improve the *qualities of lime as a manure*, by incorporating it with *given quantities* of earth. Mr. Nasmyth, of Hamilton, in his essay on manures, observes—"Lime mixed with other substances, to separate part of the earthy and to rot the organized, may be successfully applied to land, when by *itself alone* it would have no effect; and one half of the lime, which would require to have been given to the land by itself, is sufficient for the mixture to make it an efficient manure." There is reason to believe that the lime exerci-