ing. Being soaked a few hours in a strong brine of salt and water, it is then mixed with fresh slaked lime in fine powder and sown. Lime as well as the alkalies quickens the germination of all seeds, and so hastens the coming up of all seeded and planted crops. Acid substances injurious to growing plants are neutralized by lime.

These acids often exist, more particularly in newly drained marshy or boggy land. Sulphate of iron or copperas (very injurious to living plants,) is common in the same kind of soil, and when a sufficient quantity of lime is applied and thoroughly mixed with the soil the *hurtful* compound is decomposed, and an oxide of iron and *sulphate of lime* or gypsum is formed, both of which are essential to plants.

Having thus indicated some of the most important effects produced by lime in its relations to agriculture—we proceed to consider some of the modes of applying it to the soil.

Section 5.—*Of the best modes of applying lime.*

Unfortunately the great body of the agriculturists of our country and indeed of the world, have hitherto been too little disposed to make themselves acquainted with the fixed principles of the sciences appertaining to their profession. Without some such knowledge we are often liable to entertain wrong views and be mistaken in matters of fact coming under our notice. How often do we find persons firmly adhering to *false facts*, which a knowledge of the principles involved would have guarded them from? Upon this subject we submit the following observations.

In the first place, we think it must be obvious to every one who will look into the subject, that to attain the *greatest* effect from lime it must be applied in a perfectly fine powder or in solution, and be intimately mixed with the soil to a proper depth.

But bearing in mind its solubility, we are warned by economy not to apply it much below the surface, because it never ascends unless brought up by the plough, but on the contrary is incessantly descending deeper into the soil. The more porous the soil the more rapidly it will descend, and of course, should not be placed so deep in a friable soil, as it may be in a stiffer one.

Besides being carried down by solution, it is found to descend in powder by being washed mechanically through the interstices of a friable or recently cultivated soil. It seems clear therefore, that lime should either be laid on the surface, as a top dressing, or only mixed with the surface soil, by the harrow or cultivator.

In eastern Pennsylvania where the farmers have long had experience in the use of lime, it has been the practice of late years, to spread it carefully upon their grass lands at least two years before plowing them. The excellence of this system is sustained both by theory and practice—because much of the lime will be found to have sunk some inches into the soil, but not below the reach of the plough, which turns it up and by subsequent cultivation it becomes well mixed through the soil.

Quick lime and manure should not be mixed together or applied