

value of any wheat that may be originated, either by selection, cross-breeding, or importation, will always depend upon its breadmaking quality, and the bake oven is the final and crucial test.

There are four articles of agricultural produce in which we may be said to excel nearly all competitors in the world's markets. These are our hard wheat, our cheese, our bacon, and our apples; and of the two latter I expect to have something to say in a future article. We cannot afford to allow any of these articles to deteriorate in quality, and, if possible, to still improve the quality, should enlist the best efforts of our men of science and our men of close observation who have learned much from long years of practical experience in the various lines of Canadian agriculture.

G. C. CASTON.  
Simcoe Co., Ont.

**Nitric Acid from the Air.**

Dr. Wm. Saunders, Director of the Dominion Experimental Farms, gave some interesting information in an examination before the Select Committee on Agriculture and Colonization, Parliament Buildings, Ottawa. His subject was "The Progress of Agriculture and the Extension of the Experimental Farm System." The doctor laid great stress upon the importance of the farmer of the present day being well equipped in knowledge for his important work. Twenty years ago in Canada, he said, farming was thought to be good enough for the men who had tried everything else and failed. Now it was generally recognized that to be a successful farmer a man had to have a wide knowledge of the processes and materials of production. At that time no branch of the public service could give farmers the information they needed. Recognizing this need, the experimental farms were established, and their correspondence had increased enormously.

In the course of the address several discussions were brought up in questions. One member asked if Sir William Crookes' discovery of a method of manufacturing nitric acid from the atmosphere would not revolutionize methods of fertilization. "Yes," was Dr. Saunders' answer, "when the process can be sufficiently cheapened to make it possible to produce the acid in competition with older processes." The doctor then told of a factory in Norway (where there was abundant water-power) that was making nitric acid wholesale, and mixing it with lime to make nitrate of lime. This was sold in competition with the nitrate of soda of Peru, and successfully competed with it in the market. The nitrate beds of the world, Dr. Saunders said, would be exhausted in twenty years at the present rate of consumption. At present the process of making nitric acid as followed in Norway could not be commercially successful where the power cost more than \$4.00 per horse-power per year.

The doctor gave a most interesting comparison of the average productive powers of the soils of different countries, paying special attention to those that competed with Canada. Some of the figures were as follows: Oats—Great Britain, 30.06 bushels per acre; Ontario, 36; Manitoba, 33.61; Northwestern Canada, 34.76; United States, 29.15 bushels per acre. Wheat—Ontario, 18.92 bushels per acre; Great Britain, 30.95 bushels per acre; France, 19.75; Manitoba, 18.45; Northwestern Canada, 19.13; Russia, 9.05; United States, 13.43; Argentine Republic, 14.76; South Australia, 6.62, and West Australia, 11.51 bushels per acre. Dr. Saunders' address was not completed at the first sitting, but adjourned until a few weeks later.

**Merits of the Corn Crop.**

Editor "The Farmer's Advocate":  
Among the many crops grown on our farms, we think corn-growing in our section pays the best, as we can grow more to the acre than anything else except red clover. While corn takes a considerable amount of cultivating, yet this is just what the ground needs to prepare it for other crops, and there is no better way whereby we can clean our soil of weeds than by growing a crop of corn or roots. In former years we used to grow the Western horse-tooth corn, with splendid results; although it did not produce cobs, it yielded a lot of stalks per acre. Now we prefer growing ear corn, such as Yellow Flint or Early Leaming, as these varieties mature before there is much frost to injure them, and they produce good long ears which make splendid feed for milch cows and other stock. We usually do our corn-planting about the last week in May, and it is ready to harvest quite early in September, though care must be taken not to store it in the barn until it is thoroughly dry, and then stand it up on end. BEAN.

Bruce Co., Ont.

After all, there is no place like the farm, and no people like farmers. The more intimate one is with city folk, their ways, their frivolous and hollow ambitions, the more exalted is one's opinion of the genuine, simpler, but nobler traits of rural character, born of natural environment, and strengthened by a wholesome, self-reliant occupation.

