

AFTER A COLD WINTER IN QUEBEC

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The month of January 1994 was extremely cold in all the Province of Québec. For example, in the city of Québec, the average temperature for this month was $-18,8^{\circ}\text{C}$ (-2°F) while the normal average is $-12,5^{\circ}\text{C}$ ($+9,5^{\circ}\text{F}$). This difference is very important when considering the average temperature for a complete month. In fact, this is the coldest month ever recorded by the meteorological station which is in operation since 1945 at Québec airport. The previous coldest month, recorded in 1982, was $-17,2^{\circ}\text{C}$ average. Important damage to apple trees was also reported in the commercial apple growing region of Rougemont. We can thus consider this last winter as a real test for winter hardiness of plants.

I have a small orchard at Petite-Rivière-St-François, 80 km North-East of Québec along the North coast of St-Lawrence River. This is zone 4 in both CDN and USDA maps. Like most other Nafex members who live in the North, I try to grow fruits that, according to the book, should not grow there. After a such cold winter, I find it useful to note which trees and varieties suffered damage or went through easily.

1- Varieties that suffered no or very slight damage.

All the apples that have traditionally been planted in the region : Cortland, McIntosh, Lobo, Yellow transparent, Wealthy, Duchess.

The following grafts and young trees :

Apple trees : Idared/seedling, Kerr/M.111, Liberty/Antonovka, Prairie Spy/ seedling, James Grieve/M.106.

Apple grafts (mostly on branches of adult Cortland or McIntosh trees) : Redfree, Sweet Sixteen, Dolgo, Freedom, Stoke Red, Brown's Apple, St-Edmund's Pippin, Haralson.

Pear trees : Clapp, Golden Spice, Patten, Ure.

Cherry trees : Montmorency, Northern Star, Meteor, Nanking.

Plum trees : Mont Royal, Italian, Bluefree, Brookgold, Manor (cherry plum).

2- Medium to heavy damage with good pickup the following summer.

Apple trees : Roxbury Russet/M.106, Winter Banana/seedling, Golden Russet/ Antonovka, Hubbardston/M.106, Redfree/O.3/A.2, Egremont Russet/M.106, Reinette grise/M.106.

Apple graft : Belle de Boskoop.

Pear trees : Flemish Beauty, Shinko (asian).

Cherry tree : Hedelfingen.

3- Very heavy damage (not quite dead) - not hardy for my location.

Médaille d'Or apple and Early Gold plum.

4- Deaths.

Surprisingly, no death occurred this last winter. In the following list are trees that died in preceding years, and which I consider as non hardy at my location.

Brookcot, Manchourian and Morden 604 apricots, Stella cherry, Anjou pear, Burbank, Stanley and Verity plums.

5- Complementary notes.

- Redfree apple on Alnarp 2 rootstock with Ottawa 3 interstem suffered heavy damage while a scion taken from this tree and grafted on an adult Cortland had no damage at all. This seems to be a good example of the extra hardiness brought by a hardy host tree.

- Idared and James Grieve apple trees are very small and were completely covered by snow - this probably helped them in not getting damaged.

- Egremont Russet and Reinette grise, both planted in 1991 in a fairly wet area on M.106 rootstock, suffer heavy winter kill every year and have good pickup the following summer. This last winter was no different. They are not bigger now than they were when I planted them. Their problem is possibly due to wetness of soil in that location - I should try to relocate them.

- Hedelfingen cherry and Shinko asian pear freeze every year and grow back from the base - apparently not hardy for me.

- Italian and Bluefree plums had no visible damage, but these trees, which were planted in 1984, have never had vigorous growth and are still very small. I consider them as non hardy for my location.

- None of the apricot trees I planted survived more than 2 years, even if some of the varieties I tried are considered hardy in colder locations than mine. I don't know that is wrong but, for the time being, I don't intend to try again.

Finally, I must say I've had more good surprises than deceptions after this very cold winter. My main deception was with the Flemish Beauty pear, which I expected to be at least as hardy as Clapp. Other varieties which suffered heavy to very heavy damage were more or less expected to behave as they did, although it's always a bit painful. On the nice side, I was extremely pleased to see the resistance of Stoke Red and Brown's Apple. These are English cider apples that were grafted in Spring 1993 and were still quite vulnerable. Other good surprises came from Clapp pear, Mont Royal plum (who gave its first yield the following season) and the apples Liberty, Freedom and St-Edmund's Pippin.

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