THE TENT CATERPILLARS.

(Malacosoma americana Fabr., and M. disstria Hubn.)

From time to time outbreaks of the Tent Caterpillars occur in different parts of Canada. Not infrequently these outbreaks attain serious proportions owing to the absence of natural or artificial means of control, in which cases the caterpillars are severely destructive to orchards, shade trees and hardwood forests. During the past two years outbreaks of Tent Caterpillars have occurred in the provinces of New Brunswick, Quebec, Ontario and British Columbia, and serious defoliation of forest and orchard has resulted. In localities where such outbreaks have occurred unless the natural enemies such as parasitic insects and disease are sufficient to control the pests, a recurrence of their depredations may usually be expected. This eircular has accordingly been prepared to render timely advic as to the methods of destroying the eggs and early stages of the caterpillars in loc lities where it is found that the natural means of control have not been effectual.

The Nature of the Injury.—The caterpillars appear in spring and feed upon the leaves of broad-leaved trees of many species. The American Tent Caterpillar (Malacosoma americana) is most common on fruit trees, wild cherry, and hawthorn, but when very abundant it readily attacks a variety of shade and forest trees. Its conspicuous tents, constructed during April and May, are familiar to everyone. The Forest Tent Caterpillar (Malacosoma disstria) prefers poplar, birch, elm, oak, maple and other forest trees, but it is also found in orchards, particularly in years of great

undance. During the season of 1912 these two species, but particularly the Forest nt Caterpillar, have stripped many thonsands of trees in infested districts of Quebec, Ontario and New Brunswick. Square miles of poplar and birch have been completely defoliated by the hordes of caterpillars. After the foliage of an area is destroyed the eaterpillars sometimes march in great armies in search of new food, defoliating the trees and shrubs along their route. It was not uncommon last summer for the trains on the Gatineau River line of the Canadian Paeific railway. in Quebee, to be stopped by myriads of these eaterpillars swarming on the rails, which were effectively greased by their erushed bodics. The engine men were kept busy in many places sanding the rails and sweeping away the crawling masses of caterpillars in front of the engine; while the latter was often covered with hundreds of the ereatures, after passing through the infested districts. Similar instances of the stoppage of trains by the eaterpillars have been reported from New Brunswick and British Columbia. By the end of the first week in June large areas of poplar and birch, notably in the Gatincau Valley and in the Eastern Townships of Quebec, were stripped as bare of foliage as though it were mid-winter. Towards the middle of July the moths collected in myriads about the arc-lights of the eity of Ottawa, and the females were depositing immense numbers of egg-masses on the twigs of the eity shade trees, and upon objects of all kinds.

Outbreaks of these eaterpillars have been common in castern Canada and the United States from the earliest times. Both are native species. The Tent Caterpillar, now injurious in our apple orchards. probably had as its original food-tree the wild cherry, which it apparently still prefers. Outbreaks were recorded from Massachusetts as early, possibly, as 1646, and at recurring intervals and in varying localities these species have appeared throughout Eastern America as destructive pests to orchards, shade-trees and forests.