

STANDARD WEIGHTS OF THE BUSHEL

The following table shows the standard weight of the bushel of various and other agricultural products:

CEREALS	WEIGHT	GRAIN	WEIGHT
Wheat	60	Potatoes	60
Corn	56	Turnip	60
Rye	48	Carrots	60
Barley	48	Beets	60
Oats	48	Onions	60
Peas	48	Green Apples	60
Beans	48	Prunes	60
Buckwheat	48	Raspberries	60
Clover Seed	48	Malic	60
Timothy "	48	Salt	60
Blue Grass Seed	48		
Flax	48		
Hemp	48		

Rust in Wheat.

An elaborate report on the occurrence of rust in wheat, and other diseases, has been published by a commission appointed for the purpose in Australia. In reference to the document the *Mark Lane Express* has the following notice.

The enquiry into the nature and causes of the red rust, by the Commission appointed for the purpose by the Governor of South Australia, has elicited a vast fund of information from the collected report of eight hundred agriculturists, and, although the statements are in many respects very contradictory, the committee was enabled from them to obtain general results, which, while they showed the fallacy of the opinions advanced, established the fact that no condition of soil or climate is free from its ravages, nor will any precautions taken by the farmer prevent these. "The rust-spores," says Dr. Muecke, "are located and spread over the whole world; neither oceans nor mountains will stop them. They do not commence to grow and multiply until they meet the circumstances favourable to their existence and nourishment." The following statement is given in the report as the evidence collected by a member of the Legislative Council:

- The red rust is caused by—
1. By the exhaustion of the soil.
 2. By late sowing.
 3. By manure.
 4. White ash on the test.

- Red rust also prevails—
1. On lowly cultivated lands.
 2. By early sowing.
 3. Manure prevented.
 4. Heavy straw is the best.

Such are the contrary opinions—doubtless all adopted from observation and experience; but only proving that other influences than those adduced have operated, and will constantly operate, to neutralize general theories on this and many other subjects of natural history; more especially those relating to endemic and epidemic disease, in either the animal or vegetable economy. There is not a doubt that climatic conditions have the greatest share in the production of the red rust. A moist, warm season causes a florid development of vegetation, and opens the breathing pores of the plant, and so gives passages to the spores of the parasites which are continually held suspended in the air. These, entering the openings thus left, throw out their rootlets (*mycelia*), and by intercepting the sap between the stem and ear, impoverish the grain and destroy the crop. Dr. Muecke is of the opinion that the red rust never attacks the wheat plant unless it is otherwise diseased in fact, that it is an effect and not a cause, or at least, a second, rather than a first cause, being itself superinduced by the corrupted state of the juices of the plant. "Where the rust destroys," he says, "we may safely infer that the plants were in a suffering state before they were attacked. Nature does not allow morbidness to exist." "The red rust has not destroyed our crops, it has merely furnished the eruption thereto." "But, on the other hand," he says further, "it is equally true that on vast surfaces the red rust has been the main cause of the destruction of plants in regard to the formation of the grain." A remarkable case in proof of this theory is stated in his letter. Part of a field of wheat in which wild oats had prevented the wheat from growing was cut for hay. Immediately the wheat sprung up healthy and vigorous, and developed full ears and fully grown grains; not a particle of rust was perceptible on these parts of the field, whilst the surrounding thick and high wheat was completely covered with it. The cause assigned is, that the wheat, in the one instance, did not grow till the time was past in which the influences supervened that predisposed the plants; consequently they became strong and healthy. While the red rust spores passed over them they were not infected, because the spores did not find the conditions of their existence—that is, diseased sap and weak cells—upon them. This is clear enough; because, surrounded as these mown spots must have been by the wheat on which the rust prevailed, the former could not have escaped if the same conditions had prevailed in them as in the other.

Salt for Crops.

A SUBSCRIBER sends us the following clipping from the *Wisconsin Herald*, with a request that we would publish it in this journal:

"I have been reading with very great interest the account of the Proceedings of the Chemical Department," given by Dr. Anderson, in the Transactions of the Highland Agricultural Society of Scotland of February last, and I wish to state what that account has suggested to me. The account is devoted chiefly to field experiments, under the auspices of the Highland Society, in various districts, for determining the comparative effects of different manures in the production of turnips.

1. It appears from the account that in several plots drought delayed or prevented a general blaird, so as to make the experiments unsatisfactory, and not sufficient for affording beneficial deductions. Why not endeavour to secure a blaird by salting the land, and thus attracting moisture from the atmosphere? My turnips were sown this season when the land was utterly dry. The blaird came quickly and without a manure, and the plants continue growing rapidly with rich glistening blades. The land, just before being drilled, was sown over with salt at the rate of good twelve cwt per imperial acre. Years ago I commenced with four cwt., and the quantity of salt has been increased year after year, till this season it amounted to fully twelve cwt.

2. It appears further that finger-and-toe interfered with results, so as to render comparison all but valueless. Why not have it as a condition that the land should be well dressed with hot lime? I have had no finger-and-toe since I adopted this practice.

The salting of the experimental ground would ensure a blaird, and the liming of it would prevent finger-and-toe; and the application of both would affect the experiments favourably, inasmuch as there would then be sound turnips to test the virtues of the several manures. But I believe that a proper quantity of salt is itself a preventive. My turnips are past the stage for finger-and-toe, and although the land has not been limed, they are not affected with the disease.

