

sheep, it can be obtained in several degrees of virulence. Now since the air, that is to say its oxygen, can lessen the effects of virus, the latter can refine its virulence when it encounters the conditions favorable for development hence, why plague appar so suddenly as to be called spontaneous, the fact being, that the germs of the disease were only sleeping. These remarks are applicable to pestilences in general. Some countries have their special virulent plagues; moderated by oxygen, their virus only assumes the active form, when the conditions of climate, famine, and misery, reappear. There are maladies again which break out spontaneously in all countries, such for example as *camp typhus*. The microbes or germs—the authors of typhus, are everywhere; man has them in his intestinal canal, which do not injure him, but are not the less ready to become dangerous by the over-population of a place, or their successive development on the surface of wounds or in weakened constitutions, enabling them to regain their virulence. What then is a microscopic animal, inoffensive to man? An organism which cannot develop itself in his body. But nothing proves that that organism cannot penetrate and become developed in another animal, no matter how small, increasing in virulence proportionate to the size of the animal, and augmenting in intensity, till it can affect man and live stock.

The reports of spring work are excellent, and the winter-sown crops present a very satisfactory appearance: the middle of January being very cold, has affected, but only slightly, the agricultural situation in the South and South-Western regions. Clay soils are not thoroughly dried yet after the recent heavy rains. Here are the points of progress French farmers have yet to attain—the use of sowing machines, and the judicious choice of complementary manures. All other modern implements for good husbandry are sufficiently widespread in France. But broadcast sowings predominate, with all their disadvantages for weeding, &c.

The Senate has definitely voted the general tariff, and thus the provisional state in which agricultural interests have been existing since years, has come to an end. Henceforth, the government is free either to make, within six months, a treaty of commerce with any nation or apply the general tariff. For the future, the following are the rates that imported stock will have to pay, per head: oxen, fr. 15; cows and bulls, 8; heifers, &c. 5. calves, 1½; Sheep, 2; lambs, goats, &c. ½; pigs, 3. For fresh slaughtered meat, the tax is 3 fr. per 2 cwt; salt meat, 4½, and preserved or canned, do, 8 fr. per 2 cwt. Will these duties exercise a favorable influence on the future of French agriculture? The protectionists and free-traders seem both to think, they will not; the former, because the taxes are not sufficiently heavy, and the latter, because deemed excessive. In any case, many departments will be inconvenienced which do a large business in the importation of lean stock for fattening. Respecting fluctuations in the price of stock, these being largely dependant on meteorological and economical causes, over which the legislature can exercise no control, the subject may be passed over. Now it is these oscillations from which the breeders of cattle suffer. In general, the price of meat will tend upwards; and the foreigner will, as heretofore, enter into competition when the price is be sufficiently tempting. Many impartial authorities would prefer the abolition of all duties, and instead, the striking of a tax of 2 to 3 per cent, uniformly on all importations.

The condition of beet sowings is good, and where the seed has been judiciously selected, the most favorable results may be anticipated. Varieties of beet rich in sugar are what the manufacturers seek, and farmers lean towards quantity, at the expense of quality. While interests are thus in antagonism, progress must march under difficulties. The sugar

harvest last year has been bad in France, which is chiefly due to inferior seed. In reference to the general question of sugar industry, the prospect is not so clear: this is to be attributed to legislative causes, and the difficulty of reconciling England to accept as free trade, sugar that receives a bounty from a government, because being exported.

An important discovery has been made by M. Lichtenstein respecting the phylloxera: he has at last obtained the winter eggs, the only real ones, on vines (the American Clinton) two years old. But he has discovered them, not on the stem of the growing vine, but invariably on the prunings of the vine which are tied up in bundles ordinarily for fire-wood. Hitherto, the eggs were sought for on the stems exclusively. The galls are formed on the vine leaves, by the phylloxera, on the surface opposite to that in which the insect has picked; thus in the leaf of the elm, the insect peculiar to that tree makes its puncture on the under surface of the leaf, and the gall becomes developed only on that side: the phylloxera, on the contrary, pricks the upper surface of the vine leaf, and the gall is developed on the opposite side, that is, underneath. To destroy slugs: place a morsel of rancid butter on portions of wood, 8 inches square, or on cabbage leaves—8 yards distant from each other. In the morning they will be covered with small snails, that petroleum will destroy.

CORRESPONDENCE.

My dear Sir.—I have read with pleasure the very interesting letter from the pen of Mr. C. A. Deming, in which he says that *theory* is all very well in its way, but *practice* tells the story (1). Well, sir, I have had thorough practice, for 35 years, on the well known farms of the Duke of Bedford, at Woburn Abbey, where feeding cattle for beef and for milk is the farmers' daily occupation. I quite agree with Mr. McEachran in feeding three times a day. If for beef, I feed five times a day, thus, turnips at 6 a. m.; hay at 8 a. m.; oil-cake, or provender, at 11 a. m.—turnips at 4 p. m., hay at 8 p. m. I give only a small quantity at a time, so that it is all eaten up, and then the cattle are ready for the next feed. If I am feeding cows for dairy purposes, I feed 3 times every day, as follows: at 6 a. m., at 12 noon and at 8 p. m. By feeding thus, the animal is not restless for the want of food, they will rest quiet all night. Mr. Deming says he only feeds twice a day, he does not say what time he feeds in the morning, but he says that he feeds at 4 p. m. If he feeds at 7 a. m. and at 4 p. m., there are 15 hours before the animals get food again. This is decidedly too long for any animal to fast. Again Mr. Deming says that he only feeds twice a day, this is only two feeds in 24 hours—for my part, I think that there are too many farmers that have the same rule of feeding, perhaps that is what accounts for the many poor-looking animals we see in the spring in the greater part of our farmers' yards, and I must say that I fail to see how any animal can put on beef on two feeds a day.

Mr. Deming says that he could not get calves to take milk more than twice a day! Now, Sir, I have fed calves, and I have found them ready to take milk three times a day and perhaps they would have taken it oftener if they could have got it—but when they are six months old, I feed them five times a day, the same as the older animals, that is, a few turnips cut fine at six a. m.; a little hay at 8 a. m., pease meal at 11 a. m., turnips again at 4 p. m., and a little hay at 8 p. m., and I always find them ready to eat as soon as they see the food. If Mr. Deming doubts whether his animals will eat oftener than twice a day, let him feed his animals at six a. m., and then give them a little again at noon, and then a little at four, as he says that is the time he feeds for the night—this will be the best proof that he can get.

Perhaps some other practical cattle feeder might give you his opinion about cattle feeding.

(1) So we have Mr. McEachran, Mr. John McClary, and Mr. Bowden, together with the whole practice of England, against the solitary authority of Mr. Deming! I like firmness, but obstinacy is not a commendable quality. Mr. Bowden has the misfortune to have been born in England, and, what is worse, to have learned farming in that benighted country, and, on that account, I fear his opinion will not have much weight here. I remark that, as it is the custom in Canada to call every one who has studied the *principles* of trade, a *Doctrinaire*, so it is the custom to call every one who understands the principles of agriculture, a *Theorist*.