

GREEN SOILING STOCK.

BY D. S. CURTIS, OF MADISON, WISCONSIN.

By green soiling, or "soiling stock," is meant the practice of keeping all the animals in stalls and yards, and feeding them on *green food*, raised and cut for the purpose, during the ordinary pasturing season, and then allowing them to run only in the yard a short time daily, where they can take necessary exercise, instead of following the old-fashioned or ordinary custom of permitting them to range the fields or "commons" for the purposes of pasturing in the usual manner.

To present some reliable information on the practice and results of this system, derived from observation, experience, and reading, is the object of this paper.

Observing persons, who have had much experience in tilling the soil, know well, that it will yield much more value of product, when wisely manured, worked, and reaped, several times during the season, than if cropped but once, or pastured by animals running at large.

The question then arises, will the *extra product*, obtained by thorough tillage and repeated gatherings by man, remunerate the *extra labor and expense* required by this process, over and above the ordinary benefits obtained from the same quantity of land, by pasturing it with the amount of stock which can fairly be maintained upon it, with simple pasturage during the summer, and cutting feed for them during the winter.

It is believed that this question can be not only demonstrated affirmatively, but it can be clearly shown that the system will pay, *several times over*, even in the new States, where lands are cheap and plenty, as well as in the older States, where land is dearer, and farms smaller.

FENCES AND HERDING.

In the prairie districts of the West and South, where fencing timber is scarce and expensive, farmers are compelled to resort to various expedients for securing the usual conveniences of fences. Ditches, sod-fences, and hedges, are the most common substitutes, all of which are, more or less, useful, particularly the latter, wherever the climate or season will permit their robust growth; but all of them demand considerable labor and trouble, first to make them, and then to keep them in repair, while none of them are always sure to "turn cattle," and protect the crops. Wire fences, also, are frequently employed to advantage; but they, like the others, are more or less insecure.

On some very large plantations, fences are almost wholly dispensed with, and, in their stead, men or boys are engaged, night and day, to pass continually around and watch the fields; while, on some other farms, the stock is herded by a keeper in day time, and yarded at

night; and, on a very large scale, these modes are found cheaper than making large outlay for a great quantity of fences.

But in all of these cases there must be much insecurity to the crops, and more or less danger of losing the cattle, so that none of these expedients can be entirely relied upon for general use in any highly cultivated region, while boards and rails are expensive in the prairie district. Hence, in order to obtain the largest benefits from agriculture of which it is capable, farmers must adopt some other and better system of managing their stock and lands, and herein that better way will be pointed out.

ADVANTAGES OF SOILING.

Green soiling is the system which will admirably meet all these wants, if generally practiced, even in the prairie region and stock-raising districts.

To begin with: Suppose a man of quite moderate means obtains and settles upon an eighty-acre lot, the size which generally constitutes the smaller farms of this region; he has a yoke of oxen, two cows, and two or three young hogs, for fattening and for breeding. In the start, he is able to inclose half of it, forty acres, with a fence of some sort, which requires $80 \times 4 = 320$ rods of fence; the cheapest and most economical kind within his reach is a ditch and sod-fence, which he can make with his own hands, and not pay out a dollar of money; and if well done, will cost him one day's work for every five rods of the fence, say \$70; and this is the best he *can* do, if unable to hire help or buy fencing stuff.

This accomplished, he yet has but one field inclosed, and this much he could not well dispense with, unless *all* of his neighbors kept their stock safely fenced in. And, with his forty acres "fenced in," he still has no secure pasture for his cows, team, or hogs, but must let them *run out*, and range the commons, to any distance they will, over the unfenced prairies, and waste his time and theirs in being hunted up. This much he *must* submit to, the first season, upon his new farm, unless he can procure a store of food for his stock, or make more fence to confine them near home, but the very labor and expense required for additional interior fences would be sufficient to pay for their necessary food. And, with very little labor, he could make a temporary shed and yard for them comfortable enough for the warm season, which could be improved and made more comfortable on the approach of winter; thus he would be economically and pleasantly provided for until his new crops grow to his use, which need not be longer than about the first of July, if he early sowed a small patch of oats, or corn, (broadcast,) or millet, peas, or any other crop of which he may happen to have the seed, which will furnish a cut of succulent feed in early summer, and grow rapidly at this season of the year.

