

Correspondence.

PORTNEUF, Aug. 11th, 1899.

ARTHUR R. JENNER FUST, Esq., Montreal.

Dear Sir:—In reading over the July number of the JOURNAL OF AGRICULTURE I notice an article on the turnip fly.

Now about sixteen years ago we were so much troubled by the fly that we were tempted to give up turnips altogether. I wrote to Evans, seedman, Montreal, for a remedy, and he said: Sow enough for yourself and the fly, which we did to no good effect, then I was told by some old Scotch farmer I forget the name, to put a few drops of coal oil on the seed before sowing and I should have no trouble. I have done this ever since and never been troubled in the least.

This number of your Journal is the first I have seen for many years.

Yours truly,

CARL O. SEWELL.

NOTE: Thanks for the hint. Coal oil is used largely in England, after being mixed with soap-suds, as a *sparge* over the newly germinated turnips and is found highly effective. Ed.

The Hairy.

THE RIPENING OF CHEDDAR CHEESE.

By *Emile Castel.*

The question of the ripening of cheese is on the orders of the day, not only on our programme, but over one of the States of the American Union in which cheese-making is of any importance. For several years already, it has been under investigation in the Madison dairy-school, where has been made a series of researches and experiments, destined to establish the laws governing the ripening of Cheddar cheese. The task is arduous, and the problems demanding solution are numerous; but the affair is in good hands. Professors S. M. Babcock and F. L. Russell are not unknown to us, and we are sure that their labours are worthy of confidence. These two *savants* publish from time to time, in the reports of the Wisconsin Station, the progress of their researches, and it is in

these reports that I found the diagram you have before you, and which I have enlarged to submit it to your kind consideration.

Before attacking the explanation of this table, I think it well to submit to you some observations taken from the 14th annual report of the Wisconsin Station.

"The ripening of cheese is a natural phenomenon, the details of which are as yet but imperfectly known. Throughout the old manufacture of cheese, there is no one single process at once so important and yet more neglected than that of ripening. As soon as the cheese is on the shelves the maker, too often, troubles himself no more about it. If we consider the conditions under which cheese ripens in this country, we find that, as a rule, the details of the process of maturation receive either no attention at all, or very little. The ripening-rooms are in general built as cheaply as possible, no effort being made to control the temperature or the degree of humidity. It is by no means rare to find cheese in rooms whose temperature is subject to all the variations of the exterior temperature. Under such conditions, the losses are enormous, and in the opinion of the most authoritative experts, they amount in money to several millions of dollars."

Messrs. Babcock and Russel are speaking here of the losses incurred by American cheese; and we—what shall we say of the losses incurred by Canadian cheese? The descriptions of the ripening-rooms you have just listened to only apply too well to those that we dare to call ripening-rooms here, and which are nothing but drying rooms.

To appreciate properly the necessity of thorough ripening, it is essential to understand, at least in a general way, the changes that take place during that process, as much as regards the physical as the chemical mutations. The solids of cheese, in a fresh state, consist of proteids (casein, etc.), fatty matter (butter), sugar and ash. During ripening, the sugar rapidly disappears, being converted into lactic acid and other sub-products; the fat and the constituents of the ash practically undergo no change, while the proteids, both physically and chemically, are the objects of recondit transformations. The addition of rennet to the milk converts the colloidal casein into an insoluble substance; and unless submitted to exterior agents, it remains for an indefinite period in the same state. During ripening, it gradually loses its properties, and is converted into a plastic mass