

Subduing the Boll Weevil

At Last a Successful Means of Dealing with the Worst Present Mexico Ever Made Us

By George H. Dacy

TWENTY-FIVE million acres of cotton annually are exposed to the ravages and despoilation of Mister Boll Weevil, peer of all southern crop parasites. Heretofore, efforts to subdue and control this cotton pirate have been uniformly unsuccessful but recently Uncle Sam through his official representative, the National Department of Agriculture, has ascertained that calcium arsenate dusted over the cotton bolls at the proper periods will make these host plants so obnoxious to the weevils that they will shun fields treated in this manner. As a consequence the potential saving of hundreds of millions of dollars worth of cotton is promised as the boll worm has been the serious impediment which has determined the success or failure of every native cotton crop since this objectionable invader was introduced from Mexico in 1894 on infected cotton which was brought across the border to be ginned.

The calcium arsenate is most efficacious in the powder form and is most easily applied in this condition. The most favorable conditions for dusting occur at night when the air is calm and the humidity high, conditions which promote the drifting of the chemical over the field and its permeation to every part of the cotton plant. Of course the fact that the protective work has to be performed at night complicates matters because at night the labor usually is careless and inattentive unless closely supervised; driving the teams which haul the dusting machines is doubly difficult while repairing the machines in case of breakdowns is far from easy.

Thus far a two-wheeled, arched-axle cart duster, with the power furnished by the traction wheels, which have sprocket chains running from them to a jack shaft on the car platform, has proved most efficient. The jack shaft carries ratchets on the ends and a friction clutch through which the power is transmitted for operating the fan and feeder on the machine. The ratchets on the ends of the shaft engage the small sprocket wheels and permit the traction wheels to run backward without turning the shaft, so that when turning at the row ends, one wheel can drive the shaft, and keep the machinery running, thus producing a continuous flow of dust. One man can drive and operate this machine without difficulty. The rate of the dust distribution is proportional to the speed of the team so that uniform spreading of the poison always results.



Spreading the poison with hand guns, though occasionally necessary, is slow and expensive work except in odd corners

THE cotton boll weevil has always been one of the most dreaded of crop pests. The extent to which it has ranked, with the chestnut blight and a few other prize nuisances, among the things for which there is no cure, is amply shown by the methods employed for combatting it. Briefly, these consist in abandoning the cultivation of cotton in the regions where it has become established, and the enforcement of a rigid quarantine against these regions on all commodities in which the insect could possibly travel. This may be effective; but it can hardly qualify as an enlightened method of dealing with the situation; and it need cause no wonder that the quarantine in question, as well as the prohibition of cotton planting, has sometimes had to be enforced with a sawed-off shotgun. But Mr. Dacy tells us that all this is a thing of the past—that at last there has been found a direct way of dealing with the pest.—THE EDITOR.

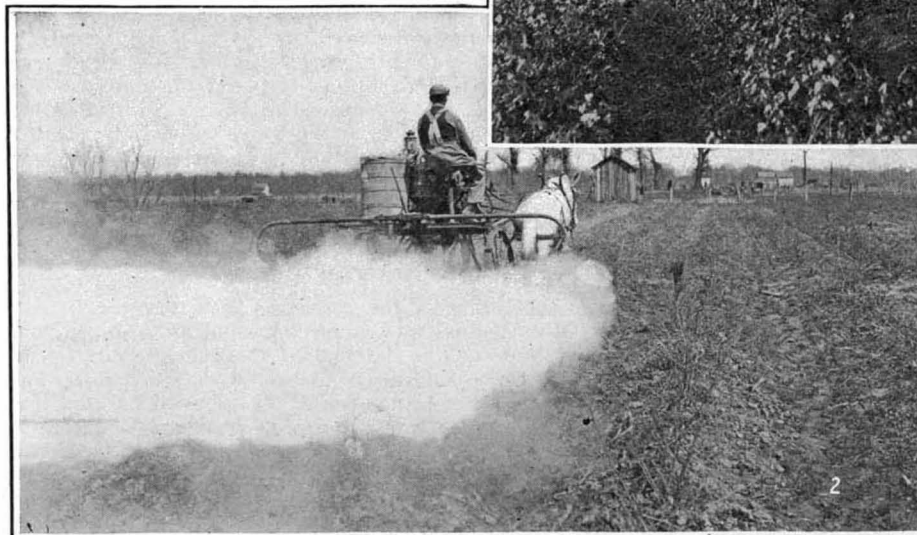
The storage barrel has a capacity for 200 pounds of calcium arsenate, it requiring from three to five pounds of the chemical to poison one acre of cotton. A successful dusting includes covering all parts of the plants with the exceedingly fine particles of the chemical and this of course means that the finer the material is broken up, the more efficient will be the control.

