they been rightly regarded within the province of manufacturing proper, would have been accurately measured and tabulated. Had the results of steam culture been carefully balanced with those of horse culture, we should not now be compelled to grope in the dark for statistics, while in all probability steam would have been far more generally used in farm tillage. "At the present time," as has been shrewdly remarked, "the sanguine, who rarely wait for results, and the far-seeing, who arrive at their judgments by a species of intuition, are mainly those who have had courage enough to become steam plough men." Their more cautious brethern are yet curiously prying through the hedge, uncertain whether to praise or to condemn Here, they are warmed up with a highly coloured picture of profit. There, they are cooled down by exaggerated statements of loss. So they oscillate between two opinions, and, half dissatisfied, drive on their teams till light from one quarter or another becomes clearer.

At the same time, the lessons taught by the deep tillage of the steam plough have not been lost. Deep fall ploughing is now one of the established features of British agriculture. By means of four, and even six horses attached to a single plough, land in many counties is cultivated to a depth of twelve or fourteen inches. When, however, it is remembered that in ploughing an acre of land with four horses, about three hundred thousand footprints are made, it will be manifest that this enormous amount of treading is just so much taken from the useful effect of the ploughing. In heavy wet land every horse's foot renders the soil covered at each step, impervious to air and moisture. With the steam plough this evil is entirely avoided, while the land is broken up into larger pieces, thus permitting the atmosphere to act on the newly exposed surface, and to render it easily reducible to a fine tilth in the spring A general opinion seems to exist among the British agricultural community, that steam cultivation is best adapted to heavy land, and that it will be exclusively confined to it. Although it is almost self-evident that the steam-horse is a most valuable acquisition to the occupier of strong clay land, it by no means follows that steam cannot be economically applied to lighter soils. The apparatus that is constructed especially for strong land may not be adapted to free soils, but with a special adaptation to varied circumstances, the power which is so invaluable in the one case, is quite as invaluable in the other.

The advantages of steam culture, as established by the experience of British farmers who have fairly tried it, may be summarized as follows: Steam is cheaper than horse-power for doing the hard work of a farm. Deeper and more efficient cultivation is obtained. The farmer is enabled to perform his tillage operations in less time, and at the most favourable season of the year. On clay and loam soils, especially, better crops with less manure can be obtained. The land is speedily and effectually freed from thistles and other troublesome weeds. Tenacious soils are made more friable and porous. Drainage is promoted by stirring the subsoil and breaking the "pan." Open furrows are unnecessary. Steam implements,—when the motive power is supplied by a stationary engine like Howard's or Smith's,—may frequently be worked to advantage in an unfavourable season, when it would be impracticable to work with horses. And finally, a much less number of horses is necessary on a farm, while these that are still requisite can be maintained at less expense.

GREAT YIELDS.—Eb. Phillips raised the present season in Sandgate, Vt., a fine field of buckwheat, and he counted the product of one kernel and found the yield to be 3270 seeds. Jacob Stanton, of North Danville, selected from his oat field one sprout, seven straws, from each were gathered 200 oats, making a yield of 1400 from one. D. H. Wilson, of Berlin, raised three bushels of large onions on less than 10 feet square of land. Lewis White, of Waterbury, Vt., grew a potato which weighed 2½ lbs.—*Boston Cultivator.*

Green Crops.

To the Editor of THE CANADA FARMER:

SIR,—In Great Britain, the system of feeding green crops on the soil is well understood and thoroughly acted upon. The practice is, on all hands, agreed to be very beneficial to the soil, and at the same time, one of the best methods of feeding stock: but in Canada this principle in farming is almost entirely overlooked. I can see no good reason why this should be so. We have an excellent soil, and a climate well suited to the growth of the plants required. The system is one that, on fair trial, must commend itself to the farmer. By it we save the labour of cutting and carrying the crop, and, at the same time, manure the soil—thus saving the cartage of manure. By sowing rye, in the fall, on the land we intend to fallow the ensuing season, we have in spring a breadth of fine succulent herbage, coming on at a time when our stock cease to eat the winter's food with relish, and when it would be the worst policy to turn a single hoof on meadow or pasture land. The rye should be sown thickly, and allowed to grow about a foot high before being fed. It is best fed in small plots, which may be done with a sheep net, or temporary fence. It should not be eaten too close in order that it may spring for another cropping. This crop is specially valuable for breeding ewes and milch cows, and is also very useful as a green food for horses. The only expense connected with the crop is that of seed and harrowing, as it is customary, and wisely so, to plough summer fallow the previous autumn.

Another plant I would commend as a green crop, is *rape or cedesed*, now one of the established green crops of Britain. There, it is sown at the end of June, (or in July after flax) at the rate of two quarts per acre on the flat, in rows thirteen or fourteen inches apart, and often with the turnips that are to be first fed off by the sheep. In July, that sown in June is hoed and thinned out as you would turnips, double plants may be left in a place. The crop is ready for stock in October, and is in season till all is eaten. With us it may be sown thus, or broadcast, early in spring and at intervals, being proof against the fly. It matures in about four months, and will thus be available (according to time of sowing) from August to winter. This crop is fed the same as the rye, and is very valuable as supplying a want in pasture during the months in which it is in season. Those acquainted with the plant say that it is one of the best fat producers. Vetches, tares, millet and Hungarian grass may be fed with advantage as green crops, but should be cut and carried. Were we to sow our late turnips a month or so sooner than customary, we could feed them off in September as we do rape.

