

The

Canadian Sweet Chestnut

- Journal of the Canadian Chestnut Council



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<http://www.canadianchestnutcouncil.org>

In this issue: - AGM Highlights, Fund Raising, Research Updates, Highlights of Executive Meetings and Plans for 2014

The 2013 AGM was held at Onondaga Farms, St George, ON on October 26. Approximately 45 people were in attendance on a very wet, windy and cold Saturday. The meeting began later and instead of a lunch break, a short refreshment break was scheduled. No one appeared to object to this new schedule and it may be utilized at next year's meeting. Chairman Ron Casier opened the meeting with a summary of the year's activities including a tribute to George Collin. Dr. Adam Dale summarized the breeding activities for 2013 including trees planted, crosses made and number of nuts harvested for planting in 2014. Doug Fagan discussed the "incorporation" of the CCC and the need to update some by-laws to keep the CCC more in line with other incorporated non-profit organizations. Proposed changes will be presented for membership approval at the next AGM. New directors elected at the AGM were Dr Adam Dale, Mr Doug Fagan, Mr Steve Schmitt and Dragan Galic. Mr Tim Casson from Miller Lake was approved as an Interim Director. In the absence of our Treasurer, Paul Faires, Doug Fagan read the financial report and proposed budget for 2014. Both were approved by the membership.

The featured speakers, Dr Dennis Fulbright and Eleanor Wood informed and entertained the gathering for the remainder of the afternoon. Dennis spoke of the the importance of the chestnut in Michigan especially in the commercial nut growing industry that is located in central Michigan. He is aware of populations of American chestnut (likely planted) in Michigan that have blight but are apparently recovering with the help of hypovirulent strains of blight that he and students have introduced. Although the trees are diseased they are surviving and reproducing on their own. He has confidence that this trend will continue in Michigan.

Eleanor Wood recounted the humorous side of farm life from the wife's point of view which seldom agreed with her husband's. The idiosyncrasies of rural life that require a take charge attitude were presented "tongue-in-cheek" to the delight of all in attendance. The talk emphasized that almost all problems can be overcome with a positive and determined approach.

A tour of the nursery followed the meeting.



Dr Dennis Fulbright, Michigan State University, shows fungus colonies associated with American chestnut in Michigan where the chestnut is staging a comeback.



Inspirational speaker, Eleanor Wood, describes her first experiences at farm living at the 2013 AGM

The Canadian Chestnut Council

The CCC is a scientific and charitable organization with the mission to restore the American chestnut. The CCC annual meeting, the web sites and this Newsletter dispense information to generate support for saving and restoring this once-important forest tree.

Executive

- Chair - Mr. Ron Casier, 45490 Southdale Line
RR # 2, St Thomas, ON. N5P 3S6
519-631-5279
- Treasurer - Mr. Paul Faires
8724 Wellington Road 18, RR # 5
Belwood, ON. N0B 1J0
- Secretary - Dr. Terry Anderson (Newsletter Editor)
888 Rd. 3 E., Kingsville, ON. N9Y 2E5
519-733-3796
e-mail anderson.terryross@yahoo.ca
- Founder - Dr Colin McKeen, 355 Broadway- Suite 159,
Orangeville, ON. L9W 3Y3. 519-941-9513

Board of Directors (by county)

- Brant - Mr. John Hill, 254 Glen Morris Rd E
RR # 2 St. George, ON. N0E 1N0
519-448-1749
- Ms Christine Vey, 248 Glenn Morris Rd, E.,
St. George, ON. N0E 1N0.
519-448-1264 Ext 62005
- Mr Steve Schmitt, 317 MacLean School Rd,
St George, ON. N0E 1N0. 519-754-8624
- Essex - Mr Tom Welacky, (Chair, Research Committee)
527 Lake Drive, Kingsville, ON. N9Y 3S6
519-981-4076
- Norfolk - Dr Adam Dale, U of Guelph, Box 587,
Simcoe, ON. N3Y 4N5 519-426-7127 ext 333
- Mr Dragan Galic, 2 Freeman Cres, Simcoe, ON
N3Y 5J9 519-426-7127 Ext 332
- Wellington - Mr Doug Fagan, 89 Kertland St, Elora, ON.
N0B 1S0. 519-846-5996
- USA - Melanie Sifton, Brooklyn Botanic Garden,
1000 Washington Ave, Brooklyn, NY,
USA, 11225 718-623-7213
melaniesifton@bbg.org

