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Agricultural Journal.

From the Fredericton Farmer's Manual.

SCIENCE AND PRACTICE OF AGRICULTURE.

In this number will be seen a very sensible letter from the pen of Leibig, which deserves a careful perusal; and we trust that the provincial husbandman will not only read but make it a point to investigate practice and understand the noble sentiments it contains. It is frequently asserted by farmers, that their soil is not adapted for certain crops, and at the same time they may unknowingly be in possession of the very substance, at the bottom of some marsh, or in the subsoil within reach of the plough, and this want of knowledge not unfrequently entails the most ruinous consequences. No man deserves the esteem of the agriculturist more than Leibeg; as it is to his researches and writings that the business of agriculture has been made a science. When the principles of vegetation becomes once well understood by the agriculturist, he may then with confidence engage in perfecting the improvements pointed out by the man of science; but when the whole matter appears wrapt up in mystery, and even the working of the most simple laws of nature are attributed to chance or improper causes, it is useless, under such circumstances, to expect that persons thus blind and ignorant will engnge with any considerable spirit, in the important work of effecting an agricultural reform.

It always was, and we suppose always will be the case, that a much greater amount of manual labor is expended in the production of the common necessaries of life than would be required if the operators understood the causes and effects of their various operations. Science has very liberally lent her aid to art in the numerous manufacturing branches of the day, and at last she has lent her powerful arm to agriculture, in a manner that does great credit to so useful and noble a profession. Any farmer who has thoroughly made himself acquainted with the science as well as the practice of agriculture, will no longer feel that he is engaged in a menial occupation, but that the cultivation of the soil is the most independent, ennobling, and instructive profession that a man of refined sensibility could possibly engage in. Plants, like living animals, require food to bring them to a state of perfection, and what would be adapted to one class would prove fatal if applied to others. The science of agriculture very beautifully points out the kind of food adapted to each; and the farmer who makes himself master of this science, is not only a wiser and better cultivator, but may fairly hope to obtain larger returns and greater profits than the man who attributes the success and failures of his experiments to the operations of blind chance. A thoroughly clever farmer may manage his soil so, that with one half of the labor usually expended in preparing the ground for a crop, he may obtain fully double the return that would be expensively cultivated. But few would believe this doctrine, but nevertheless it is a fact which has been proved to a clear demonstration in the preparation of the soil for the winter wheat crop in the British Isles. The limits for this article will not admit of a detail of facts to prove the above assertion, but from what we know of scientific agriculture, we would suppose it as rational to calculate that the old-fashioned mode of spinning and weaving cotton could be made to compete with the modern improved methods, as readily as the old-fashioned systems of husbandry could compete with those which the men of science have practised.

The welfare of this highly favored colony in a great measure depend upon the amount of interest which the Provincial farmers evince in the acquisition of a knowledge of the Science of Agriculture.

From the New York Albion.

WHEAT.

BY J. S. SKINNER, ESQ.

In the last number of the Albion, was suggested the propriety of introducing subjects for discussion in Farmers' Clubs, with reference to the season, to the end that whatever new might be elicited or plausible experiments suggested, they might be as soon thereafter as possible brought to a practical bearing. Keeping that principle in view this would seem to be a proper time to take up the subject of *Wheat;* and what plant equals it in importance, in the length of time it has been cultivated, the memory of man not running further back—in its great hardiness and adaptation to the greatest range of climate—growing, however, in its greatest abundance and perfection, in the medium climates, such as are most congenial and wholesome for man himself.

There are some distinctions contended for and believed to exist in nature and to constitute varieties, which we apprehend are accidental, and depend on circumstances—such as the *winter* and *spring* wheat. These are convertible the one into the other by change of soil—and this remark may be made of various other plants, such as Indian Corn, too, and if this impression be correct, it is worthy of being remembered, because it may save much time and disappointments, in sending to a distance, and paying extraordinary prices for seeds, that being transplanted to different soils, lose the distinctive character which had recommended themselves to their new localities. But if a farmer has ascertained, for example, that his soil is well adapted to white wheat, and he desires to get some of excellent quality for seed, there is no reason why he should not procure his seed wheat of that, or any other given colour and quality, which they have and would recommend, from General Harman of New York, or of Col. N. Goldsbourgh of Maryland. And so of Indian Corn, Tobacco and other seed. As a general rule it is probably best to get that which is known to be excellent, of its kind, from its *nearest localities*—because then you run less risk of disappointment by unfavourable influence which difference of soil may produce. Wheat, however, is far less liable to change by *climate*, than other grains—it grows and flourishes over a wider surface of the earth than any other grain, even from the torrid to the frigid zone.

