

All through the range country the tendency is to stiff prices, but efforts to advance further are invariably followed by a dropping off in trading, while a drop in prices is followed by active markets and a livelier movement. Stockmen are all in good shape financially and nearly all sections report the utmost confidence in the situation and ability to meet the winter without fear, no matter how severe it may be."



The Store of Soil Nitrogen

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The prediction of Sir William Crookes that we shall yet be unable to grow wheat because of a lack of soil nitrogen appears to have failed in causing any great anxiety. It may be that such a lack of interest is pardonable because it is none too profitable for us to worry about the welfare of unborn generations, but it should at least rouse us to a realization of the necessity of husbanding the supply of that all-important element. It certainly is providential that we have not the entire nitrogen content of our soils at our immediate disposal, as the methods in vogue on the majority of farms would speedily result in some such condition as Sir William describes. The evil effect of such pernicious farm practice as will be referred to farther on is already being felt in the United States, for, according to their statistics, the average yield of wheat is only 12.4 bushels per acre. It may be stated with truth that this is not entirely due to a lack of nitrates, but the main cause is nevertheless found therein. Sooner or later, and the sooner the better, a change of methods along some lines must be instituted, or we in Canada will be found in a similar position.

In the first place, every rainy season sees gullies washed out along every slope and miniature lakes formed in all low places. In the course of time this water will soak away after the greater part has rushed away over the surface to some sufficient outlet. Now the nitrogen which is available for plant growth exists in a soluble form and the certain result of such conditions as the above is to remove it from the soil, or at least to wash it far down into the lower levels. This process, best described as leaching, is decidedly damaging, and there can be no apology for its prevalence in this province. The judicious use of tile drains with good outlets is acknowledged to be a paying investment, largely because they prevent such leaching. By keeping the soil porous and lowering the water level, they tend to check surface washing, and by allowing the ready passage of free water (that is not retained by the capillary power of the soil) all danger of leaching is avoided. Here, then, we have one method for retaining nitrates which is within the reach of all, and, since only leguminous crops, such as peas, beans, and clovers, have the power of absorbing this element from the air, we must not regard it lightly. Every pound of nitrogen which is washed out of the soil and hurried away to the sea brings us nearer to the time when we shall have to face failure in wheat growing.

Then, too, we have the farm manures. These all contain more or less nitrogen as made, but on nearly every farm such shameful waste exists as to practically destroy their value. Some farmers allow the liquid manures to go entirely to waste. This, since the liquid portion contains the greater part of the nitrogen, is clear loss. Others, again, use lime or wood ashes to absorb the liquid. This, however, is no better, as, by chemical changes in their presence, the nitrogen becomes volatile and passes off into the air. The best absorbents, that are at the command of all, are found in muck or soil of almost any kind, and horse manure. Either of these answers well, retaining the liquid, and adding to the value of the manure made at the same time. If a deodorizer as well as an absorbent is required, gypsum will be found to serve the purpose.

So much for inside treatment. Practice varies as to what is done outside. Some throw the manure out of the windows, under the eaves of the barn, and it is there baptized

by every shower. The same process of leaching is repeated here, and a like result obtained, for manure made by such a process is valueless as a fertilizer. Others use sheds, and thus take a step in the right direction. There is a danger, however, that the lack of moisture will induce too rapid fermentation, and thus allow the loss of nitrates through excessive heating. This is apt to occur where the manure is loosely piled and not moistened. For these reasons the advisability of using a shed is often called in question. Where one has a fairly level yard, with clay bottom, excellent manure may be made in the open by allowing the stock to run over it when turned out, and by keeping eave-troughs on the barn. It is safe to predict that no black rivulets will be found leading away from this manure pile, and the owner will be able to tell where it has been applied by the resultant improvement in his crop. A more expensive, but even better, plan is to have a compost heap in which all manure and refuse can be piled. Here the waste is slight, provided the sides are kept square, and prime fertilizer can be produced.

The application of manure is also a point which is often overlooked, but even scientists differ as to the best practice in this matter. We are safe, though, in assuming that the top-dressing of lowlands and hillsides is highly injudicious. And, too, we are safe in saying that lighter dressings more frequently given are more economical than heavy ones at greater intervals. It is not certain just how long the effect of a manure may be noticed, but it is better to apply a dressing with a definite object in view, planning to get the profits with the succeeding crop rather than during the next five or ten years. A rule of this kind would certainly make less waste of these valuable constituents of manure, more especially on sandy soils, or any other land possessing an open subsoil.

Despite the fact that so much has been said and written against it, the summer-fallow is yet to be found throughout Ontario. Most farmers regard it in the light of a cleaning process, and here is where the mistake comes in. Unless the land is manured, summer fallowing adds nothing to the sum total of a field's plant food supply. But it tends to increase the availability of that resident in the soil, and if the field is not sown with fall grain, the following spring sees a great risk of loss from leaching, because this more available food is easily washed down. It is, therefore, advisable to put a summer-fallowed field under crop the same season. By that means the loss is reduced materially.

We cannot quite agree that the summer-fallow, in the general acceptance of the term, is a necessary process. Certain it is that, if farmers placed a proper value on soil humus, the bare fallow would cease to be profitable. That, however, is not a part of this article. The writer has endeavored to point out a few ways by which every farmer can conserve the nitrogen supply without increasing the outlay for farm maintenance beyond a profit-producing point. And, if the farmers of Ontario will weigh the question, and ponder over the outcome, it is safe to predict that 1931 will not find our descendants living on Johnny cake.



Selection of Stock Cattle for Feeding

Practical and experienced feeders, who breed and purchase steers for fattening, observe striking differences in the aptitude of animals of varying types and make-up to lay on flesh readily and in such form and quality as to command the highest price on the market. It requires a well-trained eye to detect in all cases the possible variation of results in the store or stock steer; but there are some distinctions that are easily detected. There are certain types of cattle, for instance, that never feed profitably under any conditions, and it is quite as important to discriminate against these in the feed lot as to be able to recognize the excellence in other types.

The characteristics that make the profitable feeder are naturally more difficult to detect in animals in stock condition than when fattened, but notwithstanding this there are a number of indications that are fairly reliable. Though the young steer may be comparatively thin in flesh and