

Turning from these experiments to fungous diseases of fruit, I think that ferrous sulphate may be recommended with some degree of confidence for a large number of these diseases. The disease of the pear tree, very aptly named the Pear Blight, is now known to be of fungous growth. We are indebted to Prof. Arthur, who received his degree of M. S. in 1886, for valuable information on this subject, which he gives in his articles entitled *Biological Study of Parasites*. He and others have proven beyond doubt that the pear tree blight is of fungous growth.

Dr. Kirtland, in an address before the Ohio Pomological Society about twenty-three years ago, laid down the following hypotheses: "1. The pear tree blight is produced by the poisonous impression of the seeds (sporules) of a microscopic fungus. 2. Several combinations of iron, especially the sulphate (copperas) will to some extent counteract that impression." Dr. Kirtland goes on to say: "It will be understood, that these two propositions are merely hypothetical. If sustained by analogies, subsequent observations, and experience, they will be accepted as truths. If not thus sustained they will of course be rejected."

His analogy with the dreaded cholera disease is clever and somewhat conclusive. Observation has shown that specks, cracks, and discoloration of the skin of the apple and pear are of fungous growth; and also Pear Tree Blight, Black Knot of the plum tree, as well as the various diseases of grain, grasses, and vegetables. To show how far experience sustains the hypotheses laid down, I will quote from the lecture in question:—

"1. It is a popular belief that iron exerts a favorable influence over the health of fruit trees. Hence arises the practice of driving nails into the body of such trees, and loading their limbs with scraps of iron. But the belief and the practice may be visionary, yet in such instances of popular belief investigation usually discovers them to be founded on some shadow of truth.

"2. An intelligent and observing gentleman of Cleveland informs me that he prevents the curl of the leaf of the peach tree by depositing in the earth, about the bodies of the trees, fragments of rusty stove-pipe, and worthless pieces of iron.

"3. Twenty-four years ago (that would be in 1840) I called the attention of the public to the isolated fact, without reference to any theory, that a large pear tree in Columbiana Co., Ohio, with its body

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