This he can mow or cradle daily in sufficient quantities to supply his animals in their stalls or yards, from which he need have no further trouble than to work his team in raising crops, cleaning his fields, and feeding his animals at suitable times, say three to five times a day, as circumstances will permit. Some feed their milch cows six times a

day, and think the benefits more than compensate for it. This first patch will last until another one, which was sowed fifteen or twenty days later, comes on; thus a succession of feed is furnished.

Now, the case supposed, being a new farm in a new country, is one of the worst that well could be for favorably showing the advantages of "soiling." But the animals are *now* all safe, where they will not destroy the crops nor cause the owner vexatious *loss-time* in tedious hours of looking after his strays, far away over the boundless prairies, and the little new farm is in a condition to begin to enjoy the fullest advantages of "soiling," in practicing which with care and calculation, devoting more labor to less land, giving the same time to care for his stock in the stable which is often spent in chasing them, early and late, when strayed away or unwilling to be caught, the owner will realize greater profits, as well as delight, in his business; and if he will but labor nearly as hard, in hauling out and spreading the manure saved at the stables upon his land, as he does in making his cross-fences, he will be sure to obtain larger returns from his cows and land than he would by the old system.

This first season past, and all the "fodder" being saved for winter which can be on a new place, the next thing to be done is to plow and prepare as much ground as can be well done, or the weather will permit, for the following spring's crops. Then, as early as the condition of the land will allow, in the spring (which is often as early as the latter part of March, but still offener the forepart of April) a piece of *oats* should be sown—at least three bushels to the acre—and be well harrowed in; about *half an acre* to each head of stock to be fed, and *half an acre* for all of the hogs. This, for the two cows, two oxen, and the hogs, will require *two and a half acres*. In ten or fifteen days sow, broadcast, of corn, millet, or the like, another half acre to each head, two to three bushels to the acre. Sorghum, buckwheat, or peas, will be good, if the seed is at hand, to give variety of feed.

These two *sowings* will allow a rich and abundant supply of feed to all of the animals for two months, at least; the green *oats* to be mowed or cradled day by day, as the stock may need, for July, and the corn or other crop to be cut in the same manner, as it may be needed, for August.

But for the early part of the season—before these sowed crops come on for cutting, about the last of June or first of July—the stock will continue to be supplied by the winter feed, such as straw, hay, and roots, together with cuttings of the earliest *grass* which makes its appearance large enough for the scythe, and with *clover*, when it is introduced on to the farm.

For September the stock can be fed with the *second* cutting of *oats* and the early *grass*, which, on rich, mellow land, will be pretty rank and large by this time if it were not cut too close down the first time. For October they can be fed on the *second* cutting of corn and other crops that may be ready, together with the *first* cutting of those that were *sowed last*. Barley, and even peas, are a good crop for late sowing, which may be as late as in the early part of June, as they are better calculated to stand the early autumn frosts than most others which we have named.

On deep-plowed, mellow ground, well manured, these crops will grow on thriftily, and admit of two or three cuttings before the frosts kill them in the fall.