**The Manure Spreader Defended.**

Editor "The Farmer's Advocate":

The question in your recent editorial, entitled, "What about the manure pile?" I think is not being discussed as much as its importance demands. We have tried putting out manure in different ways. One way was to spread it on the fields in winter, which I think is a very good way for corn, or, in fact, any late crop, but for early-sown grain it keeps the ground too cold and damp, and so retards the cultivation and the seeding and growth of the crop. Another way was to put it out in large heaps in winter, but we do not approve of this method, as too much is lost by fermentation. I think a very good way to handle manure is to keep it under cover as much as possible, to be kept well tramped by cattle or hogs to prevent fermentation, and if any has to be piled in the barnyard to use it as soon as the frost leaves it in the spring for top-dressing meadows, which are to be plowed the following autumn, and the balance to be applied in the fall and immediately plowed under as shallow as possible. If this plan is adhered to I think there will be very little of the value of the manure lost.

I, for one, cannot agree with J. E. M. on the manure-spreader question, in the issue of January 31st. In the first place he is putting the cost for wear and tear of the machine rather high. When a machine of that sort begins to cost \$10 a year for wear and tear it is time it was laid aside, and I think with proper care it ought to last much longer than twelve years. In the next place, if there are two men loading the machine, I think the second man will find plenty to do while the other is unloading, if so inclined. Then, again, if two men were to spread a load of manure from a wagon in the same time as the spreader would do it, I am sure it would not be so evenly spread. I think the manure spreader takes the place of one man at least every day it is worked, and does the work to very much better advantage. I would advise any farmer who has much manure to handle, and has money at his disposal, to invest in a manure spreader, and I think before many years he will have good interest on the money expended. Those are my views on the subject, and are open to criticism, so I would like to hear from anyone through the columns of your valuable paper. ROBT. J. McEWEN.

Lanark Co., Ont.

**A British Columbia Basement Barn.**

Editor "The Farmer's Advocate":

Our basement barn, built eleven years ago, is 68 feet wide and 120 feet long. For the foundation we dug a trench 18 inches deep and 18 inches wide, and filled it with round stone and fine gravel, to within two inches of the surface. The outside wall is of stone and mortar, 18 inches above the ground; the basement wall from that up is 12 inches thick, shiplap outside and in, and filled with sawdust. There are five ventilators on each side of basement, 12 by 16, made of D. D. shiplap, opening in the stable at the top of stone wall, 18 inches above stable floor, and extending through the roof just above the eaves. These ventilators should have extended to the ridge, as when the wind is strong ventilators on the windward side send cold air into basement. There is plenty of windows as high as possible in the basement to make it light to the center. The ceiling is 10 feet clear from floor to bottom of joist. The floor is paved with cedar blocks, cut 7 inches long and stood on end. There are four rows of cow stalls running lengthwise of barn,

