

working among these things we turn the poultry out and let them run loose, and they do no harm to the small fruit until a certain time; then we do that again in the fall. Whether that is the reason the grubs are kept down, and to a certain extent destroyed, I cannot say, but I find that the fowls eat an immense quantity of these grubs and also of the white grub.

MR. DENTON.—I would like to ask whether we are not confounding two insects. Does the May beetle ever come up as represented, and attack the roots of berries and onions and other things in this way?

THE PRESIDENT.—As far as my experience goes it works altogether under the ground. There is a white grub, which I have no doubt is the grub that Mr. Doel refers to, the larvæ of one of the cut worms—one of our most common species. It is almost as large as the white grub that we are speaking of, and it runs along the ground just in the way Mr. Doel describes; but it is quite a different grub from this other. It seems to me that fires are one of the most practical methods we can adopt for the destruction of the insect. It is well known that they are attracted by light, and if they have opportunities of flying into the fire, they will always avail themselves of them. Another plan which is adopted sometimes with destructive insects of that character which fly to light readily, is to set a lamp in the middle of a tub of water on which is a layer of coal oil; they fly to the lamp, strike against it, and fall into the water. I am afraid there is nothing we can use in the ground for killing the grub which will not also kill the crop. The skunk is very useful indeed in destroying the grub; and there is nothing better than to turn a few hogs into the field—they devour immense quantities. But it seems that no means of practical value has ever been discovered for destroying the insect in strawberry beds; nothing which will not also destroy the plants.

MR. REESOR.—I have found the method which the chairman has mentioned work well; that is, getting a large tub, filling it with soap suds, and putting a lamp in the tub. I find this a good way too to destroy the little miller which affects the beets. A great many other beetles and insects I find come to grief at the same time.

MR. DEMPSEY.—I have noticed that where land can be thoroughly cultivated the insect seems to be readily picked up by birds and destroyed by the act of cultivating. We were preparing, a year ago last summer, a piece of land for strawberries, and there were some places that there was an accumulation of quite large stones which we had to cultivate around. Towards the end of the season we removed these, and invariably we found a large quantity of these white grubs under each stone. They destroyed a great many of our plants there. I think they deposit their eggs under stones, in stumps of trees, or under almost anything they can conveniently get to cover them. I think thorough cultivation, thorough cleaning of our land, will serve as a preventive to a certain extent, and that building fires in our grounds in the season of the year when we discover a number of these beetles flying in the air, will also have a good effect.

COL. MCGILL.—I have had no experience with the grub myself, but it has been very destructive in our neighbourhood this year. A gentleman I know, a very good farmer, had ten acres of peas completely destroyed by these large white grubs. About twenty-five or thirty acres in that neighbourhood was cut out, and after they began to cut out they tried salt, but it did not seem to affect the insect very much.

MR. DEMPSEY.—Mr. Beall appeared to be mistaken as to the sort of worm which was destroying his crops. The cut worm used to bother us considerably in the cultivation of the melon; and I presume, that anyone who has ever undertaken to cultivate vegetables, has been annoyed more or less by it. A number of years ago a piece of our land became so infested with cut worms that we could produce nothing on it. We mixed a little plaster with Paris green, and just gave the plants a slight dose of that. Six or seven years have passed since the experiment was tried, and I have not seen a cut worm on the land since.

MR. MORRIS.—I cannot altogether agree with the President, when he says it takes three years for this grub to develop and get to work. In the year 1880 we found nothing of it in our grounds; in 1881 it seemed to develop and get to work about July, and my idea was, that the eggs were laid that spring. The beetles were very numerous that spring; we could not open our door but any number of them would fly in. About August or Sep-

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