

contend that selling off beef or dairy products restores soil fertility, while selling off grain reduces it—that, in the former case, the restoration is caused by application of the manure, while in the latter, there being no manure, the soil becomes rapidly exhausted and entails expenditures for commercial fertilizers.

For the sake of courtesy to the defenders of this theory, we have called it a question or problem, although in reality it is not problematic, but it is necessary to use weighty arguments to remove popular prejudices, or allay popular fallacies, especially when self-interest is the mainspring. Our readers should bear in mind that the theory did not originate in a practical or a scientific source; there is all the difference in the world between a professor by political appointment and a professor by education and instinct. The question is one of debits and credits, as well as of science and practice. We admit that many eminently scientific professors have erred herein owing to their ignorance of accounts—also that many book-keepers and practical men have erred owing to their ignorance of agricultural science. What must now be said concerning a theory which emanated from the brain of an agricultural professor who is neither practical nor scientific, and possesses no knowledge of accounts?

Hinged to this question is another audacious theory, viz., that although farmers cannot make money at stock-raising by charging the food consumed at market prices, yet they can do so by charging the cost of production. This is a question pertaining purely to the principles of debit and credit, and only displays ignorance of book-keeping.

The question could be settled by a few easily-perceived, common-sense observations, but it is not necessary for us to restrict ourselves within these limits for the following reasons: 1. Prof. Brown is lecturer on agriculture in the Agricultural College, where the true science of agriculture is taught by other professors, and, so far as we know, he has not condemned agricultural science as a farce or a fraud. 2. The live-stock speculators, with Mr. Shaw as their leader, approve of the Ontario Agricultural College where the principles of book-keeping and agriculture are taught, and in this respect we are in cordial sympathy with them. The defenders of the theory are almost exclusively practical men, and there can therefore be no objection if we draw conclusions from that popular source. Thus we find that the whole field of science, practice and accounts is open to us, and we are at liberty to use our own judgment as to the source of our observations and conclusions.

(To be continued.)

For a farmer's use, a horse is worth more at seven than at any other age. He has nearly as many years of service before him as at a less age, and at seven is past the danger of being strained or injured by overwork. How old he must be before becoming superannuated depends upon circumstances. A horse overworked becomes played out at an age when one well treated is still able to do good service.

#### A New Way of Doing Things.

When in Essex Centre we saw a person drive through the town having a good looking, comfortable turn-out, on which was placed some combined harrows, cultivators and seeders. Behind the democrat was attached another seeder and cultivator, the same as shown in the illustration. On making enquiries we found this was one wagon out of a company of twenty-five teams that entered Canada last autumn. They spread themselves over the width of this peninsula, and go to every farm house to sell these seeders. They are in the employ of the Gale Sulky Harrow Manufacturing Company, of Windsor. The company comprises the following directors:—D. M. Ferry (the noted seedsman), President; R. W. Gillett, E. Y. Swift, David Whitney, George B. Hill, G. H. Gale, W. W. Collier, and O. F. Hall. Three members of the company we are acquainted with, and know them to be men of integrity, and feel satisfied the company's dealings with the public will be conducted in a straightforward manner. Mr. O. F. Hall represents the Canadian branch, with head quarters at Windsor, Ontario. They have many companies like this travelling through the States. Their employes are good business men, and have been able to convince the best Canadian farmers where



they have gone that they have the seeder that will do the various kinds of work required, and in a most efficient manner they show the capabilities of the seeder and take their orders. This company has a factory in Windsor. They purchase their steel at Halifax, and every part of this implement is made from materials purchased in Canada. We have excellent reports of this machine from some of the best wheat growers in Kent. These travellers are on their way east, and no doubt will call on you. We have no doubt but they will very materially effect our old established drill establishments.

The autumn meeting of the Ontario Fruit Growers' Association will be held at Grimsby, on Wednesday and Thursday, Sept. 28th and 29th inst., commencing at 10 a.m.

A good bull hates a coward, and the moment a man who has the care of one shows fear, he loses confidence and consequently loses control of him. Let the bull stand with the cows so that he sees you often, and when you pass by him in caring for and milking them, give him an occasional kind word. He will thus be freed from fear and more inclined to be kind and gentle. It is a mistaken idea that he must be shut up in a back stall where he is entirely alone. Why, if you would shut up a man from his kind, one of the best natured and most gentlemanly of men, he would soon become as sullen, morose and vicious as the worst bull that ever lived.

#### Carrot Caterpillar—Apple-tree Caterpillar.

We received for identification specimens of a caterpillar from a correspondent in Lakefield. It is the Black Swallow-tailed Butterfly (*Papilio asterias*.) It is about an inch long, of a greenish color, and covered all over the body with light spots. This caterpillar may, however, be of various colors, and, when mature, may be  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches long. It feeds upon the carrot, parsnip and parsley. It is not known to have done much damage, and the remedy consists in hand-picking.

He also speaks of the leaves of his apple-trees being destroyed by some caterpillar which he has failed to observe, and desires us to name the insect, if possible. It is likely to be the Red-humped Apple-tree Caterpillar (*Admasea concimia*) and is getting to be pretty destructive. This caterpillar is about the same length as the preceding one, has a very conspicuous coral-colored hump on the anterior third of its body, where it has the largest circumference. From here it tapers rapidly towards the head, which is of the same red color as the hump. Its last two segments are not supported by legs, and when in repose are always elevated. Its body is marked with longitudinal, white, yellow and black lines, with an occasional row of black prickles.

The moth appears about the latter part of June, and lays her eggs on the under surface of the leaves, from which, soon after, the young larvae are hatched. These, at first, only eat the pulpy portion of the leaf, but soon consume the entire leaf. They completely strip the branch on which they feed before wandering to the next. They are very voracious, and may devour the entire foliage of a young tree before being noticed. We found a few on our experimental field this summer, but soon checked their ravages by hand picking.

A correspondent of the N. E. Homestead says: Cabbage worms never trouble an English gardener of my acquaintance. When they first appear, he dissolves a tablespoonful of saltpeter in a pailful of tepid water and gives the plants a good sprinkling. The worms will disappear speedily. If they begin after a few days to appear again, renew the sprinkling and you will seldom have occasion to apply it a third time. It promotes the growth of the plants, too. Seeing him planting his melons, squashes and cucumbers, I asked him if the bugs would not destroy the vines. He said he was never troubled by striped bugs. When he prepared the hills he planted a circle of beans six inches apart around the outer edge of each hill. The beans would come up just before melons, etc., would appear, and no bug would molest the vines. I have tried these two remedies myself for ten years with perfect success.

Arch'd. Sinclair, Komoka, says: He set aside about an acre of timothy this year for seed, and got therefrom about 7 bushels. He thinks every farmer should do this, and keep the money here instead of purchasing it from the United States, as it is also an undoubted saving. He considers in a good year he will take from 12 to 15 bushels off an acre to set aside. No insect has yet been found in timothy.