

THE ROT IN TOMATOES.

Our thanks are due to Mr. W. E. Wellington, of the firm of Morris Stone & Wellington, for a copy of the *Gardeners' Chronicle*, Nov. 12th 1881, from which we copy the following paper on the Fungoid Diseases of the Tomato, by Charles D. Plowright, King's Lynn, England. This paper will probably fully answer the inquiry of Mr. Thomas Coates, in the November number :

During the autumn of last year (1880) I carried on a series of investigations concerning the various fungi which deleteriously affect the Tomato, having the opportunity of examining any and every diseased specimen of Tomato which occurred in a large Tomato growing establishment near King's Lynn.

Tomatos grown in the open air in this country are a very uncertain crop, sometimes proving a very profitable venture, but not unfrequently the reverse. The Tomato disease is almost as well known to gardeners, and as much dreaded by them, as the Potato disease is. A very large number of outdoor diseased Tomatos were examined by me last year. The appearance of diseased Tomatos is so well known that it is almost unnecessary to give any description of it beyond stating that they have a peculiar bruised look, and are more or less mottled with black or dark brown patches of disease. These patches increase in size after the fruit has been gathered to such an extent as to render it valueless. If the Tomato be examined in this state he must indeed be an acute mycologist who could demonstrate the fungus which has caused the disease, for, bearing a few hyaline mycelial tubes permeating the substance of the fruit in and towards the margins of the spots, nothing adventitious can be detected. At any rate, I was quite unable to find any perfect fungus upon the numerous specimens I then examined which could with certainty be credited with causing the mischief. This is not to be wondered at when it is remembered how rarely we are able to discover the perfect *Peronospora infestans* upon the diseased tubers of the Potato. On September 10 of this year a specimen of a typically diseased Tomato was brought to me with the information that although the Tomato was diseased the plant which had produced it was healthy. I at once visited the spot and examined the plant in question. Sure enough the Tomatos on it were diseased to a large extent, but the plant looked healthy. A few dead-looking spots were observed upon the lower leaves, which were examined with a pocket lens, but not very thoroughly, as it was raining at the time. When, however, these dead-looking spots were examined microscopically, they were found to be due to the presence of *Peronospora infestans*. The fungus was not producing its conidiophores very abundantly, but still there it was without doubt. The central portion of the spots where the *Peronospora* first made its appearance were now nearly free from it, it being more or less confined to the circumferential portions of the spots. The appearance of these spots was quite unlike the spots produced by the same fungus upon the Potato