The *hard* wheats are said to contain much more *gluten*—a tough viscid substance, which is very nutritous, containing a portion of nitrogen, which readily promotes that fermentation of *rising*, as it is called, of the dough, which is essential to good light bread. The soil best adapted to the growth of wheat is a deep loam, inclined to clay with a dry subsoil. Experience has taught, that it is not expedient to *manure* for wheat. There was an impression that the quantity of grain might be greatly augmented by the immediate application of large quantities of manure, but observation has taught that fresh manure, so applied, makes the wheat *run to straw*—causing it to "lodge" before ripening.

However lime may act in other cases all agree that it is admirably adapted to wheat crops, preferable even to dung—but on poor land lime has little effect in increasing the crops of wheat until the land has been manured with animal and vegetable matter.

The following—"Report of experiments on the varieties of Wheat, cultivated in the State of New York"—is the one for which a premium was awarded in 1843 by the New York State Agricultural Society. It was well designated by the destinguished President of the Society, James Wadsworth, Esq., "a valuable and interesting communications by General Harman, President of the Monroe County Agricultural Society, who has devoted much labour and care to the cultivation of new and improved varieties of that great staple product, which throws much light on that highly important subject."

To have his experiment and the detail of them, thus characterised by one so eminen tly qualified to judge, might be deemed by the worthy General as equivalent to a premium in itself. *Palmam qui meruit ferat*—say we.

White Flint.—The origin of this valuable variety is not certainly known. It is claimed that it was introduced into New Jersey from Spain in 1814, and from thence spread through many of our wheat-growing districts. It is likewise claimed to have been brought from the Black Sea into New York, about the same time. The supposition that it originated in the town of Rome, Oneida county, in this State, where it was called Mud Flint, from having been found growing on muck soil, is not entitled to serious consideration. Its first appearance in Western New York was about twenty-five years since.

The strongest probability is, that it was first brought from the Black Sea into this State. Its origin is of less importance than the proper appreciation of its value to the cultivator. It is generally acknowledged to be one of the most valuable varieties that has been introduced to the wheat-growers of the Northern States.

Description.—The chaff is whiter than in most varieties. A few short and soft beards are found in the upper end of the heads, which are inclined to droop somewhat like the heads of barley. The straw may be said to be of medium length, and not as large as the straw of the common varieties. At the root, it is more solid, and of a wiry appearance, being more stiff and not as subject to lodge as when it was first introduced. The heads are not long, but generally well filled, with from thirty to forty kernels in each head. The kernel is of a white flinty appearance, and very solid, with a thin bran; the berry is of good size: the straw is very white and of a bright appearance; having less leaf on the straw than any other variety I have had under cultivation. There is one peculiarity about this variety not met with in any other with which I am acquainted: that is, the tenacity with which the berry adheres to the chaff in its chamber. It must be very ripe to waste by shelling when cut, and when threshed but little of the chaff is separated from the straw. The only objection to this variety when first introduced, was, that it was difficult to tread it out with horses, or beat it out with the flail; and then the white caps adhered so closely to the kernel that it was frequently complained of by the millers. But on the introduction of threshing machines, this objection was entirely removed, for in passing through the machine, the chaff is completely torn from the berry. That which was formerly a strong objection, is now considered a decided advantage, as it does not suffer by standing until it is fully ripe, and gives the wheat grower more time to secure his crop without loss.

When it was first introduced, it was mostly sought for to sow after corn, or on land not well prepared, and on thin and light soils—seldom effected by the frost of winter, except on some bleak points where the snow is off most of the winter, or where the snow would blow on and remain in heavy drifts till late in the spring—where, in fact, no variety that we have introduced could succeed.

