

REPORT ON SPRAYING WITH ICE WATER WHILE IN BLOOM.

Following is a report of experiments in spraying fruit trees with ice water while in bloom, to ascertain the effect of cold rains on the fertilization of blossoms and the setting of fruit; also to ascertain if heavy bloom could be partly sterilized in this way, thus saving the labor of thinning fruit:

The work was done by Jos. Tweedle at Fruitland, Ontario, and was in connection with the experimental spraying of fruit trees carried on by the Department of Agriculture for Ontario.

Three trees of Langhurst peaches, three trees of Shipper's Pride plums; three trees of Kieffer pears, and one side of an Astrachan apple tree were selected for the work. The peach, plum and pear were in full bloom at the time of commencing work, and the apple bloom was just opening.

For spraying, a barrel of water was cooled to the lowest temperature possible with broken ice. The tripple nozzle was used. One tree each of the peach, plum and pear was drenched for seven minutes; one each for three and one-half minutes, and one of each had one side drenched for seven minutes, the other half remaining unsprayed.

One side of the apple tree was drenched for seven minutes.

This work was performed on May 13th, 14th and 15th on all the trees, and on the 17th and 18 on all except the peach, from which the bloom was falling.

On the 18th the plum and pear bloom began to drop. The weather was fine and warm, excepting a shower on the afternoon of the 15th. Results were carefully watched, and no difference could be noticed in the crop set on sprayed and unsprayed trees of the same variety, nearly 100 per cent. of the blossoms setting in each case.

It would appear from the results of the above experiment that a cold rain during the blooming period does not injure the blossom unless so prolonged as to interfere with the fertilization of the blossoms.

Dr. FLETCHER: The question was asked whether there was any advantage in spraying in winter. It is just as well to discuss why we spray at any time. Spraying will not destroy everything and kill every fungous disease. The question whether it is advisable to spray in the winter must be answered decidedly "yes." Why do we spray in winter? We spray to kill, chiefly, the fungous diseases—the black spot of the apple; and it is wise to do that because that fungus passes its life largely on the trees in the winter time, and you must not spray with Paris green or kerosene emulsion; you must spray with a fungicide, and the cheapest and best at that time of year is sulphate of copper, one pound to five gallons of water, and if you spray with that solution you will destroy all the fungus you reach with it. It passes the winter on the fallen leaves, so you must spray again in the summer. Then there will be a large quantity of spores left on the fallen fruits and leaves, from which infection will come again; therefore it is necessary to spray during the summer again, but it certainly is wise to spray in the winter. That may be done at any time after the leaves have fallen or before the spring opens, and perhaps the best time is as near as possible to the time when the vitality of the whole tree revives, because the fungus is then more susceptible to injury probably than in the autumn; but if it is more convenient to spray in the autumn, from time or any other reason, certainly spray in the autumn, but you can spray during the winter with any spray to destroy fungicide diseases. You must decide what insect you want to fight against, and you cannot make one application that will destroy everything. That is one of the mistakes that is made. Paris green does not by any means destroy everything, although that is the general conception of it throughout the country. It is only by bringing it up in meetings like this, time and time again, that men gradually learn. Men are interested in it to-day that thought nothing of it two years ago. Certainly in regard to fungus and black spot it does pay to spray in the winter time.

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