

Squirrel Injury to White Spruce

in a Southern Canada Power Plantation



Following a request of the Southern Canada Power, an inspection was made, June 10, 1955, in a plantation located in the vicinity of St. Joachim nursery. According to the company's representative, Mr. Morin, white spruce would have been severely injured from an unknown cause during the last few years.

At the time of our inspection, the company was represented by Mr. Normandeau, superintendent of the nursery for several years, who led us through the area concerned. It actually consisted in a young white spruce plantation set along the shore of St. François River. Most of the trees were ten to fifteen years old varying between eight and seventeen feet in height and planted in rows, six feet apart. An odd tree was shorter, that is 3 feet or less, having been planted more recently as substitute to a few of the previous trees that were dead.

In general the trees were normal except for the terminal and lateral shoots which had been broken or cut at approximately midlength between the node and the tip. As an effect of previous years' injuries, several tree terminals had been replaced by laterals. According to Mr. Normandeau, who had more opportunities to make field observations, such injuries were noted occasionally in 1952. Their number increased in 1953 and 1954, becoming very abundant in 1955. A rough survey was made through the plantation and the following observations were made:

- 1.- Out of 81 individual trees especially examined, all but one showed signs of injury.
- 2.- The tree which looked normal, had been replanted as a substitute and was only 2 feet high; no sign of injury could be found lower than 3 feet from the ground.
- 3.- The main injury consisted in pruning of laterals and terminals, the cut appearing as square, due to exudation of resin but being actually slanted.
- 4.- The buds on the remaining twigs were usually empty with a few scales gone.
- 5.- Very few of the pruned branch tips could be located on the ground.

Careful examination of the broken twigs failed to show signs of attack by insects. The fact that the lower section of the trees as well as smaller trees were left untouched, caused us to think that the damage was done while there was still some snow on the ground. Unfortunately no precision could be obtained from anybody as to the exact time the trees were injured. Further examination of a tree specimen brought to the laboratory led us to the conclusion that the twigs were cut off rather than broken.

A review of the literature on damage to trees by small mammals confirmed our opinion that squirrels might be responsible for the damage. In fact, squirrels are known to clip nuts, acorns and cones, but the pruning of twigs for buds, flowers, and fruits although less widely understood is nevertheless noteworthy. Sometimes, the bark is also gnawed for food in time of stress.

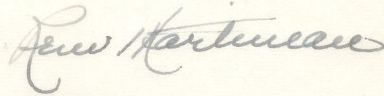
Such damage by squirrels takes place mostly when it is difficult or impossible for the squirrels to find food on the ground. It is usually

done in early spring after a heavy snowfall, especially when the preceding season was not a seed year, as in 1954. Such injury has been reported to occur on spruce, pine, larch, and it is also seen on balsam fir. The same damage has been encountered this spring in different areas and particularly in Dorchester and Frontenac counties.

Another anomaly which was recorded on the trees, made some new shoots look as if they were collapsing. Some specimens were examined but nothing of particular interest was found. We believe it might be related to the first kind of injury.

In conclusion, we think that a close watch should be organized at the time of snow melting in 1956, so that proper measures could be adopted if, by any means, squirrels start new troubles at the beginning of the growing season.

Quebec, July 25, 1955.


René Martineau.