In the perfection of dusting machinery, Uncle Sam had to exercise special care to make these mechanical assistants as simple and foolproof as possible because, for the most part, the implements are designed for operation by plantation negroes who are careless and incapable of handling intricate machinery. It is also difficult to get the southern field hands to work with poison due to erstwhile fatal results in bygone days when the attempts to utilize Paris green as an eradicator of the boll weevil proved more injurious to the field workers who applied the poison than to the insects themselves. Colored laborers also fear the dew, this superstition aiding to make it difficult to secure hands to poison the cotton plants at night.

Hand guns made of light-weight sheet-metal have been used for spreading the poisonous chemical over the cotton fields although the dread of the colored folks of dew and the poison has made it almost impossible to conduct this control measure on any extensive scale. Furthermore, the work is very laborious and an operator cannot continue at it for more than three or four hours at a time. Efficient work consists in poisoning one acre an hour with one of the hand guns. Although not adapted for extensive utilization as control mediums on large fields, these calcium dispensers are useful as supplementary to the use of large power dusting machines.

Large power machines which have been carefully tested out under practical field conditions are qualified to perform rapid and efficient work when operating properly, ordinarily poisoning one acre in about ten minutes. They permit of carrying about one-half a ton of dusting powder on the machine which eliminates the necessity of stopping frequently to take on more ammunition. On the other hand, these outfits are objectionable in that they weigh about one ton apiece and are cumbersome to handle as field machines, while the four wheels do more or less

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1. The four-wheeled power machine, though heavy and cumbersome and requiring a skilled driver, still has its good points when it comes to a big job of spraying. 2. Rear view of the two-wheeled, arched-axle cart which has proven the most effective dust-spreading device. 3. Another aspect of the small machine shown in the second picture.

The poison-spray offensive against the boll weevil, king of cotton-crop pests

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Woods for Posts and Stakes

OUR respect for cedar fence posts and stakes is inherited from the early American colonists. The weakness of many woods when used as posts or stakes is a disposition to rot in the ground. While the exposed part of the post indicates good preservation, the imbedded section may be ready to break at the first heavy strain. In a contest with other woods, cedar easily wins out. A matter not of several years, but of scores, tests the virtues of the cedar for fence post purposes.

But the cedar is not the only wood which will remain long underground without rotting. To go to the Pacific coast for an example, redwood will. In particular, great quantities of redwood have been used for grape stakes. The grape stake is a slighter piece than the fence post, but it demands very definite qualities.

Now it doesn't do to specify simply, "redwood grape stakes," despite the fact that the two varieties of redwood, coast and mountain, are about equal in decay-resisting properties, and both are used for stakes. Environment has created two varieties which in a most important respect are as far apart as the poles. Coast redwood has a strong, straight grain, and it splits in a clear, beautiful way. The wood is tough; it will withstand heavy strain.

Mountain, or Sierra redwood, is brittle. It is hard to split true. The fibers are as weak as the coast varieties are strong; frequently, in splitting, they will snap off sideways. On the split posts shoulders are usually observable, indicating this characteristic.

Horticulturists will say, however, that the difference in quality of grain and fiber is not insurmountable. Both varieties are decay-resisting, and that is the most necessary trait. As for strength, they split out the coast redwood into small pieces, the Sierra variety into much thicker ones. Thus thickness is made to overcome the brittle tendency.

Redwood grape stakes have increased one hundred per cent in price within a few years. The standard price now is ten cents. A parallel increase in the East is observable in bean pole values. There was a time when bean poles cost so little that the wood they were of mattered not very much. Anyway, the poles didn't remain in the ground after harvest. The farmer usually cut what was handiest. The market gardener had his preferences, but price levels left bean poles a less important matter.

Now there are farmers with whom bean poles to be shipped away to market gardeners near cities are a worth-while product. And with the prices obtainable alive with interest, the farmer has discovered a lot of lore on the subject. The fact that bean poles are saplings, usually of quick growth and young, impairs their lasting qualities. Undoubtedly the best bean-pole is made from horn-beam, sometimes called lever-wood.—J. T. Bartlett.

Exploiting the Inventor—IV

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upon such a proposition with extreme suspicion, until you are able absolutely to convince yourself that there is no connection between the prospective buyer and the man who will collect the money you are to put out.

