

PEARS IN COLD CLIMATE

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I planted my first pear tree in 1982. It was a Clapp's Favorite. It has never produced a single pear and it finally died in 1998. By then, it had grown to a quite nice tree and had produced some flower buds in a few occasions. However, invariably, these buds, after swelling a little bit in spring, dried before the flower could open. In the beginning, I also planted two Beurré d'Anjou that didn't last more than a couple of years. But I also have had some successes with lesser known pear varieties, which I would like to tell you about. I would also like to show you some pictures of those pears. However, Pomona doesn't publish color pictures. So I had to make a compromise: I have prepared black and white versions of the pictures for publication in Pomona so you can have an idea of the fruits. For those with internet access, I have posted the color pictures (plus a few others) at the following URL: www.gmc.ulaval.ca/pers/cjoli/tmp/pears.htm (Note for this PDF document: color pictures have been included instead of black and white. The URL cited above is not in function anymore).

But first, I will try to describe the land and climate where my pear trees live in. I have a small orchard at Petite-Rivière-St-François, 80 km North-East of Québec along the North coast of the St-Lawrence River, in the county of Charlevoix. According to maps, this is CDN zone 4 a (colder part of zone 4) and is approximately equivalent to USDA zone 4. The lowest temperature recorded (on my small electronic thermometer that records min and max, but is not really accurate) is usually around -30 C (-22 F) during a normal winter (more or less a few degrees). However extreme test winters may bring minimum temperatures close to (but not quite) -40 C (-40 F). One thing that helps however, is that the area gets a very thick snow cover: 5 ft of snow on the ground in February is considered normal... This snow has two main effects: 1- to protect the roots from freezing, and 2- to delay spring activity and protect from spring frosts (flowering usually occurs at end of May because of the time needed to melt all this snow - by then, it is quite warm).

My two preferred pear varieties (for the moment, as this opinion may change in the future) are Harrow Delight and Patten. Other pears that have fruited in my orchard are Golden Spice, Ure and Ste-Sophie.

Harrow Delight was introduced in 1982 by the Harrow station (Ontario) of Agriculture Canada. It is a cross between Purdue 80-51 x Bartlett. Purdue 80-51 is Old Home x Early Sweet. This is all *P. communis* origin except maybe for Early Sweet, for which I have no information. Harrow Delight is said to be resistant to fire blight.



I grafted 2 scions of Harrow Delight on a branch of my Golden Spice tree in 1996 and a third one in 1998. The variety comes into bearing quickly as the two grafts of 1996 produced 11 pears in 1998. Since then, however, the grafts didn't take much expansion and the production has stayed at the same level of about a dozen pears every year, with little growth. The fruit is quite nice, green turning yellow when well ripe, with 25 to 50% of red blush. Fruit size is variable between small to medium. I get about half of my pears around 45 mm diameter (1-3/4 in) and the other half is of medium size. The accompanying picture shows some of the larger fruits when fully ripe. The biggest pear of this picture is 57 mm diameter by 70 mm high (2-1/4 x 2-3/4 in). On the abovementioned web page, you will be able to see this picture in color, plus a second one showing the same 4 pears still green. In my orchard, the fruit is ready to pick by the last days of August or first days of September. This is about with Duchesse of Oldenburg apple and two weeks after Yellow Transparent. The pears are ready to eat one to two weeks after picking and do not last more than another 2 weeks. The taste is excellent in my opinion, similar to Bartlett but maybe a bit stronger, very juicy. The small ones are very popular with my children.

I am not aware of a publication mentioning the hardiness rating of Harrow Delight. From my experience, it appears hardy in my zone 4 orchard, but the fact that it is topgrafted on the very hardy Golden Spice surely helps it. Raymond Granger, after tests at the Frelighsburg station of Agriculture Canada wrote in an annual report of the station that its hardiness was insufficient for this zone 4 location. NAFEX member Martin Hellsten has also tried it and it didn't survive the cold 1996 winter at his zone 3 location in North-West Ontario. So, probably, zone 4 would be the limit for this variety.

Patten originated in Iowa in the early 20's from a cross of Orel 15 x Beurré d'Anjou. Anjou is considered as one of the hardier of the high quality European pears but, as I found out, still not hardy enough for my place. Orel 15 was imported from Russia around 1880. It is a very hardy pear, of low quality and blight resistant. According to Hedrick (Pears of NY), it would probably be *P. communis* but could also be hybrid with *P. ussuriensis*. So Patten is mainly *P. communis*. It is considered resistant to fire blight and usually rated for hardiness zone 4.



I have one tree of Patten, which I planted in 1989. The rootstock is unknown. It produced its first pears (15 of them) in 1999. Since, the production has doubled every year - I picked nearly half a bushell last fall. This tree is very vigorous and in excellent health. It has not been affected by the extremely cold winter of 1994. The pears matures quite late and the ideal picking date at my orchard would be end of September (with McIntosh apple). However, I often have to pick them earlier because bears would eat them all if I left them on the tree - last fall,

which was a bad year for bears, I had to pick them on September 2 and the fruits didn't have enough time to grow to their full size. In the year 2000, it was possible to leave the pears longer on the tree, and I harvested half of the crop on September 17 and the other half on September 30 (the 2 pears shown on the picture were picked on that day - see also the color version on the Web page). The pears are still very green and hard at the end of September and need about a month of storage before they can be eaten. They keep well in the refrigerator and this year, I ate the last ones by end of November. When well ripen, the pears are still firm, very juicy and have a very good flavor, somewhere between Anjou, Rocha and Bosc. There is very little grittiness. The size is medium, the specimens on the picture were 62 mm diameter by 85 high (2-1/2 x 3-1/4 in). The crop is quite homogeneous in size. This year, I pressed part of my Patten crop on October 6 (the fruit had been picked on September 2). The juice obtained had a density of 1.054, with very little acidity. The color was very dark and the taste not very interesting because of the lack of acidity. By itself, I wouldn't recommend Patten for pear juice.

