

A New Idea: Company and Consortium Research®

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BACKGROUND

I want to use the next few minutes to challenge you with a new idea. Some of you may be doing something similar to us, but I find we are one of the few Canadian nursery companies active in both plant breeding, propagation research, and research consortiums. Our work is more than commercialization or finding plants in arboretums although we have commercialized two potentillas.

We made a company goal to develop new plants by using our plant royalty income to finance further plant breeding. Secondly we have sought to develop certain industry government research consortiums to deal with specific sectors. Our key to success is to have a staff member dedicated to leading up the program of research and development. In our case we have a university graduate in forestry that has over 25 years in practical horticulture and nursery experience. The introduction of Plant Breeders Rights (PBR) in Canada about 1990 gave similar breeder protection as the U.S.A. plant patent and enabled some financial return to the breeder. Canada also developed an R&D tax credit that provides approved research with a tax credit and this assists a company such as ours.

We have several active company projects including maple breeding, flowering crabapple, chrysanthemum and coral bell (*Heuchera*) for cold Zones 2 to 5. We have hybridized in each of these genera, grown seedlings, made selections and have a number of selections advancing to commercial status. Our main search has been for disease resistance, soil adaptation and winter hardiness. Here are five examples of our promising plant material:

- 1) Zone 2, 3, 4 *Acer xfreemanii*, Freeman maple.
- 2) Zone 3 *Acer saccharum*, sugar maple, sugar maple propagation — northern strain.
- 3) Zone 3 fireblight resistant columnar green & purple foliated crabapples (*Malus*) with scab resistance.
- 4) Zone 2, 3, 4 purple and silver foliated coral bells (*Heuchera*).
- 5) Zone 2, 3, 4 Garden chrysanthemums.

In addition to our own company work, we have found opportunities to work in research consortiums with other nurseries and government and university researchers. The much reduced research efforts in government and university research centers has opened doors for cooperation somewhat similar to what is promoted by the Landscape Plant Development Center, University of Minnesota. (Dr. Harold Pellett). Cooperative research among academics and industry personnel can enable progress that either party would have difficulty accomplishing alone. Industry has the field equipment to plant and maintain various field stocks; academics have the lab and research staff to accomplish some of the disease screening. Both partners can bring the practical experience and research needs into focus and make progress neither could make alone. In this day of limited research funding we have deemed this a win win situation and have found researchers greatly value what industry can bring to the table.

We are actively engaged in the following research consortiums:

BREEDING PROGRAMS

Black Knot Studies on *Prunus*. This fungal disease has caused serious losses in purple leafed Shubert type flowering cherries particularly the Canada Red cultivar. With input from the University of Manitoba and Morden Research Centre we have developed information on disease history. Our company has looked at the disease susceptibility of various cultivars and also has planted out seedling stock to select for more resistant genotypes. This is a long term project and will require continued work.

Monarda Breeding. The Morden Research Centre is the source for the popular disease resistant Petite dwarf monardas and taller forms such as Marshall's Delight. Three nursery companies have assisted Morden both financially and by research input to develop a series of colours in low, medium and tall plant form. We have a number of excellent selections of which one has been named 'Coral Reef' and two more of which are in increase and final evaluation. We are very pleased with the quality of these disease resistant selections.

Poplar Breeding. For several years we have cooperated with the Agriculture Canada to develop fast growth poplars for purposes of forestry and tree farming. So far we have developed some interesting hybrids that may have a future role in the booming wood orientated strand board industry.

Rose Breeding. Agriculture Canada has developed both the popular Explorer and Parkland series of roses which lead all other roses for sales in Zones 2, 3, 4. These are hardy own rooted plants which have ability to recover from winter injury and bloom on new growth. We have joined a rose consortium based at the Agriculture Canada Research Station St. Jean, Quebec which carries on some of the breeding work of the Explorer roses. I just want to show you two samples of promising stock that has come out of country wide testing. Industry has brought to rose breeding a sound regional evaluation that cannot be duplicated by government breeders in a day of declining staff and limited test sites.

In conclusion I want to again stress the results to be gained from a vigorous plant breeding and propagation program. Each year we have increased the effort as our plant royalties have grown. We have linked up with a tissue culture lab to increase some introductions. While our total plant improvement effort would approach the modest figure of about \$100,000 (U.S.A.) annually we feel it will sustain itself and continue to grow. We have found the research consortium approach a valuable route to follow. I hope that these ideas will stimulate and encourage your company. New plants and new propagation procedures give us a future. After all you are not likely driving the same car you had 10 years ago and plant cultivars need to change and be modernized as well.