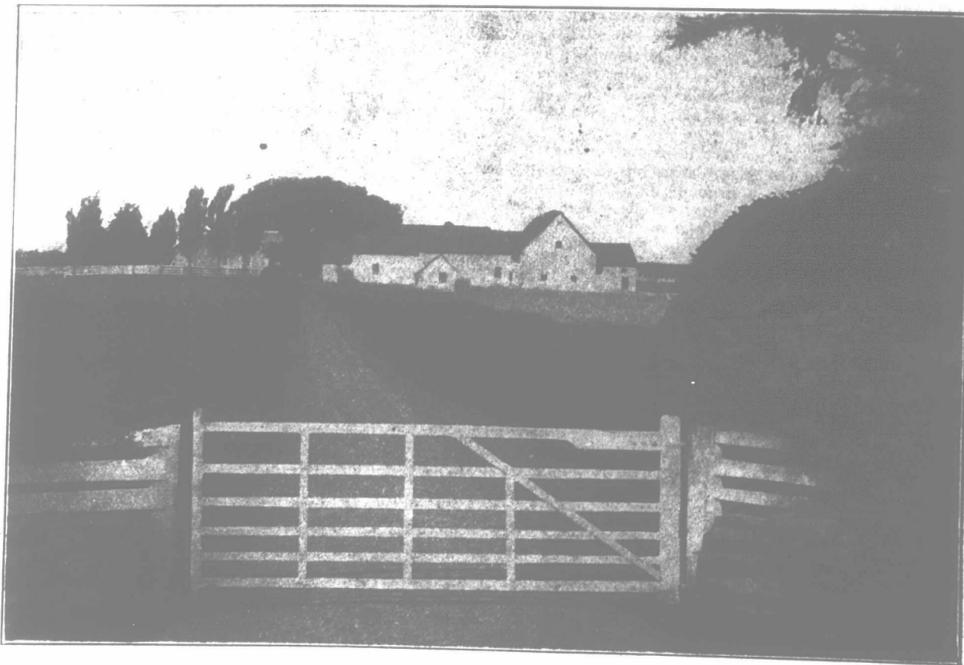
with two feeding alleys and three driveways for carting away manure, which is taken at once to the field. The gutters are level, and no drain from them. Liquid as well as solids are carted away. Stalls for 80 milch cows are in the south end of basement. In the north-east corner is a stone silo, 26 feet high, holding 150 tons. In the north-west corner is a bull pen, and between this and the silo is a feed room, 20 x 25 feet. The silo empties into feed room; the granary above feed room also empties through a chute into feed room. Roots are carted from the pit in the field to the foot, above, where there is horse-power and pulper, run by bull. The pulper stands over a chute, which takes them at once into feed room. Straw and clover are cut by same power by two horses, and stored beside feed room for mixing with ensilage and roots. In feeding we use a two-wheeled barrow, with box on it, which will carry 500 lbs. of mixed feed. It is a pleasure to go into the cow stable, so cool in the hot days in summer and warm in the coldest days in winter. No drafts, but pure air and light as day. We have none of the dampness complained of by some of your correspondents who have basement barns. New Westminster, B. C. A. C. WELLS.

**Waste.**

Perhaps the farmer has no greater foe than waste. It is only when one settles down to a little figuring and thinking that he realizes how much he loses through downright waste. For instance, if one wastes but five cents per day, he wastes a sum which, if saved and invested in a savings bank, would in twenty years provide him with as fine a team as any farmer could wish for. Putting it in another way, he wastes more than enough to procure him a brand-new binder and a mower and a wagon and a plow and a top buggy and a fine set of harness. Yet such is the case, as a little careful calculation will prove to anyone. This letter is calculated to indicate a few sources of waste.

There is, first of all, the waste that comes from not knowing how to care for one's stock. In a way, the dairy cow or the bacon hog, or the well-bred horse or good poultry, are all of them as artificial products as any piece of machinery on the farm. Yet we find farmers handling these creatures who do not understand their work, or, what is worse, intrusting these valuable and delicate creatures to the tender mercies of help who neither know nor care to know how to handle them to advantage. Then, what room for costly fads in such matters? The average farmer cannot afford to make experiments taking him far afield from methods approved by the experience of generations. Experiments there must be, but the place for them is the experimental station, rather than the farm, where the aim is to make both ends meet, with a reasonable profit to spare. It is in connection with such matters as these that "The Farmer's Advocate" becomes the farmer's best friend, as it is in possession of the best information that years have proven valuable, and it is in a position to warn its readers regarding processes and devices whose value is yet to be established.

Then there is the loss from the leaky roof in the barn, that so often destroys grain or hay, the shingle lacking on the implement shed that means a rusty machine or a ruined carriage or cutter cushion; and the deadly draught in the stable or poultry house. These may seem to be small



Stone Cottage, Springfield, P. E. I.