On the farm of Messrs. Gooderham & Worts, of this place, most of the above crops have been grown, and so well pleased are these gentlemen with the results, that they purpose having about fifty acres of green crop the ensuing summer, 25 of which are already sown in rye. The present year they have grown about four acres of rye, and about the same of rape. The former was twice fed over by the lambing ewes, furnishing a large amount of excellent food; and the rape sown in June has been fed off the past month It was sown on a hill side, and was as good a crop as could be expected on the soil.

WILLIAM LESLIE.

Meadowvale, Dec. 6th, 1865.

A FRENCH MANURE MANUFACTORY.—The *Chemical News* says:—"In the *Journal d' Agriculture Pratique*, M. Barral gives some interesting details on the subject of the manufacture of animal manure at Aubervilliers. The manufactory consumes every year 8000 horses, 200 donkeys, 300 cows, 300 pigs, 9000 cats and dogs, 600 kilogrammes of meat unfit for food, 500,000 kilogrammes of offal from the Parisian abattoirs, and 600,000 kilogrammes of other refuse animal matters, such as skins, horns, &c. The raw material is first cut up and boiled, to extract the grease. The flesh is then separated from the bones, pressed, and dried. It is afterwards ground and sifted, and the dried bones, which are also submitted to the same process, mixed with it, forming a manure containing 55 per cent. of nitrogen and 55 per cent. of phosphate of lime. The blood is collected separately, and also made into manure. The soup obtained in the boiling is strained, and the solid matter thus collected is added to the rest. The offal is piled in alternate layers with other organic matter, such as wool and parings of horn and hoofs, with which is mixed a certain amount of mineral phosphates. The heap is well moistened with the strained soup, fermentation is set up, and the whole is gradually transformed into excellent manure. During this process the phosphate of lime breaks up into phosphoric compounds, more or less soluble, and various salts of ammonia are formed."

The Dairy.

MAKING DOUBLE GLOS'TER AND STILTON CHEESE.—In answer to a correspondent, the *Irish Farmers' Gazette* describes the process of making these popular varieties of cheese as follows:

"Double Gloucester cheese is made from whole milk, and heated to about 101 degrees, and let to cool down to 98 degrees, when the rennet is added, and gently mixed up and let stand from three-quarters to an hour. When sufficiently heated, the curd is gently broken up with a scoop, and let stand for a few minutes to subside, when the whey is drawn off, and the curd cut in every direction with a knife; it is then put into a drainer, with a cover to fit inside, and a weight put on it, to press down the curd; every half hour the curd is cut smaller and smaller, and additional weight put on it; in about three hours it is put in a tub, cut very small, and salted to taste; the curd is then put into the mould, weighed, and put near the fire, and shortly after put in a cheese screw press and turned frequently, rubbing it each time with a little fine salt for ten days; it is then rubbed with a little butter, placed in the cheese store-room, turned three times a week, and rubbed with a coarse towel. Care must be taken not to expose the cheese to too much drought in all its stages, which would cause it to crack; or to damp, which would cause it to swell. Stilton cheese is made by using the cream of two milkings and the milk of one mixed together. The process of making is the same as any other cheese, but the curd is not so finely broken, and to be of the best quality, should be kept two years."

WATER A DIRECT AGENT IN THE PRODUCTION OF MILK.—Experiments made on this subject have been recently brought before the Academy of Sciences by M. Dancel. The conclusion to be deduced from these, and from the observations made by various persons, is, that the amount of solid food consumed is little or not at all affected by the fact that the animal is giving milk, but that the quantity of milk produced is in exact proportion to the quantity of water drank—both circumstances being true also of human beings. A heifer which, before calving, will be satisfied with from two and a half to four gallons of water, when suckling, will require from six and a half to ten. A change from succulent herbage to dry forage will immediately reduce the quantity of milk to three-fourths or even two-thirds. The necessity for a supply of water is different in different circumstances.—A lean person, as soon as she begins to nurse, will have a violent desire to drink; not so one that is fat, a supply of water being already stored up in her organism for the supply of extra demands. Hence the milk producing power of any substance depends, as might be expected, on the quantity of water it includes. Oil-cakes are found to be bad milk-producers unless mixed with water. We must observe, however, that absolute quantity of milk is one thing, and nutritive value is another. One animal may produce a large quantity of poor milk; another a small quantity of rich; and the latter may afford the more valuable product. M. Dancel does not enter into this, which is the most important part of the subject. If mere quantity depends on the water drunk by the animal, the amount of solid matter contained in the milk—that is, its real value—must necessarily depend on the quantity and quality of the solid matter consumed by the animal. Dairykeepers know but too well how to increase the quantity of their milk; and to us it seems to make but little difference whether the excess of water is due to direct adulteration, or unsuitable but to economic feeding. When we purchase milk we intend to pay, not for water, but for the solid matter it contains.—*Scientific Review.*

Sheep Husbandry.

SALE OF A VALUABLE RAM.—The *Rural New Yorker* says: "We understand that Mr. A. J. Jones of West Cornwall, Vt., has made sale of his ram 'Young Comet,' that was awarded the first premium at the late State Fair at Utica, to Messrs. Eli and John Taylor of Elba, Genesee Co., N.Y. for $2000. We learn that the same gentleman some years ago, bought one hundred of Mr. J.'s Vermont ewes. The celebrated "Young Comet" can be seen by those wishing to avail themselves of the opportunity by calling on Mr. Taylor at his place."

STRENGTH OF DIFFERENT KINDS OF WOOL.—A. F. Moon, Paw Paw, Mich., asks us which is strongest, and will make the strongest cloth, coarse or fine wool. Fine wool is decidedly stronger in proportion to diameter than coarse wool; and fine wool, if spun into as large threads as those of coarse wool, which are employed in heavy common cloths, would make a fabric more than three times as durable as the latter —*Randall, in R. N. Yorker.*