

Results in pineapple fields did not make themselves evident for over a year after treatment, indicating that the soil disinfection, apart from its immediate effect in reducing populations of harmful organisms, had also affected the soil complex in such a way as to permit the plant to gradually show increasing improvement over the untreated checks. This was in direct contrast to the results with chloropicrin which, as usual, manifested themselves earlier with a dark-green growth typical of pineapple plants grown in chloropicrin-treated soil.

It is probably true that the broad function of treatments such as these is to amend the biological complex of the soil so that the end result expressed in terms of plant health and plant yield is favorable. Biological complexes in the soil may be radically changed through the elimination of some specific organism and the suppression or stimulation of others. Such changes may be as significant for the end result as the initial effect on the specific organism, particularly if the crop in question is slow in maturing.

Much experimental work remains to be done on the effect of the treatment on specific organisms, the range of practical dosages for varying soils and weather conditions and the possibilities of treating soil around growing plants. When the pineapple plant is used as the test plant in such experiments the final results are slow to accrue, but since the material (called D-D mixture for short) has such great potential usefulness for other more rapidly maturing crops in a great many agricultural areas, it seems advisable to present the preliminary results at this time so that these potentialities can be fully explored.

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#### A SIMPLE BIRD HOLDER FOR USE IN AVIAN MALARIA STUDIES

We wish to describe briefly here the canary holder which has superseded in our laboratory the one described a few years ago (*SCIENCE*, 88: 114, 1938). The new holder (see sketch), which has the great advantage of not injuring a bird, consists essentially of a thin brass tube of a size that a canary can be snugly fitted into, altered as indicated below.

In what is to be the hind end a notch is made about five eighth inch wide and one quarter inch deep with holes so placed in each corner that a straight wire can be passed through both of them. Just above each of these holes a slight perpendicular groove is filed on the outer surface of the tube to serve as a lock for the handle of the key which is made of half-hard brass wire.

Thin galvanized iron sheet metal is soldered across the other end and a portion bent forward to form the headrest.

The bird is inserted slowly into the holder until its head protrudes from the opening in the front end and it is then held in position by inserting the key above

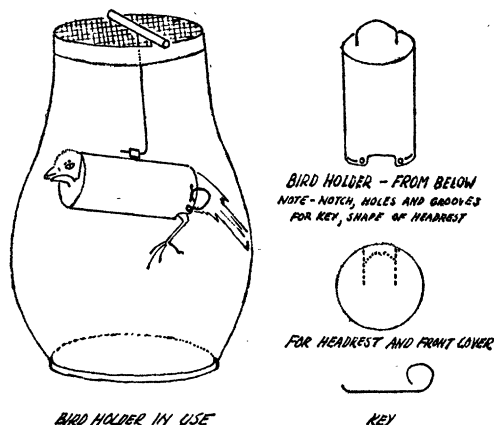


FIG. 1.

the legs dangling from the hind end and locking it in place. The holder and its contained bird are then suspended in a globe with mosquitoes.

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#### BOOKS RECEIVED

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