This "soiling" on very rich fields, is often practiced by milkmen who keep large numbers of cows near populous cities or towns, where they wish to feed a good deal from little land; they sow corn or millet, or other like crop, and about as often as once a month they mow it, and carry the feed to the cows in their stables; and they find it very profitable. Their course is, as often as every ten or fifteen days, as the feed is cut off and consumed, to re-plow and sow, after first spreading all the manure from the cow stables, as fast as made, for re-cutting and feeding. In this manner, with care and system, they regularly obtain the equivalent of three or four rich crops in a single season, and find that *one square rod of ground* furnishes an ample supply of the richest feed for a cow one day, and maintains the fullest flow of rich milk. And these valuable results may as easily be realized by farmers, with the same care and effort, upon every acre of land which they will cultivate on the soiling system; and certainly it must be more safe and agreeable than toiling and tugging over large fields, which are made to produce not more than half their real capacity under the best management.

But returning to the farm: November will be well provided for by the last cutting of the soiling crops, together with the *tops* of such *roots* as have been raised, and are gathered about or a little before this time, which make a rich and much relished food for animals at this season of the year, and promoting the yield of milk. Any excess of feed from the several crops which may happen to exist, can be cured and stored away like other hay or straw—all the better if mixed in the hay with the latter—for winter "fodder."

In addition to these come *roots* as the chief and best feed for winter, cut up with straw, hay, and stalks, and given to the animals in mixture, which is sure to keep them in good heart, flesh, and milk, until the next spring, the usual time to commence pasture, when the order of "soiling" is resumed, and pursued about as pointed out above; of course, with such modifications as experience or circumstances may dictate; and, like a merchant with a comfortable deposit of currency in the bank, upon which he can draw at convenience, the farmer *now* has an equally rich bank upon which he can draw for sure treasures, in the shape of the good pile of manure which has been made during winter.

And here it will be seen that less than *seven acres of land*—less than *two acres per head*—under this improved management, maintained, in most comfortable and thrifty condition, the two cows, two oxen, and the hogs, in both winter and summer, and with additional comfort to the owner, there being no milking or feeding out of doors in storms, mud, or hot sun, and no racing through fields and over the commons for cows, team, or pigs.

Under the more common custom of cultivation and pasturing, from five to eight, and even ten acres per head, is usually required to get well through the year, with hardly half the quantity of manure saved, and at more than double the cost and outlay of capital in land and

fences. But with the "soiling" system generally prevailing, farmers really need to have no more fence than to inclose the outside or boundaries of the farms; with, perhaps, a handsome inclosure around the residences and gardens, with good barn-yards adjoining the stock stables.

FARM SUPPLY AND ROOTS.

In the meantime, sufficient ground is plowed and prepared upon which to raise such other crops as are necessary for the farm, and the family may need, or other circumstances may render desirable; and a sufficient quantity of land is sowed to roots, of some kind, to furnish ample food for the animals through the winter, after and before soiling. One bushel a day of carrots, beets, parsnips, or turnips, per head for each animal to be fed, for about five months, is a liberal allowance, and a safe calculation in providing roots for stock. Some of them will eat more than that quantity, but more of them will eat less. One bushel of roots cut up with a little straw, hay, or stalks, is all-sufficient to keep the largest cow fat and in full milk, if kept in a warm stable, while most of them will not eat that much; but it is safer to provide that quantity, if it can be done. For a working horse, one bushel of carrots, or half a bushel with the meal of a half peck of oats, cut up with a reasonable quantity of straw or hay, will keep him in good heart and working condition, under fair daily labor; many horses require even less, while very few ever need more. Carrots are the better and favorite kind of roots for horses, and most people seem not to understand the value of that fine root as horse feed, from their not using it more largely, while it is cheaper than oats by half.

Both horses and cattle, supplied all the year round with this rich succulent food, are seldom sick or ailing, but always in good flesh and sleek, shining coats—being never "hide-bound"—because never heart-bound nor frost-bound.

On the above estimate, or rather well-tested data, for the five months of December, January, February, March, and April, one hundred and fifty bushels of roots will be required for each animal, which, at a moderate yield, would require the product of only one-quarter of an acre; or, of one and a quarter acres, for all of the stock which we have designated, on the eighty-acre farm above.

