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Agriculture and
Agri-Food Canada

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**Evaluation of native beaked and dwarf hybrid hazelnuts under an organic system
February, 2010**

Collaborators: Environmental Coalition of PEI, Gary Schneider and Sir Andrew MacPhail Foundation.

Location: MacPhail Woods, Orwell.

Introduction: Initiated in the spring of 2005, the objective of this project was to evaluate 3 hybrid dwarf hazelnuts with the native beaked hazelnut for mortality, growth rate and production initiation. Preliminary results are presented as the project will continue until the fall of 2010.

Treatments: native beaked hazelnut and three hybrid dwarf hazelnut varieties: Grimo, Winkler and Northern seedlings.

Soil analysis for site

Organic Matter (%)	pH	Phosphate (ppm)	Potash (ppm)
33	5.8	50	26



Native Beaked Hazelnut



Grimo Seedling



Winkler Seedling



Northern Seedling



The Soil Conservation
Council of Canada



Results

Average plant growth for the Northern seedlings has been steady from planting in May 2005 with an average increase of 80% (Figure 1) over the 5 years. The Winkler seedlings have done better with an average increase of 165%. The native beaked hazel and Grimo seedlings have remained relatively static with an average height increase of only 17% and 27% respectively.

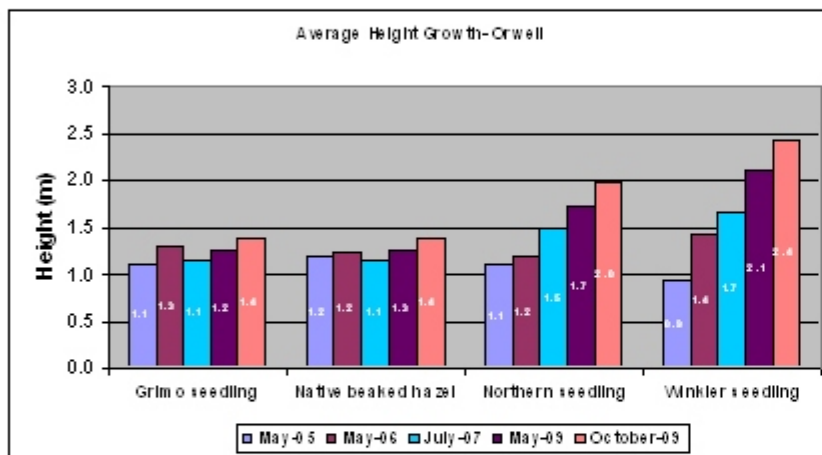


Figure 1. Average hazelnut plant growth at Orwell between spring of 2005 and fall of 2009.

Mortality has varied (Table 1) with no plant loss for the Winkler and native beaked hazels all the way to a 33% mortality for the Grimo seedlings.

Table 1. Plant mortality between spring 2005 and fall 2009.

Mortality to October 2009	
Grimo seedling	33%
Native beaked hazel	0%
Northern seedling	15%
Winkler seedling	0%

Occurrence of eastern filbert blight has been variable (Table 2). As expected the native beaked hazel shows no blight damage while the Winkler and Northern seedlings had 10 and 15% of the plants infected. The Grimo seedlings had 40% of the seedlings infected as of October 2009.

Table 2. Percent plants infected with Eastern filbert blight to fall 2009

Occurrence of blight to October 2009	
Grimo seedling	40%
Native beaked hazel	0%
Northern seedling	15%
Winkler seedling	10%

Comments

No amendments have been added to the plants to encourage growth or nut production. Nut production started in 2007 but results have been spotty as birds or animals have managed to harvest most of the production before us. When eastern filbert blight has been found, the practice has been to remove the infected branch immediately. In some cases the plant has been cut off at ground level and has died.