

have the wonderful property, not only to select, but to retain these elements against every power naturally brought to bear upon them, save the growth of plants themselves. "A power," he remarks, "is here found to reside in soils, by virtue of which not only is rain unable to wash out of them those soluble ingredients forming a necessary condition of vegetation, but even these compounds, when introduced artificially by manures, are laid hold of and fixed in the soil to the absolute preclusion of any loss, either by rain or evaporation."

The conclusions seem to show that on most soil- (on a class of experiments was made with light loam) manure may be applied at any time in the season with equal good results—that there is no danger of loss when actually mixed with the soil, either by filtration or evaporation. Further experiments are needed to prove the absolute correctness of these conclusions to the general mind, but there are those who believe they may act upon them with safety. If established, much labor may be saved in the application of manures. They may be drawn in the fall and ploughed under, or left spread upon the surface, or may be distributed in winter, instead of immediately before planting and sowing, which is ever the most hurrying season of the year. For ourselves, on clays or heavy lands, we would not hesitate to act upon these suggestions.

Some experiments tried in England several years since by Mr. Thompson, to ascertain the power of the soil to retain unimpaired in value manure applied during winter, and also its power to hold in suspension the fixed ammonia of barn yard tanks and manure heaps, resulted in the following deductions:—1. That clay soils might be manured a considerable time before sowing without loss. 2. That light, shallow soils should not be manured heavily at one time; and the manure should be kept as near the surface as possible without leaving it uncovered. 3. That it is desirable to deepen the cultivated soil on all light lands, as it thus gives it a greater power of retaining manure.

That all soils possess considerable power of absorbing and retaining manure, is well known; but the great question of the most economical application of different fertilizers is, and will long remain an open one, and one upon which every farmer can do more or less to satisfy himself by practical experiment. Let those who can, throw light upon the subject, for it is one of large importance in agriculture.—*The Country Gentleman.*

IMPROVEMENT OF PASTURES.

As the subject of the grasses and its importance has been frequently treated of in many of the agricultural journals, a recurrence to it at any time it is hoped will lead the agriculturist to study his best interest. Our pasture grounds need greater attention than is generally paid them, to make them productive in quantity and quality, of the grasses for the grazing herd. Next to having good stock, is that of providing good pasturing. All lands are not adapted to this purpose. There is a vast difference in the quality of the grasses, and we consequently find that in some pastures in which there is a luxuriant and well sustained crop of herbage the season through, the animals are lamed and lean that are fed upon them. Other lands devoted to their use, while they appear short and dry, turn out their tenants in the fall in a condition obviously improved—they are fat, sleek, and show no signs of a lack of food, but the reverse. Low lands, which are generally saturated with water which becomes stagnant, seldom produce any but aquatic grasses, and can never be rendered good for pasture without draining. Although they produce an abundance of green, and apparently succulent herbage, the animals are invariably poor, afford but little milk, and come to the barn in autumn lean and enfeebled. High grounds, although they are more liable to be seriously affected by drouth, have the advantage of producing a more nutritious quality of food; the grasses are short, sweet, and highly nutritive, and animals pastured upon them gain rapidly in flesh, and produce not only a larger quantity of milk, but that of a superior quality. Yet the best pasture lands, like the grass and cultivated soils in general, will nevertheless in time become sterile; the more valuable kinds of grass will "run out," and be supplanted by others of a less desirable kind or entirely worthless class. Nature, in this, seems to corroborate the importance of a rotary system of cultivation, with respect to all the more valuable productions. After producing a certain class of plants, for a stated or definite period, the soil appears to weary of it and de-