

Advocating what is Called the Herd Law.

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I am not posted as to whether you have in Canada a law similar to our herd law, forbidding citizens from allowing their live stock to roam and pasture at will on the public roads. If you have, it is unnecessary for me to write or you to publish in its favor, because all under such a law are so entirely satisfied with it, and would not willingly submit to live again under the old and arbitrary rule requiring every one under the penalty of having his crops destroyed by what are called road cattle, to put himself to the expense and often great inconvenience of building a barrier of prescribed strength and stature for the proper fencing out of somebody else's cattle. He may have no cattle himself, or wish to have his land on the front of his premises thus cumbered with a fence; but, for the want of a proper herd law to protect him, his crops, or his lawn, or his garden, may be destroyed by a neighbor's cow, without redress, unless, forsooth, he can prove that he had provided a good legal fence for that neighbor's cow, and used proper precaution to keep her out. These at least were the requirements here in New York State until some 16 years ago, when our State laws were so revised that each person having live stock should be accountable if they trespassed on any public or private lands except his own, or as he should provide for them, requiring us to fence in instead of fencing out, and only (so far as the public roads are concerned) requiring us to fence for our own cattle, instead of for other people's. The old law requiring us to fence public roads and public lands against other people's stock, was, I think, only tolerated by custom and long practice, teaching us to think it was all right. But now, seeing how well we do under our present herd law and how much every one is pleased with it, there is not a York State man who would willingly submit to the expense, care and vexation of guarding his premises against road cattle. The way this absurd old practice came to be handed down to us was like this: The first settlers, whether in the woods or on the prairie, would fence around their first clearing or improvement, but let the stock run at large. This continuing until about all the land came under improvement, left what stock was running at large to be on the public roads, and every farmer was obliged to fence against them to save his crops. It was well known, too, that these road cattle learned to be very shrewd in opening gates, or in slyly slipping through gaps, or in jumping fences, to feed on and destroy gardens and crops.

After adopting the new herd law here, a few farmers who would dare to do it threw open their gates and let down their bars and fence gaps, and finding this to be perfectly safe, as there were no cattle or hogs in the streets, they finally, as occasion required, would remove their street fences altogether, and withal, would be very agreeably surprised to find that their garden, crops or premises would all rest much more secure, even thrown open to the roads, than they formerly could with the best of fencing. This is coming to be so well understood now throughout the country, towns and cities, that the front and road fences are being removed to a great extent throughout the State. Many costly and good ones are taken away, others that were old and poor are cleared off, and the ground made available for mowing or for crops, and the premises look much the better for it; for, in fact, all fencing that is not needed is only a nuisance that should not be tolerated or allowed to encumber one's premises. The face of nature or the landscape looks the better if unobstructed by a fence, and can better take care of itself, too; for any fence is a harbor for foul growths and for vermin, and causes drifts to obstruct travel or

smother crops, so much so that for all the fencing needed on the farm, as far as possible I would use portable fences, which could be removed when not needed and either put under shelter until wanted another season, or used for fencing another lot in the rotation course.

Before adopting our present cattle law, it was only a few of the most enterprising farmers that would dress and keep the road sides along the farm front free of foul growths and in good trim, or would have the courage to plant shade trees along the highways, when, after much staking and guarding, they were so liable to be destroyed by these street cattle. But with our present law all this is changed, and for the better, and now many farmers, after first removing a road fence, extend the field tillage and crops out to the centre of the road or to the wagon tracks, and these, whatever they be, are seldom disturbed in the least, but harvested with the rest; the ground seeded to grass and clover, to be mowed by machine the following year. As most of the road fronts become thus seeded, by common consent their product belongs to the farm bordering on them, and prove quite as valuable for this purpose as any mowing on the farm. The common way for tilling, dressing and seeding down the road sides where the fence is not removed, is to plow well in the fall and in spring plant to early potatoes. These, well tilled, will come off early, when a little more tilling and some grading when needed, will prepare it for being seeded to grass by the middle of Aug. or first of Sept.; then for years after it will pay the farmer as well as an equal amount of his meadow land, and in fact not cost him much more work than the law would require him to do on the same ground in subduing the foul growth, if it had been left to itself. The law also encourages the planting of trees along the sides (some 9 to 12 feet from the farm line), by allowing the planter 25 cents a tree in every 40 feet along his front, this to be deducted from his road tax. This commutation is seldom called for, because the farmer is shrewd enough to see how much to his own advantage it is to thus have the use of his land (for the trees will be his under a heavy penalty on any one disturbing them). He is shrewd enough also to know that good work on his public roads pays about as well in the long run as any work he can do. As to trees for road planting, the maple and the white American elm are the favorite forest trees, and the apple is quite extensively planted for fruit, some good Samaritan farmers using all the varieties of early and late ones, with which the traveller may refresh himself; but more commonly a hardy winter apple only is planted. For single rows a rod apart is far enough, and this alone will allow of quite extensive fruit planting on many farms. Finally, the result will be, with these well mown road sides, bordered by their fine rows of trees, to the traveller, as of having his driveway through an extended lawn; and to the farmer, a relief from the losses and anxiety caused by the "street cattle," and the enhanced value and attractiveness of his farm premises.