The Sainte Sophie pear comes from a tree that was found near a village of the same name about 100 km South-West of Québec (City), in hardiness zone 4. I don't know if it is a natural seedling or a planted tree whose identification was lost. I made my first graft in 1991, about 18 in high on the trunk of a young hawthorn tree. I got my first fruits (7 pears) in 1999, didn't get any in 2000 and a crop of 9 pears last fall. I must say that this tree is quite badly balanced, the pear part having overgrown the hawthorn trunk which isn't strong enough to hold the weight of the pear branches, and this might affect the productivity and the precocity of the variety. More recently, I also grafted one scion on a branch of my Patten tree and I have started a tree on its own rootstock (a *P.ussuriensis* seedling).



The picture was taken on August 26 of 2001. These 2 specimens, which were the 2 nicest, had then a diameter of 58 mm and a height of 72 mm (2-1/4 x 2-3/4 in). One week later, when I harvested them, they had reached a diameter of 62 mm. The color is green without any red blush. The fruit looks somewhat like Bartlett, but it doesn't turn yellow as the Bartlett does when fully ripe. It is a very handsome pear. In 1999, I picked the pears on September 6 and ate them 2 weeks later. I was then very impressed by their sweet taste and juiciness. Last year I picked them earlier (because of the bears) and didn't think as much of their taste which was a bit too strong. Maybe this is because the fruits didn't ripen properly, or maybe this variety is irregular in quality. More testing would be required to assess the optimum picking time and ripening period.

The Ste-Sophie pear appears very hardy. I sent scions of it in 1996 to Martin Hellsten (N-O Ontario, zone 3) and he reported to me recently that he now has 2 trees, 6 to 7 feet tall, who never suffered any winter damage. He didn't get any fruit yet however. I think this variety has enough value to be worth testing in cold climates. And if some of you readers recognized this variety by

the picture, I would appreciate very much if you contacted me on this matter.

The Ure pear is a Canadian introduction from Manitoba. It is a cross of Tait-Dropmore x an unnamed selection of Beierschmitt x Bartlett. It was introduced in 1978, and is rated as hardy to zone 3. Tait-Dropmore is an open pollinated seedling of Patten, with pollen parent assumed to be a *P.ussuriensis*. Beierschmitt is a *P.communis* variety which probably is a Bartlett seedling. So Ure would be a hybrid, with about 3/4 *P.communis* and 1/4 *P.ussuriensis*.



I have one tree of Ure, planted in 1990. It is on a Harbin seedling rootstock (*P.ussuriensis*). To date, it has only produced a couple of pears in 2000 and the same in 2001. In 2000, I left them too long on the tree and lost them. This year, I picked them on September 8, still green and hard, and I ate them on September 22, just after taking the accompanying picture. The color had then turned to yellowish and the pears were slightly passed out. The taste was a bit too strong for my liking. Next year, I should try to leave them longer on the tree. The Ure specimens on the picture had a diameter of 42 mm (1-5/8 in), so this is quite a small pear. On the Web page, you will be able to see this picture in color, plus another one of the same two fruits that was taken at harvest date.

The Golden Spice pear is from the University of Minnesota, introduced in 1949. It is usually rated for hardiness zone 3. The parentage is unknown, but probably contains a good fraction of *P.ussuriensis*. I have one Golden Spice tree, on an unknown rootstock, which I planted in 1988. I got my first fruits in 1996 and this year, I harvested one bushell of small pears from this tree. I also use this tree as a frame to topgraft many other varieties that I test.



This really is a very nice tree, nice shape, easily manageable and in very good health. Of all my trees, including apples, plums and cherries, this one is the one who gave me absolutely no problem. So if you want a beautiful, decorative, easily manageable no problem tree, Golden Spice is a definite winner. As of its fruit, however, the story is a bit different. Up to this year, I have always been dissatisfied with this pear. I have tried picking at different dates between beginning of September and beginning of October, different maturation periods, but never got satisfying taste: too much bitterness and very strong. I have noted that the pears keep on increasing in size until the end of September, reaching a maximum of 55 mm diameter (2-1/8 in), and were more juicy when picked later, but the taste wasn't really better. Another thing is that this tree produces a high percentage of very small and misformed fruit. This year, because of the

bear problem I mentioned earlier, I harvested my Golden Spice tree earlier on September 8. The pears were smaller, only reaching 45 mm diameter (1-3/4 in), and were very green and hard (see the picture on the Web page), with about 50% red blush. After one month in my barely cool basement storage, the green became a bright yellow (see the second picture on the Web, which is the same as this black and white one), the pears were still firm and were very pleasant to eat. For the first time they had just this spicy taste they are supposed to have. And the kids simply loved them. They also kept fairly well - after this maturation period, I stored some in the refrigerator that kept for more than a month without losing quality. For the moment, I can't explain this variation in quality. The possibilities are age of the tree, picking date and maturing period, meteorological conditions.

One additional point about the Golden Spice pear: it makes an excellent juice, sharp and sweet at the same time - high density at 1.060 to 1.065 and high titrable acidity at 0.9 to 1% (as tartaric acid). This year, this juice was excellent by itself. On the other years, it was a bit more bitter but the mixture with apple juice was very good. The pears press easily and have a yield comparable to apples. I am now trying to make a perry with this Golden Spice juice mixed with some from Patten. It is still fermenting at the moment I write this, but I expect it to be good because of the good flavor of the juice and the right balance between acidity and sugar.

I have quite a few more pear varieties under trial at my orchard, but they haven't fruited yet. I hope that in a few years I will be able to write something good about them.