

The Farmer's Advocate

and Home Magazine

"Persevere and Succeed."

Established 1866.

Vol. XLIII.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1878.

LONDON, ONTARIO, MARCH 5, 1908.

No. 806.

EDITORIAL.

HOW TO MINIMIZE THE WASTE OF MANURE.

What would you think of a neighbor who made it a point to steal fifty or a hundred dollars' worth of crops off your farm every year? What would you think of a hired man who would deliberately or indolently idle away an equivalent amount of time? What would you think of a farm manager who would allow a hundred dollars' worth of grain or hay to rot in the fields every twelvemonth? Equal losses many a farmer is inflicting upon himself year after year. An American professor has calculated that the annual waste of manure in the United States is \$750,000,000.

Manure is worth good money to anyone who knows how to use it properly. How much it is worth, depends upon circumstances; upon the nature, drainage and degree of impoverishment of the soil; upon the kind and value of the crops raised, and upon the quality and application of the manure itself. For intensive cropping, where such produce as fruit and vegetables are raised, a large value being secured per acre, manure is certainly worth more per ton than where applied to grain and hay land. In the Niagara District many fruit-growers are glad to buy manure at 75 cents to a dollar a load, and haul it from one to three miles, besides. Even at that it is cheap fertilizer, for a distinguishing feature of barnyard manure is that the returns continue, in gradually diminishing ratio, for many seasons after it is applied. Having regard for this fact, and for the further important consideration that no more labor is required to sow and cultivate a good crop than a poor one, we feel that few farmers in Eastern Canada should consider their manure worth less than \$1.00 a ton as it runs in the yard. Experiment has demonstrated that, taking it by and all, a ton of green manure is worth as much as a ton of rotted, and, as it requires about two tons of green manure to produce one ton of the decomposed article which we used to apply, it is clear that many farms have been losing, and in some cases still lose, half the virtue of their annual manurial product by fermentation and leaching.

Nor is this all. Analysis indicates that about two-thirds of the most expensive element, nitrogen, and over half of the potash voided by the average animal is found in the liquid excreta. Except where there are water-tight floors—and cement is about the only floor that actually remains water-tight for any length of time—this liquid is largely wasted, and even where there are water-tight floors a considerable amount of the nitrogen is lost by volatilization, unless absorbents are copiously used. When the straw supply is deficient, ground rock phosphate, land plaster, or common road dust, may be scattered in the gutter, these materials being mentioned in order of preference. In too many stables the liquid seeps away into the subsoil, to "strengthen" the drinking water and probably breed typhoid.

Let us put the annual amount of fresh manure made in an ordinary farm stable at 150 tons. It will be plain from the above that, in many cases, what with waste of liquid and loss by fermentation and leaching, two-thirds of this hundred and fifty dollars' worth of manure is wasted every year; and it is safe to say that half of the waste is easily preventable. To be on the safe side, place the preventable waste at \$50. Do not make light of this \$50. It is really too low an estimate.

On some farms the loss is three or four times that much. Think what an increase in the value of the farm could be brought about in ten years by judicious conservation of the farm's most important by-product. Ten times \$50 is \$500, and this, without counting interest. Remember, too, that on a farm where stock is kept the results of manuring are cumulative—the more manure, the more crop; the more crop, the bigger the manure pile, and so on. As a matter of fact, we are persuaded that the farmer who sets about it to stop this constant leakage in his farm capital would in ten years derive a twofold return, one in the increased crop produced year by year, and an equal amount resulting from the increased fertility and value of his farm. Indeed, we know many farms where the results of laying cement floors, using absorbents, and applying the manure fresh from the stables on corn and root land have, in five years, been simply astonishing, especially when combined with the adoption of a short rotation, often increasing the productiveness of the farm by thirty to fifty per cent., or even more. What man has done man can do.