Clay as a Component Part of the Soil.

In our last issue we pointed out the advantages of vegetable matter or humus as a component part of every fertile soil. We now turn our attention to clay, which also plays an important part in its chemical composition and mechanical condition.

Clay has its origin in the decomposition of silicious crystalline rocks, chiefly granite, containing large percentages of felspar, and are consequently rich in potash, with varying percentages of lime and soda.

Clay possesses, when wet, on account of the delicateness and fineness of its particles, which pack closely together, a tough, plastic character; but when dried out, it forms a stiff, hard mass. It is the chief cause of the cohesiveness of the soil. When it contains a large percentage of clay, it is called a *heavy* soil, because a great expenditure of power is required in tilling it. It

can only be worked to advantage when in a medium condition of moisture; when too wet, it puddles, and is not then in a fit condition for producing a profitable crop; when quite dry, it will scarcely yield to deep cultivation. Such a soil is locked up, as it were, and resists deep penetration of the roots of the growing crop. During a drought it also suffers contraction, producing gaps and fissures, which break the roots asunder, whereby the vegetation may become greatly impeded in its growth. The freezing of a plowed clay soil in winter exercises a beneficial influence, lessening the coherency of the particles, and promoting the growth of the succeeding crop. Therefore the stiffer the soil the more it is benefited by a deep plowing in the fall.

Moreover, a clay soil is cold and inactive; it admits the warm rays of the sun with difficulty, and prevents them, as well as the air, from penetrating the deeper layers. Even when the soil is rich in plant food, the latter cannot produce its effects rapidly enough. A heavy clay must be liberally manured, if a profitable crop is expected, and fresh, strawy manure is preferable to a brittle, strongly decomposed quality, for the former aids materially in loosening up the soil. Commercial fertilizers, owing to their uncertain action, seldom produce paying results on such soils.

Besides, clay produces a wet soil; it is more or less impervious to water, retaining much moisture which evaporates very slowly, while it exercises also, during dry weather, very little capillary power, by which little moisture is raised to the surface from the lower strata. A heavy clay may, therefore, be quite dried out to the depth of an inch or so, while the deeper layers may contain a surplus of water. These extremes, both of which act prejudicially to the growing crop, are caused by insufficient capillary power. In a clay, the absorptive power is very much less than that in a loam, and especially that in a vegetable soil. Indeed, clay can absorb and retain a much greater quantity of water when thoroughly stirred and puddled, but this can only take place in the surface soil; on the other hand, slightly below the surface and in the natural state of the soil, the cohesiveness is so much greater that not so much water can penetrate the pores as in a soil of lighter texture. These conditions can, indeed, be improved by efficient drainage; but when the clay is very heavy, even this method of improvement operates slowly and imperfectly.

These conditions are, therefore, such that a stiff clay offers great difficulties to profitable cultivation. The case, however, is quite different with that class of soils which is termed *loam*. A loam is a soil which is made up of a thorough admixture of fine (but not dust-fine) sand and clayey substances—a mixture which is of much rarer occurrence in soils formed from decomposed rocks than in alluvial soils. Such a loam soil, if sufficiently deep, is better adapted for profitable cultivation than that of any other quality; it has nearly always a much greater fertility, so constitutes a rich source for available plant food, and admits of the most thorough utilization of both farm-yard manures and commercial fertilizers. Loam has, in every respect, a medium physical quality, best favoring the growth of mostly all agricultural plants, and offering the least obstruction to tillage operations; it receives the heat sufficiently rapid, permits the warmth