

fruits, seeds and plants without the bees as a fertilizer. We may give facts and proof of this character later. The herculean task before us is to combat and try and correct the erroneous ideas and errors that exist. We hear it asserted that the silk worm is the cause of the codling moth and that the bee moth and the codling moth are one and the same, and we are also told that the moth lay all their eggs in the blossom, and that the egg lays in a dormant state while the tree is in bloom, and until the apple makes enough growth to cover them. We are told that it commences to eat and grow till finally it eats its way out and that all holes in the apple are caused by the worms eating themselves out. Again we are informed that hundreds of moth eggs had been found in the blossom, yet when we offered \$1 each for those eggs we failed to receive any. The reason is plain. Now we are willing to take the consequences when we pronounce, as we do, those theories ridiculous and absurd. One thing is certain, either all of the codling moth blow their eggs in the blossom, or none of them do. Would it be either nature, reason or sense to tell the fruit growers that the moth blow a portion of their eggs in the downy blossom, and when they come around later and hard apples growing from the size of a marble to a pigeon egg or larger, they settle on the apple, puncture the skin, deposit the egg and glue it in for safe keeping? As soon as the egg hatches the larva enters the apple. All know the subsequent action of the larva in the fruit, for who has not seen the tiny white caterpillar with its black head eating the rich pulp, which it replaces with filth? In about three weeks the larva matures and leaves the apple and in some concealed space spins a cocoon, then assumes the chrysalis state. In from ten to fifteen days, varying with the temperature, the moth issues from its cocoon. They again deposit their eggs on the apple as before, after which comes a recurrence of all the disgusting work as stated above, except that the larva upon leaving the apple in the fall simply spin cocoons in which they remain until spring. It may be observed that the moth deposits its egg at or near the top of the fruit, hence we find that the first eggs of the season are at or near the calyx end of the apple, but later as the apple gets heavier and the calyx end drops, they deposit the egg on the side or near the stem. Now if these statements are correct, which we are willing to vouch for, and if we can prove this, which we believe that we can, then how can we expect intelligent fruit growers to believe this blossom theory?

Myself and Mr. Joseph Stay, after a close study and investigation last season, proved to be correct what we told our fruit-growing friends last season, namely: that if they were determined to have only two sprayings, the first one should be about the 10th of June, and the second one a month later. And the result last year went to prove that for two sprayings the most effective work was that which was done about the middle of June and July. Some sprayed twice in May and stopped at that, and in some instances they did more harm than good, as it kept the moth off the fruit

for a while, but when they did start they were worse than ever, and as some of them sprayed the first time while the trees were in bloom, besides washing the pollen off and thus destroying a portion of the fruit crop, they poisoned our bees in Sanpete, Utah and Tooele counties, and in the First ward of this city.

Apart from the injury that those people do to themselves by wasting their time and material, we ask what moral right can they claim for destroying our bees? Is it not just as brutal and as barbarous as it would be to poison our farm stock? We wish to say quietly but firmly, gentlemen, you must stop it. We wish to say to our beekeepers all over the Territory, unite, be firm; and if you are imposed upon again in this matter, dust the bees with flour so that the charge can be proven against parties that break the law, and we will see if there is any justice for the right. There are over 30,000 colonies of bees in the Territory, and the product from them should be worth about \$200,000, and we propose to defend them. Besides, what excuse is there for thus destroying the bees? Have we not made this matter perfectly plain to the reasoning mind? If anything further is needed, we would say that during the twelve to sixteen days that the tree is in bloom there is neither moth, eggs nor fruit. During this period the embryo fruit is forming at the back of the blossom, and if the season is earlier for the moth the fruit is also earlier. In any event the fruit is first. Last year there was no moth to amount to anything until after the first of June. The theory that the egg is deposited in the blossom and that it lies dormant waiting for the apple to grow has the elements of anything but reason, as this would take about a month to accomplish, while it is known that after the egg is deposited on the apple in warm weather it will hatch in less than a week and commence boring into the fruit.

Again, we have the authority of a no less distinguished professor than A. J. Cook, for five years president of the Michigan Agricultural College, and now president of the Pomona College at Clermont, California. Prof. Cook wrote to us last summer that the moth do not and cannot lay their eggs in the blossoms as the pistil points on all blossoms protect them from all insects except honey gathering insects, which are provided by nature to gather the honey and to fertilize the blossom, and there are no other honey gathering insects of sufficient numbers to do this work except the honey bee. Now we think this is plain enough to a reasoning mind that all beekeepers and fruit growers should be reconciled to each other's interest, and all should work unitedly for the success of the whole. If this end is attained the result will be that in the near future the people of Utah will be surprised at the grand success of those industries. So may it be. Like the spraying, this matter has appeared so plain that we have wondered why others did not view it as we did. Mixing and using the right materials in proper quantities and spraying the trees looked so simple that we have wondered why some make such blunders. But we have seen parties put half a pound of paris green into a sixty

gallon barrel; this barrel was placed on a cart and they had a powerful pump with about five feet of hose. They commenced spraying—no, not spraying—they pumped a stream like a person would use to put out a fire, and many times they missed the trees entirely. Sometimes the Paris green would settle at the bottom. The result was that some of it was not strong enough and at another time it was too strong, and as a consequence chickens, turkeys and animals were poisoned, as only about one gallon out of twenty was left on the trees. This kind of work made the people think the whole business was a failure.

We hope this year the work will begin at the proper time and be done in a proper manner. Nearly all of our fruit growers agree with us that the spraying was commenced too early and quit too early the past season. We commenced to spray on the fourteenth of June and continued to spray the winter apples till after the middle of September. The result was that we had much the largest proportion of sound apples in the neighborhood. We used a small, strong, cheap pump; they are easy to work and very effective, and by using forty feet of half-inch hose attached to a light rod you can throw a fine spray where you wish, and if the work is carefully done not one gallon in forty will fall on the ground, while the parties that I before mentioned did not retain one gallon in six on the trees.

If any of our friends wish any information on this subject that we are able to give, we will do so with pleasure, as it is possible that there may be some reckless or unprincipled people that may poison the bees unless they are checked. Therefore, we would suggest to our beekeepers and fruit growers throughout the Territory to have the bees protected by a notice given to the people or by the proclamation of the probate judges.

Respectfully,
E. S. LOVREY.

COLORADO UTES.

Following is the official report of Captains Gibbs and Cannon filed with the Governor Tuesday, January 29th, giving an account of the trip and investigations of those officers in Grand and San Juan counties:

To His Excellency the Governor of Utah Territory:

Sir—Your orders of Jan. 5, 1895, required us to proceed "to Grand and San Juan counties to make a thorough investigation and ascertain the number and location of the Indians therein and of their flocks herds and horses, and to what extent, if any, they have depredated or are depredating upon the settlers; also further to ascertain the number of Southern Utes off their reservation found in said counties, and the number of so-called renegade or Plute Indians."

In pursuance of these orders we left Salt Lake City on the evening of Jan. 6th in company with Messrs. J. N. Pearce, Thos. Nash and Harry Green (the delegation sent to present to you the complaints of the citizens of said counties), and in the afternoon of the following day (the 7th), we found our-