

equals ditching. As for protecting plants by the application of powders and liquids, I have come to the conclusion that it is out of the question.

"If the eggs are duly destroyed, there will be no trouble from the young locusts; but where these once abound, pecuniary inducement to collect and kill them should be offered by the State. It is one of the best means of giving aid and employment to the sufferers, who cannot pursue their ordinary avocations till the plague measurably leaves or is banished.

"In this connection I would also urge the employment of military force, a large amount of which, in times of peace, could be ordered into the field at short notice.

"To many, the idea of employing soldiers to assist the agriculturist in battling with this pest may seem amusing and farcical enough, but though the men might not find glory in the fight, the war—unlike most other wars—could only be fraught with good consequences to mankind. In Algeria, the custom prevails of sending the soldiers against these insects. While recently in the south of France, I found, to my great satisfaction, that at Arles, Bouche du Rhone, where the unfledged locusts (*Caloptenus Italicus*, a species closely allied to the Rocky Mountain locust) were doing great harm, the soldiers had been sent in force to battle with them, and were then and there waging a vigorous war against the tiny foes. A few regiments, armed with no more deadly weapon than the common spade, sent out to the suffering parts of Missouri, Kansas and Nebraska last spring, might, in a few weeks, have entirely routed this pygmean army, and materially assisted the farmer in his ditching operations.

"A few other suggestions, and I will dismiss this part of the subject. Hogs and poultry of every description delight to feed on the young hoppers, and will flourish where these abound when nothing else does. It will be well, in the event of a future invasion, for the people in the invaded districts to provide themselves with as large a quantity as possible of this kind of stock. Where no general and systematic efforts were made to destroy either the eggs or the young locusts, and it is found that, as spring opens, these young hatch out in threatening numbers, the intelligent farmer will delay the planting of everything that he cannot protect by ditching, until the very last moment, or till toward the end of June—using his team and time solely in the preparation of his land. In this way he will not only save his seed and the labour of planting, and, perhaps, replanting, but he will materially assist in weakening the devouring armies. Men planted this spring and worked with a will and energy born of necessity, only to see their crops finally taken, their seed gone, and their teams and themselves worn out. The locusts finally devoured every green thing, until, finding nothing more, they began to fall upon each other and to perish. This critical period in their history would have been brought about much earlier if they had not had the cultivated crops to feed upon; and if by concert of action this system of non-planting could at first have been adopted over large areas, the insects would have been much sooner starved out and obliged to congregate in the pastures, prairies and timber. Moreover, the time required for early planting and cultivating, if devoted to destroying the insects after the bulk of them hatch out toward the end of April, would virtually annihilate them.

"4. *Destruction of Winged Insects.*—Man is comparatively powerless before the vast swarms that wing their way from their native breeding places, and this part of the subject may be passed over in this connection.

"5. *Prevention.*—What I have so far said is, perhaps, of more interest to the farmer than to the members of this association; but in dealing with the fifth mode of counteracting the injuries of the Rocky Mountain locust, I appeal more especially to your wisdom and judgment. Prevention, in dealing with insect ravages, is always better than cure. 'A little fire is quickly trodden out, which, being suffered, rivers cannot quench.' The proper way to deal with this insect is to attack it in its native breeding places.

"In my seventh Report I have shown that the insect is not autochthonous in much of the more fertile country it devastates, and that it never extends east of the 17th meridian. I have also given reasons for believing that the swarms from which we most suffer originate in the Rocky Mountain regions of Dakota, Wyoming, Montana and British America. Our efforts should be directed to its restriction within its natural limits.

"In conclusion, the most important results are likely to flow from a thorough study of the Rocky Mountain locust in its native haunts and breeding places. By learning just when and how to strike the insect, so as to prevent its undue multiplication there—whether by some more extensive system of irrigation, based on improved knowledge of the topography and water supply of the country, or by other means of destroying the eggs—we

may hope to prevent it can never be acquired and should receive the question of saving to it filched from the product three years to many in commonwealth on the tract of country extentlement the ravages of

We have quoted is just as applicable to United States and the

As a result of the the American Association memorial to the Congress many most influential

The text of the report Should the Congress we trust they will, it appoint a similar Commission concern vast areas of the locust, it is evident Mountains lying between to the north as well, in of the insect, or at any limits of our country entomologist to the settlement discovered that the loc any special locality on expenditure of public money and strive by every means would be a thousand times Manitoba, and by the settlement of the Province not unite in the endeavor of little avail. Just as those about him allow cannot hope to free government of the United States be wise to lose no time indigenous to British America towards the accomplishment

Since the above vote of the United States it has been received at reference was made to the Hessian fly, &c. have suffered a loss hardly cover the loss Minnesota \$80,000 was

The Bill authorizing the National Academy gists, to serve five years ling expenses, &c. T injurious to the great chinch-bug, Hessian fly to Congress at least or