

neath, when it is required to be bagged for market, or wanted for feeding purposes.

I can say a good word for broad wheels, as we used them on our farm in England. To the best of my recollection the tires were five or six inches wide, and the iron was put on, not in bent rims, but in streaks nailed on with large square-headed nails. This was also a saving whenever we had to travel on the turnpike road, as the toll was much less on broad than on narrow wheels. In casting out manure on ploughed land, for instance, for potatoes, the wheels would not sink so deep as the horses did. Such wheels might not last so long, as driving so many large nails tends to weaken the felloes. A four inch tire would be wide enough for this country, and if the hubs, felloes and spokes of the wheels were boiled in oil before they were put together, the wood would never shrink; so that the tires would last without resetting until they were worn out. This would cause an additional expense of two dollars for the four wheels of a wagon, but then the expense of resetting would be saved, besides avoiding the risk of the tire coming off on the road, and a probable breakdown. But it is difficult to persuade the generality of farmers that a little judicious expenditure at the beginning is the best economy in the end. A wagonmaker in my neighborhood tells me he could make better and stronger work than he does, but farmers will not pay the increased expense.

I have tried parsnips several times, and find them a surer crop than turnips, and better feed for cows, especially in the spring, as they may be left in the ground all the winter if necessary, and taken up in the spring improved in quality. Pigs are very fond of them, and if allowed access in the spring to the ground where they have been allowed to remain for the winter, they will eagerly root it up as deep as the roots of the parsnips may have penetrated. If the weather is favorable, I prefer to sow the seed in the fall; they will be up and in the rough leaf by the time seed can be sown in the spring, and so would have the start of the weeds. The difficulty here is to get the ground in proper order in the fall, on account of the frequent rains at that season of the year. I once prepared a piece of ground for carrots in the fall, and, after the manure was ploughed in, and the ground in good order, the next day down came the rain and continued so frequently that the ground was never dry enough to work with the seed drill that season.

The FARMER for January last year, page 7, contains an article on parsnip raising in the Channel Islands. I have been told by a native of Guernsey that they have ploughs there constructed on purpose for ploughing twenty inches deep, and as the farms there are generally small, the farmers assist each other with their teams in such ploughing. We can scarcely expect to get such heavy crops of parsnips here, with our dry, hot summers, as are raised in the Channel Islands. Still, wherever the soil is suitable, they are well worth raising, if only for the purpose of feeding the cows in the spring.

Perhaps "Subscriber" would have less trouble with his butter if he had a churn with a double bottom, so that either hot or cold water might be used to regulate the temperature of the cream, without mixing the water with the milk.

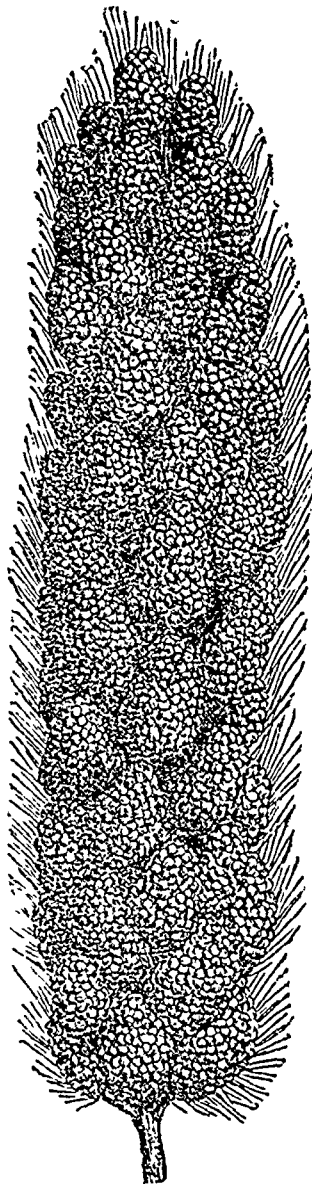
If a young farmer is such a fool as to marry a lady instead of looking out for a farmer's daughter, who from being brought up on a farm, knows how to manage a farmer's house, nothing better than running into debt, and having to mortgage, and then lose his farm, is to be expected, and serves him right; I say he has no one to blame but himself. As for Scotch farmers, however poor they may be when they, with their wives, emigrate to Canada, they are pretty sure to succeed, because their wives know how to save what their husbands earn—which they would hardly do if they were "ladies." Occasionally a lady, if brought up in the old country, may do well when she, with her husband, emigrates to Canada; but this is the exception, not the rule, and, in all countries and every station in life, some sensible women are to be found, and happy is the man who may have the luck to secure a sensible woman as a partner for life. This however requires a degree of judgment on the part of a man which is about as rare as good sense in a woman. But unfortunately, too many of our Canadian farmers care more for amassing and hoarding their wealth, than for improving their homes and giving their sons the liberal education

necessary to develop whatever natural abilities they may possess, so their sons frequently leave home and crowd into the cities, seeking employment for which, by their previous education and training, they are not at all fitted, so, if the son at last comes home and settles down on an encumbered farm with a fine lady-wife, failure is the inevitable result. But I must reserve some remarks on the education of farmers' boys and girls for another letter, as I am unwilling to encroach so much on your space at one time.