Where the land is rich, mellow, and clean, and the crop is thoroughly cultivated, with good seed, 600 to 800 bushels of carrots and parsnips, and 800 to 1,000 bushels of beets and turnips to the acre, is only a good crop, and can safely be calculated upon, while a much larger than this is often obtained, at remunerating rates, under high culture and manuring. But the estimate above, for feeding, is based upon the smallest yield, of only 600 bushels to the acre.

COULD DISPENSE WITH MOST FENCES.

The interest on the out-lay for fences, with the expense for necessary annual repairs, where a farm is as well fenced as a *fenced farm* ought to be, would nearly or quite equal the cost of the extra labor of raising

and delivering the food to stock in the stalls, under a well-conducted system of "soiling," to say nothing of the superior comfort of working with teams, plows, and other implements, in broad fields, where there are no obstructions from interior fences and hedges, which, moreover, cause loss of time, and waste of the valuable acres of land which they occupy.

And, in fact, if this custom of "soiling" or feeding *all* stock in stables or yards were *universal*, there would be no need of any other fences than those along the highways and around yards, as before suggested. It would work an admirable *revolution* in general agricultural operations, and effect a saving of millions of dollars in every State, and even in some single counties, in the mere matter of fences alone, which are subject to constant decay and waste, and entirely useless, save for this one purpose of protecting crops from the depredations of outside animals, and which can be so easily dispensed with, and with no sacrifice of convenience to the farmer; but, on the contrary, with absolutely enhanced comfort and profit, by avoiding the *great loss of time*, of both man and team, so often suffered, in not having the cattle or horses on hand at *early morning* or other times, when most needed. *This* loss, alone, during the year, with many persons, amounts to enough to go far towards raising their summer's feed, when judiciously applied; besides the vexation and "wear and tear of spirit," which would also be prevented by pursuing this "better way." All farmers who have ever experienced or witnessed the profitless annoyance of having teams "strayed off," just when much wanted, and not found until the "heat of the day," and then man and beast "all tired out," will appreciate the force of this point right keenly. Besides, there is a pleasure in always having *all* the animals at hand, whenever wanted for inspection, sale, or use, and being quiet and gentle, from constant handling, they can be more pleasantly and carefully examined. This is an interesting thought to the kind and enlightened stock grower.

COST OF BOARD FENCES.

In many portions of Illinois and Wisconsin, the most ordinary plain board fences cost from eight to ten shillings per rod, and even more in many places, while often rail fences are still more costly, but taking the lowest cost, of one dollar per rod, the expense of inclosing any eighty-acre lot would be four hundred and eighty dollars, and two cross-fences, one each way, throwing the lot into four twenty-acre fields, would cost two hundred and forty dollars more—in all, seven hundred and twenty dollars, a larger sum than the value of the land itself in many locations; in fact, there are many farms, in all parts of the country, on which the fences really cost more than the worth of the land; of which, the annual decay and cost for repairs are about as much as the taxes against the whole property. Now, retaining the boundary fences, and excluding the cross or field ones, this two hundred and forty dollars, with expense and waste, is saved for more profitable investment in some other department.

DOCILITY OF ANIMALS.

As has been previously hinted at, the systematic handling, at regular times, of all the stock—cattle as well as horses, in and out of their stables—so familiarizes them to their keepers that they become pleasantly acquainted with each other, which affords increased confidence in both, and thereby the animals become docile and tractable, and the owner comes soon to understand well their wants, nature, peculiarities, and diseases—if they have any, which is very seldom—and how to treat them successfully. Thus, the management of stock, generally, is reduced to a science, eliciting study, observation, and reflection, and by thus exercising the intellectual faculties, the business becomes far more interesting, as well as profitable.

Knowing and appreciating the animals more highly, the keeper is moved to treat them rationally and with increased kindness, which really constitutes him a better man and them better servants!