In the garden the results from "salt" and "no salt" are worthy of notice.

1. No salt. The turnips quite a failure.
2. Salt. The swedes and turnips alike excellent. Part of the turnips got a double quantity, and they are twice as forward as the others, good as these are. I may mention that, in this instance, the salt was not mixed with the soil, but scattered on the surface immediately after the seed was sown. The quantity was at the rate of about four cwt. per acre, except where the swedes are best, which got at the rate of about eight cwt.

3. In this garden hitherto never was raised anything like a crop of carrots or leeks. The soil and not the treatment of it was blamed. It is a heavy soil. This season, when the ground was, according to the practice of former years, ready to be manured and seeded, I had it salted and dug over. Farmyard manure was then spread over it, salt scattered over the manure, and the whole dug in Parsnip, carrot, leek, and onion seeds were then sown on several plots, and the result is that each crop is as rich as could be desired, to the astonishment of those who had long known the garden. I should state that one plot of carrot ground was not salted, and the result is that of former years—not the fourth of a crop. This has been interplanted with transplants from the swede ground, and when the transplants stand up coarse salt will be spread between the rows, care being taken not to touch the plants with salt.

I may mention that between the rows of my field cabbages salt was put on at the rate of fully twelve cwt. per imperial acre, and they are doing remarkably well; and that as soon as my potatoes were planted and covered, salt was sown across the drills at the same rate per acre. These are a fine crop, with good stems and dark glossy leaves.

When I think of the severe loss occasioned by the "worming" of oat crops, I am led to remark that my crops never suffer from this destructive plague. Salt, at the rate of four cwt. per acre, is broadcast immediately after the sowing of the oat seed, and harrowed in; or if that has not been done on account of rain, and if "worming" appear, salt is applied without delay to the "worming" parts, and the "worming" at once ceases, but the crop is generally better on these parts than on the rest of the field where salt had not been sown."

A Large Yield.

To the Editor of THE CANADA FARMER:

Sir,—Thinking it might not be uninteresting to your agricultural readers to know something of the crops their fellow-farmers are raising, I send you the subjoined account of the quantity produced this harvest and last, from a single field situated on Lot 33, 2nd Range, in the township of Pickering.

From this field, containing 11 acres, I raised, this year, 560 bushels 45 lbs of barley,—lacking only 3 lbs. of making an average of 51 bushels per acre.—some 480 bushels of which were sold to Mr. White side, of Frenchman's Bay, at 96½ cents per bushel, the remainder being kept for seed for the ensuing year, and other purposes. But taking the whole quantity at this price, and the entire value of the crop nets \$511 30. The quality of the grain may best be estimated from the fact that 46½ lbs. was the average weight of each bushel by measurement.

The same field was under spring wheat last year, and produced 385 bushels, or an average of 35 bushels per acre. The price realized was \$1 63 per bushel, and consequently the whole crop was worth \$627 53.

We often hear it said that farming in Canada does not pay, and that people in Canada had better not invest their money in real estate, as the return realized from the crops scarcely rewards the husbandman for the labour of tilling and reaping; but \$1,168 85 ought surely to be enough to pay well for the cultivation of 11 acres for two years, and still leave a large margin of "clear gain," much larger, in your correspondent's humble opinion, than can be obtained from any other investment equally safe.

WILLIAM COWAN.

Improvement of Worn-out Lands with Grass and Clover.

A correspondent of the *New York Times* writes to that paper as follows:

I will tell my experience on a poor farm in Rhode Island, of 150 acres, and too poor to keep a yoke of oxen, one cow and one horse in good condition. This farm was worth at that time about \$4,000 or \$5,000. But a new man came along who thought he could raise grass where none grew before. He tried, with perfect success every time; so that in a few years he kept about fifty head of cattle, mostly cows, on the place, and sold annually as many tons of hay.

The *modus operandi* was this:

1. Plough the land.
2. Harrow.
3. Spread 200 bushels ashes per acre.
4. Harrow.
5. Sow millet and clover.
6. Harrow.
7. Roll.

8. Cut half ton of millet to the acre in six weeks from sowing time, enough to pay expenses first year.

He then had a good stand of clover, which was cut twice the two years. The next year he ploughed under the clover, harrowed, applied fifty bushels ashes to the acre, harrowed it in, again sowed millet and clover, harrowed and gave it a good rolling. In six weeks he had a good growth of millet, say two tons per acre, and another good stand of clover. The next year he cut two crops of clover again. The next year he turned under the clover, applied his barn-yard compost of manure and cow manure, which he had been four years preparing, and raised eighty bushels shelled corn per acre. on land that, before he commenced, was called barren, and land that the neighbours said, when he was applying the ashes, was not worth, ashes and all, after it was mixed, what the ashes cost.

Now, there are a great many inquiries about how to raise clover. This man never failed; he never thought of it, and never dreamed of it, and never knew any failure. He had a system in his head (for he did not get it from books) which he carried out like "clock work," and his farm was beautiful to look at. He said the land was not fit for manure, so he took four years to get it ready.

He thought ashes would produce millet and clover, and millet would protect the young clover from the scorching sun until it would need no protection.

The harrowing and rolling were indispensable. He commenced in May, and sowed millet and clover every day as fast as the land was ready, for two or three months, and knew no such word as fail.