

CONTROL OF PINE BEETLE.

On the 24th of November, 1911, almost a year ago, E. B. Mason of the Bureau of Entomology, United States Department of Agriculture, made an address before the Greater Charlotte Club on the subject, "The Control of the Pine Beetle." Within the last few days the Observer has received a number of inquiries about the address, and consequently it seemed advisable to publish the following abstract:

The cure for the pine beetle evil is absolute, but can be applied during the winter only, from November 1st to February 15th. During the rest of the year the farmer is helpless to remedy the evil.

The beetles are about the size of fleas, and fly mostly at night, being attracted by the smell of pitch or fresh wood. If a living tree is cut during the summer the beetles are attracted by the odor of the pitch and will attack and kill the surrounding trees. Furthermore, if a dead pine be cut during summer the same disastrous results will occur. Therefore do not cut any pines whether living or dead during the summer months.

As for the beetle itself, you need not be directly interested in it. It is very small and hard to recognize, and easily confounded with other beetles which do not destroy trees. What you are interested in is its work and having once seen it you will always recognize it.

In the summer the beetles kill a tree and leave it in about thirty days, or even less. Three or four broods in the North and four or possibly five in the South develop during the year.

In other words, they may be increased four or five times their original number during a season. They fly in swarms during the night, light on the upper trunk of a pine (they are seldom found in the first eight

or ten feet butt cut) and preferably on the largest and best timber. They bore through the bark to the wood, but do not bore into the wood. On the surface of the wood they make those winding galleries with which you are all familiar. These galleries crossing and recrossing each other girdle the tree many times, thus killing it. The eggs are laid along the galleries, hatch into little grubs which feed on the sticky inner bark for a short time and then go into the outer bark where they change into beetles with wings. The beetles come through the bark to the light, then fly away in swarms to attack other trees.

They can fly for three or four miles and are likely to go in any direction, and, therefore, a menace to all timber within a three or four-mile radius.

Since the beetles kill and leave a tree in thirty days, or even less, you will never find their broods in old dead trees. You will never find their broods in trees that have been dead several months. You will find them in trees on which the foliage is changing to light green or has changed to yellow or greenish brown. You will find many other beetles in dead trees, but never this one.

In November the beetles go into living trees, and their life history is the same as in summer with this exception, instead of hatching out in thirty days they do not come out until spring. You have them trapped. It is only necessary to cut down the trees in which the beetles are and destroy the bark because the broods of the beetles mature in it. You do not have to destroy the wood—only the bark, the beetles are never in the wood, they only groove in it slightly. Furthermore, there are few of these beetles in the tops—the tops may be left in the woods.

Remember these particular beetles

are never in old, dead trees from which the foliage has fallen or is falling, only in the light green, yellowish, and greenish brown trees. Those are the only ones that it is absolutely necessary to cut down. Their bark must be burned before February 15. Only about 1 per cent of the trees in infested areas have to be cut down in order to "scotch" the beetle evil.

About destroying the bark, it can be done in several ways and usually so as not to involve great expense. The infested trees may be cut into cord woods, provided the wood will be burned before the middle of February. Be careful to gather up all the bark that falls in cutting and burn that too. These same trees may be used for lumber, but the slabs with the bark on must be burned before February 15. The trunks of infested trees may be left in water if there are streams or ponds nearby. If you do not wish to cut your trees, strip off the bark and burn it, or else burn the trunk, bark and all.

It is easy to distinguish between a tree that is dying from drought and one which is being killed by beetles because when a tree dies from drought the roots and lower part of the trunk die first. Some people believe that the large white worms called borers or sawyers which make holes in the wood kill the pines. These worms, however, never attack a tree that is not already injured. Moreover, it is impossible to kill a tree by boring into it, you have to girdle it.

In order to rid a community of beetles there must be co-operation between the farmers. Individuals are helpless, but a community can control the beetle and stop the dying of the pines.

The Department of Agriculture through the Bureau of Entomology has established a forest insect field station at Spartanburg, S. C., from

which to give practical advice founded on scientific research. Agents are sent from this station to show people how to mark infested timber. Then, too, the Bureau of Entomology has sent out thousands of circulars giving specific instructions how to control the pine beetle. These circulars are free for the asking. Write Bureau of Entomology, Spartanburg, S. C.

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