Were *such* the only advantages to be derived from the soiling process to the humane lover of knowledge, they of themselves would be rich compensation for all of the additional attention required to practice it. Besides, the stock can be more judiciously supplied, with more comfort to them, the food being readily selected, as to kind and quantity, agreeably to their particular wants; and the owner is happily relieved from the annoyance of "breechy" depredations by "unruly" cattle, which often commit more destruction in a single day or night than their own worth, to say nothing of the damaging effects to his own temper and equanimity, which, oftentimes, considerably abridges both profits and enjoyment. This should lead to those higher reflections and more beneficent impulses which it were well should enter into all of our transactions, with either men or animals who are always to be our companions or servants.

With these reflections, we will proceed to point out the more direct and pecuniary benefits of the practice, as they have been abundantly proved by the various experience of enlightened operators on both sides of the Atlantic.

NINE DISTINCT BENEFITS.

We can now sum up, clearly, nine principal advantages that may be surely derived from the faithful practice of this beautiful system of *green soiling the stock* of the farm, besides the incidental benefits which grow out of it indirectly, namely:

Saving of land; saving of fences; saving of food; improved condition and comfort of all the animals; larger product of milk and flesh; greater docility of the animals; freedom from breechy depredations; larger accumulations of manure; and increased order in all the business of the farm.

Incidental to these, will be greater cleanliness throughout the premises, there being few foul fence-corners, and no feed or manure scattered about under foot; a greater variety of food can be used, and everything saved; allowing the convenience of doing more of the work by one's

self, and requiring the paying out of less money; and permitting the sale of a larger portion of all grain and fruit, or other *matured* products that may be raised on the place, and be desired in the usual market; and the comfort of doing a much larger share of the ordinary business under shelter; and having a much larger amount of *value concentrated* in a comparatively smaller space, throughout most of the farm property and products; as, for instance, one hundred dollars' worth of stock or grain occupies much less space than the same value in land or fences, and a hundred dollars' worth of wool or butter less space than the same value of grain.

LARGER CROPS REQUIRE GREATER MANURING.

It is true, that this process of extreme cropping makes severe drafts upon the capacities of the soil, and requires corresponding liberality in supplies of manures; yet, the superior product much more than pays for the extra requirements of manure and labor, as surely as the well-fed horse returns better service than the poorly-fed one does.

And all experiments and observations prove that the quantity of manures, made and secured from the stock which eats this produce, if all properly applied to the land, is sufficient to keep up its productiveness to the highest point demanded by the system, so long as it is pursued, and even enough to keep much more land in high tilth.

Now, taking these two propositions together—namely, that the land thus treated and often cropped yields far more than it otherwise would, and much more than pays the cost; and that the stock fed upon it produces more than manure enough to keep up the soil to this state—we are prepared to assume, that it is more advantageous to maintain stock on this plan than to allow them the range of much more land. And this fact will hold true as well with large farms as with small ones, and in new countries as in old ones; for, in either case, capital in lands and fences is saved to a large extent. "Soiling" will make every acre that is used employ more labor and stock, and give a greater return for them, besides employing both more pleasantly, than the pasturing custom possibly can!

But, it may be declared by some, that "in *new countries*," thinly settled, where there is unlimited range of pasture, it will *not pay* to raise and cut crops to feed out to stock in stalls, when they can so readily run and have what they need "for the picking of it themselves." Though this idea is generally believed and indulged by emigrants to the new States, it is nevertheless fallacious, and is successfully answered in previous remarks upon the *new eighty-acre farm*. It will cost no more to *raise the feed* for stock on the farm at home, because there happens to be a *large range*, than if it did not exist; while the cost and loss of chasing the stock *is greater* than if the range were *small*! It is proper to remark, in this connection, that there are some peculiarities about the prairies of the South and West which require a different mode of cultivation in some respects, from that commonly pursued in other portions of the country, and which have been presented in the volume of the Report for 1858, at page 283, written by myself, and a