Interim Directors

- Mr Tim Casson, Miller Lake, ON 519-795-7179

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- Ms Jocelyn Clark, Mount Stewart, Prince Edward Island
Mr Leslie Corkum, Falmouth, Nova Scotia
Dr Peter Rice, Ottawa, Ontario
Dr Greg Boland, Fergus, Ontario

Correspondence:

Unwanted correspondence: As secretary, I apologize for the recent e-mail that many of you must have received requesting funds to get myself and family safely home. My computer was "hacked" and my contacts were stolen. Because of this I could not contact you and let you know of the scam. I am grateful to those that phoned to let me know what was happening but alas it was too late for me to do anything except worry that someone might be duped by the scam. There was no virus associated with the phony e-mail. It happened quite simply...I went to Yahoo to send an e-mail and a page came up that looked like Yahoo but said that I had to enter my account name and password or I would lose all my Yahoo account information. Once I did that everything was gone! My new e-mail address is anderson.terryross@yahoo.ca Please delete any old address for me that might be in your contacts. Once again, sorry for any inconvenience.

The CCC continues to receive requests for chestnut trees and seed. Unfortunately, we can't distribute seed at present. The OMNR policy on distribution has changed somewhat and the CCC is still negotiating on a clear policy that protects the remaining wild chestnuts and allows limited distribution. The CCC is still collecting names of individuals with space for 25-50 trees that would serve as node for future planting so please submit your name and location to Dragan Galic for future consideration. We will begin testing the 2nd generation of trees in 2-3 years and at that time we will have a good idea of the blight resistance of the CCC nursery trees. Please be patient, it is a long process.

Dr Adam Dale our chestnut breeder and scientific advisor for the past 14 years, has recently retired from the U of Guelph, Department of Plant Science. Fortunately for the CCC, he has been awarded the title of Professor Emeritus at the university. Therefore, he will continue to work within the U of Guelph framework and will continue with chestnut breeding until the CCC goals are completed. Congratulations Adam and keep up the great work!

As 2014 approaches, the CCC will begin 26 years of recovery effort. The members of the CCC are integral to this effort. Thank you all and please continue to support the American chestnut tree recovery in Canada

Opportunities to volunteer on the Executive

They say opportunity knocks but once but in this case it is knocking 3 times. As of October, 2014 the CCC will have position openings for Secretary, Membership Secretary and Newsletter Editor. Having filled these positions, I can say that they offer an opportunity for creativity and influence. The Secretary's position is fairly straight forward and involves attending several executive meetings a year and recording the minutes. The Membership Secretary must collect and record memberships and donations, deposit money in the CCC bank account and send out tax receipts annually. The Newsletter editor is responsible for collecting information about the CCC and activities that might interest members of the CCC, composing the newsletter, arranging for printing and distributing it via e-mail or regular mail. Those that volunteer for these positions do not have to work alone and there is significant communication and support provided by the membership and other board members in fulfilling the duties of these 3 important positions. Other than the Secretary position there is room for creativity in the manner that memberships are collected, recorded and acknowledged and the format of the Newsletter and its distribution. The resume of any younger person would be enhanced by volunteering in these positions. If you or someone that you know are interested in these positions please contact someone on the executive or send an e-mail to the secretary. The CCC needs **you!**

Essex High School Eco-Team raises \$1000.00 in support of the CCC

The Eco-Team at Essex High School, Essex, ON is a club that meets once a week to plan and carry out a complex set of goals over the entire school year. Completing recycling and energy audits, helping to run the recycling program, coordinating events in the community that help sustain the environment like community gardens, organizing fundraisers and educating the school about the social responsibility of contributing to a sustainable future are just some of these goals. One of the campaigns that the Eco-Team has already completed this year raised funds to support the recovery of native chestnuts in Essex county and the Carolinian Zone of Ontario. Eco-Team Coordinator Mrs. Emily Carruthers and student members initiated the fund drive in October by selling paper leaves to staff and other students for a skeleton tree set up in the hall. The Eco-Team completed the fundraiser and donated \$1000.00 to the Canadian Chestnut Council. The Canadian Chestnut Council (CCC) is extremely grateful to the students and staff of EDHS for their generosity and support for the recovery of the American chestnut.