SARAWAK.

German Millet.

German Millet, sometimes called Bengal Grass (*Setaria Italica*), for an illustration of which we are indebted to Mr. J. A. Simmers, Toronto, belongs to the Setarian genus of annuals, imported from Europe, of which Hungarian grass is likewise a variety. It has a compound spike,



six to nine inches long, with small yellowish green or purplish spikelets one sixteenth of an inch in length, bristles two or three in a cluster. The flower is perfect, the stalk two to four feet long, and the leaves, resembling in many respects those of young corn, measure from six to eighteen inches. Specimens of the grass, entire, have been known to reach the prodigious height of nine feet. In Missouri, Kentucky, and several other States of the American Union, it is quite extensively raised, and, by its advocates, highly commended for cattle, horses, sheep, hogs, and even poultry. Its remarkable quality of resist-
ing, or overcoming drought, renders it, generally speaking, a pretty sure crop. German Millet is partial to a dry, light or medium soil, but does not succeed so well on heavy, moist land. It may be sown from the 15th May to the 1st July, at the rate of about half a bushel per acre, if the intention is to save seed; or three pecks per acre for hay.

Too Much Seed to the Acre.

EDITOR CANADA FARMER: The above heading may seem somewhat strange, yet I doubt not that "too much seeding" is fraught with far greater injury to the productiveness of Canadian farms, than most people are aware of. A great many (shall I say a majority?) of farmers seem to act on the principle, not exactly that the more seed the larger crop, but that, if they only sow considerably more than a sufficiency, some at least of the superabundance will be sure to overcome the contingencies of unfavorable weather, &c., and yield them a fair average crop. The idea is erroneous. If we stock a field with twice as many cattle as its vegetation is capable of sustaining, what is the result? Why, of course speedy poverty, which will soon end in starvation, unless the animals are removed to a better pasturage. Why so? Because they must all be fed, and there is not sufficient on the field to feed them. Now the analogy between this state of affairs and an over-seeded field is complete. Plants, to arrive at perfect maturity, must have an adequate supply of their proper food, just the same as animals. In both cases life and growth have to be sustained. What then is the difference between overstocking a field with cattle that its herbage cannot support, and overwhelming the same field with a number of plants quite disproportionate to the capacity of its soil and the moisture it is capable of deriving from the atmosphere? None whatever. The results must prove alike either way—either stunted growth or utter starvation. In the case of thick sowing, how many of the plants, even after they do struggle above the surface, produce nothing, or next to nothing? Not only so, but they serve as a persistent impediment to the perfect maturity of stronger plants around them, whose heads grow to little more than half the length they would attain with plenty of room and nourishment. The grain too, in the best heads, is not so full and plump as it ought to be, and for the very natural reason that the stunted growth, in other words deformity, of the plant spreads itself through all its parts. I believe that the soil of Canada would produce a very much larger quantity and better quality of both grain and straw, if its cultivators would sow about one-half the quantity of seed per acre that they commonly do, and I would strongly urge the readers of the CANADA FARMER to try the experiment on at least a portion of their fields. Let them sow, say one bushel of oats, one bushel of barley, or one and a fourth bushels peas to the acre—about half the quantities usually allotted—and, no matter how thin the plants may appear for a time, I will guarantee that the returns will be more favorable in every way than if double the amounts of seed had been sown.

North Dumfries, Ont.

CANADIAN.

Culture of Mangel Wurzel.

The cultivation of root-crops is pretty generally understood by a large number of farmers, and yet as there is another large number who know little of their cultivation or their worth, I wish to make a few remarks on mangel wurzels. This truly excellent forage plant ought to be cultivated to a greater extent; and as a store for winter-use it should be extensively adopted by the cottager who is the fortunate holder of an allotment and possesses a cow or a few pigs. It is one of the most profitable crops he can raise, yielding more bulk with real fattening qualities than perhaps any root we have. The beginning of May is perhaps the best time to sow the seed, for if sown earlier on light soil, it is liable to run to seed instead of forming large roots, and on heavy soil it is generally impossible to get the seed in properly till dried in the sun. Whoever attempts to grow mangel wurzel in the most profitable manner, or so as to obtain the greatest weight per acre, must previously get the ground in thoroughly good order and allow the plants plenty of room. It is an acknowledged fact that the majority of crops of this and similar roots are spoiled for want of thinning. On good land each plant will fully occupy a square yard, and when left closer than that, a decided loss upon the gross weight is incurred. There is plenty of proof that the roots may be grown to a much larger size than is usually done. I have read of some to weigh nearly three hundred pounds on several occasions, and that it is entirely dependent on the space allowed. Mangel wurzel may also be grown as a green crop to be eaten fresh in the autumn months, when in dry seasons grass is scanty, and is of much assistance especially to dairymen. Employed in this way the plants may be