We do not expect it will ever be possible to avoid all loss in the handling of manure. Whatever practice we adopt will have some objections. There is loss in applying manure broadcast over the snow; there is loss in piling it in small heaps, to be spread by hand; or in large heaps, to be distributed in spring with the manure spreader. On the whole, the loss during winter probably is least when the manure is left in small, frozen piles, to be spread by hand in spring; but, on the other hand, this method involves much extra labor, and the manure, when subsequently spread by hand, is not in that fine, well-distributed state to be incorporated to best advantage with the soil. On the whole, we believe it is wisest to spread the manure on the snow as made, unless the snow be very deep or the land very hilly, in which case we incline to favor hauling to the field, piling neatly, and applying in the spring with a manure spreader—which, by the way, is one of the most valuable and dividend-paying implements ever introduced upon our farms. When there is no spreader, haul out and leave in small piles, say half a dozen to a load, and spread at the earliest opportunity in spring. In any case, get the manure out of the yard, thereby saving time and fertilizer.

The question of what place in the rotation should be reserved for the manure has been admirably discussed by a Frontenac correspondent who signs himself "Limestoneian." In brief, the idea is this: Apply the manure before the vegetative crops, such as corn, roots and potatoes; follow these with grain seeded to clover. This is sound doctrine. It is the way to make the most out of manure. For light or loamy soil, the most economical method is to apply the manure on sod to be spring-plowed for corn. On heavy clay, manure the fall-plowed sod. Where there is an excess of manure beyond what is needed for the corn, roots and potatoes, it can be employed to excellent advantage top-dressing meadow land.

Here, then, are the directions boiled down: Lay cement floors in the stables; soak up every particle of liquid manure; provide a water-tight bin or barnyard, with cement or puddled-clay floor, for the temporary retention of manure which cannot immediately be applied to the land. See that the shape is such that no wash water can run in from the outside. What rain and snow falls on the pile itself will do little or no

harm. So far as practicable, haul out the manure fresh from stable to field, and apply it liberally to the fodder crops, garden and potato land, the orchard, etc., distributing any excess over the meadows. As a general thing, spread from the sleigh in winter; and from the manure spreader whenever this can be used. On hilly land, pile the manure in either large or small piles, and distribute early in spring either with the manure spreader or by hand. Underdrain as much as possible, for no conceivable method of application will prevent serious waste of fertilizing virtue in an undrained soil.

THE LATEST AND BEST WORD ON VENTILATION

"Probably the best-ventilated stables in Canada," was the general comment of those delegates to the recent National Live-stock Convention in Ottawa, who availed themselves of the opportunity provided by Agriculturist J. H. Grisdale to inspect the stock and stables at the Central Experimental Farm. Outside it was a cold, blustering day in February. Inside it was comfortable, dry, light, and very pleasant, with no heaviness in the atmosphere, and scarcely any evidence of manurial effluvia. In fact, it is a slight exaggeration to say that, had the visitors been set down in this stable blindfolded, they could hardly have said whether it were a barn or a drawing-room.

The barns at this institution, though constructed on the two-story plan, with fairly capacious mows over the stables, are not the lofty structures so common in Western Ontario nowadays, and, for this reason, the ventilating shafts doubtless serve their purpose better than they otherwise would. The stables are concrete-floored and wooden-walled, with plenty of large windows and few interior fittings to obstruct light. Ventilation is provided by the King and Rutherford systems, used alternately by way of experiment. Last fall the muslin-curtain system had been installed, but had since been discarded as unsatisfactory. After observing how exceedingly well the other systems were working, it was not surprising that the curtains fell short in the comparison.

In this connection, it will not be out of order to note that Dr. E. M. Santee, the recognized advocate of the muslin-curtain method, in a letter to "The Farmer's Advocate," objects that Prof. Grisdale's experiment was not conducted in the best way to show what the system might accomplish. "If they will remove the windows entirely," he says, "or hinge them at the side, and take out all the cheese-cloth and the other cloth on one of the windows, and then close the other windows, except upon very mild days, they will get very much better results." However this may be, one could not but conclude that, if every stockman could obtain such results as were seen on the Experimental Farm, by one or other of the convection systems there in use, no consideration of cost would excuse him from installing it. As a matter of fact, neither the King nor the Rutherford system is excessively expensive, considering the benefits that accrue in the increased health and well-doing of the animals housed.

Knowing that a large number of our readers would be practically interested in an explanation and discussion of ventilation systems, we have arranged with Prof. Grisdale to take up the subject in our columns, setting forth the principles involved and describing the best systems, with particulars as to cost and details of installation. In view of his extensive experience, the articles will be a great help to every stockman, and we especially recommend a careful perusal to intending barn-builders.