Essex county is the most western area in Ontario that was once home for the American chestnut. Only a handful of trees remain and many have died since the CCC recovery program was initiated in 2001.



Mrs Emily Carruthers (left) and members of the Essex High School Eco-Team are presented with a certificate of appreciation for fund raising by the CCC secretary Terry Anderson

American Chestnuts for Agriculture

Adam Dale and Dragan Galic

In our last article, we explained that as well as our primary aim to breed, blight-resistant American chestnut trees to re-establish the species in the forests of the Carolinian zone in Canada, we had started to look at the nut size of the trees. This would not only give us the opportunity to investigate the potential of these trees for commercial nut production, but would allow us to provide wildlife with an abundance of food.

In that article, we explained that our two populations, the Canadian and the backcross populations, did not appear to differ in their blight resistance and the two populations did not differ in their variability for the nut size of the individual trees. Nut size ranged from 0.8 g to 6.2 g, compared to a commercial sample of 13.3 g. This was based on information collected by last fall by Dragan Galic, Angela Hare and Derek Lauszus from nut trees at the two sites.

However, what really surprised us was the number of nuts per burr. Dragan and his colleagues not only counted and weighed the nuts but also counted the number of burrs: a prickly job. We knew that burrs contained between one and three nuts, but when the dust was settled, we found that some trees had as many as six nuts per burr.

At Onondaga Farms, burrs with nuts were collected from 280 trees and the average number of nuts per burr varied from 0.19 on a Marshall x Canadian tree to 6.8 on a Bred Reeve x Persall tree, and at Riverbend Farms burrs with nuts were collected from 104 trees and the average number of nuts per burr varied from 1.67 on a Hody x Sandy tree to 5.07 on a Glen Meyer x R2T8 tree. This clearly shows that our Canadian trees cover the whole range of number of nuts per burr.

When the results from the numbers of nuts per burr were compared with the nut weights, one tree, a Burford x R2T10 had 5.29 nuts per burr and 6.08 g per nut, both well over the average. Also, in the inoculations it was above the average for its resistance, so a good parent for future crosses. When the two sites and the two populations are compared, neither the two sites nor the two populations differed from one another. This mirrors the results from both the inoculations that we have done over the years, and the nut weights.

Over the last two months Dragan, Angela and Chance Weaver have been collecting nuts again so that we have two years of data to see how consistent the nut size is. Once complete, the nuts and burrs will be counted and data analysed.

When all the results are analysed, we will have a good picture of our chestnut population. The next task will be to decide whether we incorporate large nut size into our resistance-breeding program, or develop a separate set of crosses especially for agricultural use. Your comments on this will be welcome and should be addressed to our chair Ron Casier at ron@amtelecom.net.

Investment in this project has been provided by Agriculture and Agri-Food Canada through the Canadian Agricultural Adaptation Program (CAAP). In Ontario, this program is delivered by the Agricultural Adaptation Council.



Agriculture and
Agri-Food Canada

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Creating nodes of trees to re-establish American chestnuts

Adam Dale and Dragan Galic

The aim of the Canadian Chestnut Council is to re-establish the American chestnut in Ontario. To do this we have been breeding blight-resistant trees for 13 years now. We have completed our first round of crosses and have partially resistant trees which get infected, but are still living. We have started our second round of crosses by hybridizing the best of our partially resistant parent trees, and planting the seedlings at Tim Horton's Foundation-Onondaga Farms near St. George, Riverbend Farms near Aylmer, and Ron Casier Farm near St. Thomas. However it will be a few years before we know how resistant the trees of the second round of crosses are.

Our present goal is to start to inoculate the second set of crosses starting in 2015. Consequently, it will be at least 2017 before these trees start to produce nuts. At that point we will have to decide how we are going to re-introduce these trees into the forests. One approach is to plant small groups of trees, or nodes, throughout Ontario. Once these are established, the trees will produce nuts and eventually germinate and produce trees which will enable nature to do the rest.

There are three ways that nodes can be established: the first, is to use pollen from blight-resistant second generation trees to pollinate the few trees that remain alive in the forests, the second, is to plant one or two seedlings from resistant second generation trees close to the remaining trees, and the third, is to plant small groups of resistant trees throughout Ontario. These three techniques have different effects on the genetics of the chestnut population. The first two enable us to maintain the germplasm that already exists, and the third limits the germplasm to that which is already in our breeding material.

