the form of Paris-green, which had been successfully used to destroy the Colorado potato beetle, was suggested by the State entomologist of Illinois as a means whereby they could be destroyed. Four years later, the remedy had become quite popular, but it was only after another two years that there was any record of its use in New York; then, a most important discovery was made by the following experiment:

A gentleman of Lockport had sprayed his apple trees to destroy canker-worms, and he noticed, in the fall, that the apples upon the sprayed trees were less wormy than those upon the unsprayed. Similar results were noticed the same year in Iowa, where the trees had been sprayed with London purple, which is another form of arsenic.

The incredulity of the fruit growers vanished before the weight of these facts (what doubting Thomas's we farmers and gardeners be!) The arsenites were proved valuable for the destruction of the larvæ of most of the orchard's insect foes, and spraying is demonstrated to be of the greatest importance and a practice which no intelligent and progressive farmer or grower of fruit, whether he be extensively engaged in the business or not, can neglect if he is to succeed.

Spraying is a secondary operation and its importance is greater in proportion to the efficiency of care in planting, fertilizing, pruning, tillage, and other fundamental processes, all of which will be useless if the crop is allowed to suffer for the want of attention at last.

The practice of spraying for the fungous diseases of plants originated in the attempts of the French grape growers to check the mildew of the vine.

It was only about fourteen years ago that any definite efforts were made on this side of the Atlantic—the first advice we had being obtained from French sources—but about this time, Professor Saunders and others made some important experiments and published the satisfactory results. Our own and other professors have carried on the good work persistently and most efficiently.

Strange to say, the emulsions of kerosene and other compounds for the destruction of scale and sucking (chewing?) insects had yet another origin.

The first succesful emulsion with soap was made by Prof. Cook, of Michigan. Coal oil emulsions were proved to be efficacious in the destruction of scale upon the orange. Various soaps and oils have long been thought effective in the destruction of different insects but that has been proved to be true only in a limited degree, while the addition of kerosene has made them complete insecticides.

Spraying is not necessary unless insect or fungi are present, but as no one can assure himself of their absence, the risk of destruction to the crop by them can be lessened, if not overcome, by promptly applying what are known to be certain preventives as well as remedies.

The practice should never be neglected because the risk is too great, and when thoroughly done it never fails to conquer.

It must not be supposed that a certain amount of intelligence and knowledge of the subject is not requisite.

A doctor has to make a diagnosis of the disease of his patient before he can tell what medicines are required to effect a cure. An orchardist must study by what the trouble to his trees is, or is likely to be, caused.

If fungous troubles are feared, compounds of copper or sulphur are the antidotes. Apple scab, blight, black-knot, and mildew are of fungous origin.

If leaf eating or chewing insects, canker-worm, codlin, bud, and other moth larvæ, and tent caterpillar are at work, arsenical poisons, such as Paris green and London purple are to be used. If scale, or lice-like insects, as bark-louse, San Jose scale, or aphis appear, soap emulsions should be carefully and persistently applied.

It frequently occurs that several of these depredators are present, and can be checked or destroyed by the mixture of several specifics, for instance: Bordeaux mixture can be added to Paris green, and administered at the same operation, one acting upon the fungous disease and the other upon the insects, both will be as effective thus used as if used separately, because the one does not in any manner interfere with the action of the other.