Another thing to fight shy of is the scheme that appeals to your local pride. You are a loyal citizen of New Chicago, a thriving town in—well, let us say the state of Washington. An eloquent gentleman comes to town with a remarkable new ball-bearing axle which he is going to manufacture by the tens of thousands, to the everlasting revolution of the automotive industry. He is going to set up his factory on the banks of the river in New Chicago. He himself is a Washingtonian, and the new enterprise will be wholly organized and backed by New

Chicagoans. If he can, he makes it appear that the axle is the invention of a New Chicagoan, and calls upon all New Chicagoans to get behind and push, for the everlasting glory of New Chicago. He puts it across with a whoop and a hurrah—everybody get aboard the bandwagon and bring this great new industry to New Chicago. New Chicago will get rich and famous from the money which the factory payroll will bring to it and from the repute which will follow in the wake of the universal adoption of the new axle. So all New Chicago invests—and when the glib stranger has "taken" New Chicago for all he figures it to be worth, he moves on, to cash in on the local pride of some other neighborhood. The moral here is that a proposition which has no better arguments than the fact that all your friends and neighbors are in on it is a pretty weak proposition in 99 and 44/100 per cent of the cases.

Invention is a wonderful faculty of the human mind. To the inventor we owe nine-tenths of the comfort and the joy of modern civilization. But the invention perverted to a stock-selling scheme has been responsible for a great deal of misery. It is the hope of those who have the best interests of the inventor at heart that enough publicity of this character may serve to keep the honest but gullible investor from losing his savings to the magic of the words "wonderful invention." It is to be hoped that the man who has an honest invention will learn from such cases as have been shown up to make an endeavor, in marketing his patent, that it shall not fall into the hands of stock sharks and become the vehicle for swindles rather than for honest manufacture. Thus the opportunities of real inventors, who have real ideas, may be made greater to realize on their brains through the elimination of the grafter and the crook.

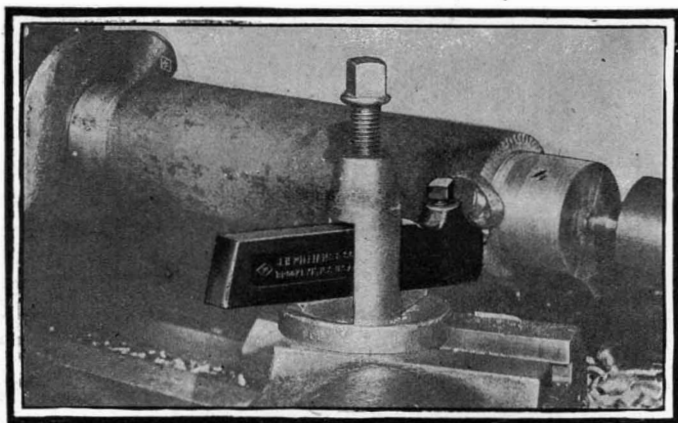
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damage to the cotton plants in turning the machine at the ends of the rows and in avoiding obstructions over the fields. Furthermore the distributing system with its five nozzles is hard to handle in the average cotton field with its frequent obstructions while the labor supply on the ordinary plantation is not skillful enough in handling machinery to properly operate the engine-driven dust spreader.

As the dusting machines are operated at night it is necessary to equip them with artificial lighting systems. For this purpose a light using a compressed carbide cake has been found to be very satisfactory as it furnishes plenty of illumination, is automatic in control and comparatively simple to operate. An added feature of this outfit is a reflector especially designed to meet the requirements of illuminating cotton fields. As a rule, gasoline lanterns have proved impractical because the mantles are too fragile while compressed acetylene gas systems—although efficient—have proved too costly for use on the average plantation.

It is anticipated that many of the rather crude systems of spreading the poison for the eradication of the boll weevil now in use will be improved upon in the near future. The fact of chief interest at this writing is that an efficient method of controlling the pest has been discovered. Due to the fact that poison material which contains over .75 of 1 per cent of water soluble arsenic is liable to burn and seriously damage the cotton plants, it is of fundamental importance that the southern planters use poison dust which is well within this limit in arsenic content. Uncle Sam has recruited all his resources to aid in educating the cotton planters concerning this efficient control and its intelligent application. Any farmer who desires assistance of any nature relating to the control of the boll weevil or the testing of calcium arsenate should correspond with the Delta Laboratory, Tallulah, La., which is the official organ of the Federal Government in the cotton cropping section.



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