This variety has withstood the Hessian fly better than any other now cultivated. The solidness of the straw at the root gives the fly less chance of destroying it, as it is not easily eaten off when the berry is filling—the time when wheat is most injured by the fly. Some of the stalks of this variety will be so eaten as to fall down, yet mature the berry; while in other varieties, after it has fallen from the injury of the fly, the greater part of it fails to mature.

The hard and flinty berry is not easily affected by the rains, and it is consequently less subject to grow from exposure in an unfavourable harvest than other varieties. I have never known it to grow while standing in the field, and seldom while standing in the shock; but when committed to the earth, it vegetates very readily. Some have supposed that by threshing it in a machine, many kernels are injured so that they will not vegetate. I have frequently thrashed a few bushels with a flail, and sown it side by side with that threshed with the machine: and have not yet become satisfied that the threshing with the machine has proved injurious to wheat intended for seed.

The amount of seed and time of Sowing.—There is some difference in opinion as to the quantity required to be sown to the acre: first, we must take into consideration the soil, its quality (for on that much depends), and the time of sowing—on clay loam soils, the first week in September is the best time for this section of the State. It is important to have it take good root before winter, and if sown earlier, the fly is very apt to destroy some of it in the fall: and if it should be so large as to nearly cover the last of October, it should be eaten off by cattle or sheep, as it is less liable to be injured by deep snows. Here one bushel of seed to the acre is as good as more on soils in good condition; if sown ten days later, add one peck more seed per acre. On sandy, gravelly loams, the second week in September is the time most favourable for sowing: if earlier, the fly is very apt to affect it, so as to diminish the crop. Wheat, on such soil, one bushel per acre; and if the soil is not in good condition, one peck more should be sown. The White Flint spreads or tillers more than common varieties; and when I have sown a bushel and a half the second week in September, it was too thick, the straw fine, the heads short, and the berry not as large and fine as it would have been, if one peck less had been sown to the acre. There is one advantage in sowing thick on soils where it is subject to be effected by rust; it will ripen two or three days earlier. That is an important consideration on soils unfavourable to the early ripening of wheat.

The yield per acre.—While this kind of wheat has been generally received with great favour, as one of the most productive varieties, the shortness of its head has by some been thought an objection. I believe the head is at large in proportion to the size of the straw, as the other varieties. The amount per acre here, on common soils, is from twenty to twenty five bushels; it frequently exceeds that on strong soils, and in some instances has reached thirty, thirty five and forty bushels per acre. In one instance in this town, twelve acres produced 648 bushels, fifty-four bushels to the acre; and the greatest yield ever known in this county, 68 43-60 bushels per acre, was from seed one half White Flint, the other half of Red-Chaff Bald.

Its quality.—This variety is held in high estimation wherever it has been introduced. The millers give it the preference over all others. Its white flinty character and heavy berry make it tell in the half bushel—the pure wheat weighing from 63 to 67 pounds to the bushel. When cut before fully ripe, it is from one to three pounds heavier per bushel, than when fully ripe.

Common Soap as a Remedy for Burns.—By Thomas Wiliamson, M. D. Edingburgh. In case of burns, common soap, besides its great value as a local application, commands the additional advantage of always being at hand in case of emergency. The mode of which I am in the habit of employing it is this:—a common shaving box may always be procured, from which a good lather may in the course of a minute or two, be easily obtained. This lather is then gently laid over the burnt surface by means of a shaving brush, and repeated as soon as the first coat begins to dry, or the pain return. This practice ought to be repeated occasionally during the first day, or until such time as the pain is relieved. The benefit accruing to the patient is immediate, and the result of the practice highly satisfactory; for in mere superficial burns, if early adplied, vesication is prevented, and in the course of a few days desquamation of the cuticle follows, without leaving a raw surface. Of course, this as a remedial measure, is most applicable to superficial burns; but even in such cases as involve destruction of the more deep tissues, it is not used without advantage, in so far as the personal comfort of the patient is concerned. In such cases, after the lapse of a few days, the crust formed by the soap is ea-