One idea which occurred to us three years ago was to establish nodes of trees in farmers' hedgerows throughout Ontario. These would be easily accessible, would be cared for and eventually the nuts would be spread as animals moved them to areas less accessible to us.

With this idea in mind, we have been contacting farmers and working with the ALUS program within Ontario. The Alternative Land Use Services (ALUS) Program compensates farmers for maintaining natural land areas within their farms. It gives us access to farmers who will care for our chestnuts. To date, we have been approached by over 50 farmers and as we continue to publicize our goals the number increases.

We have at least three years to go before we will start to have nuts with sufficient blight-resistance. Then we will start to distribute them to interested individuals and to suitable sites. At that time, we will need to decide whether it is best to distribute nuts or seedlings. Since this will be a massive undertaking, we will need all the help and sites that we can get.

As you are all members of the Canadian Chestnut Council, we would value both your comments on our ideas about nodes, and any possible sites for the nodes. Your comments on our ideas about nodes are best communicated to chairman Ron Casier (ron@amtelecom.net), and sites to Dragan Galic (dgalic@uoguelph.ca), who has the inventory of sites. Investment in this project has been provided by Agriculture and Agri-Food Canada through the Canadian Agricultural Adaptation Program (CAAP). In Ontario, this program is delivered by the Agricultural Adaptation Council. Additional research funding was provided in part by the Ontario Ministry of Natural Resources, Species at Risk Branch, Species At Risk Stewardship Fund.



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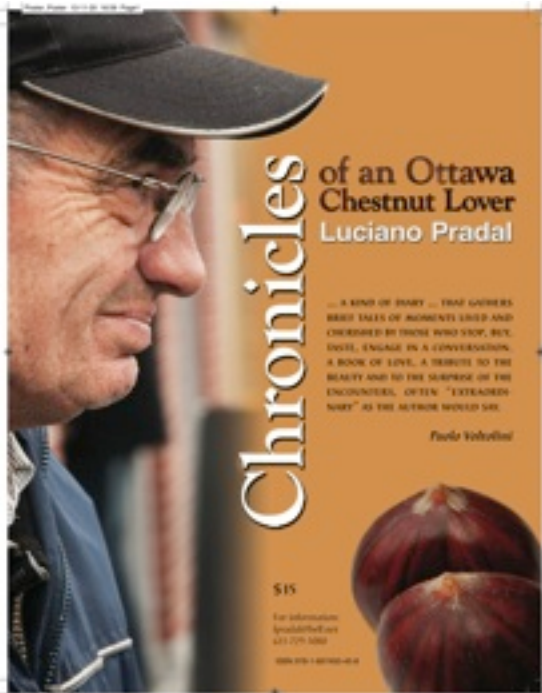
CCC Supporter Publishes Book

Luciano Pradal has recently published a book of experiences that he has had as a chestnut roaster in Ottawa, ON. He has been roasting chestnuts in the By-Ward Market area of Ottawa for the past 3 years and during that time he has been collecting observations and stories of customers and street people he has encountered. He is a shrewd observer of human nature. In detailing his brief encounters, he reveals as much about his own generous nature and optimistic philosophy of life as he does about the people he encounters. He is overly optimistic with 2 photos of chestnuts in the Canadian forest but the CCC would like to see chestnuts in the forests of the future. I have read the book and will pass it among other Directors at our next meeting. Great book for cold winter reading! Additional information about the book and roasting chestnuts can be obtained from Luciano himself at his e-mail.

lpradal@bell.net

The book, *Chronicles of an Ottawa Chestnut Lover* by Luciano Pradal can be purchased for \$15.00 from Legas Publishing, 5201 Dufferin Street, Toronto, ON, K2R 1B3. website

<http://www.legaspublishing.com>



Book cover from Luciano Pradal's recent book detailing street experiences in Ottawa, ON

Where we are – where we are going

Doug Fagan: Chair Fund Raising Committee

Adam and Dragan have reported on the breeding and research project. Some highlights are:

-to date 2nd generation trees have been planted as follows: 286 at Riverbend Farm, 1615 at Onondaga Farms and 700 at Casier Farm in addition to the approximately 1500 1st generation trees previously planted.

-a planting of 54 trees from 10 different parents of the 2nd generation was made at Onondaga Farms in 2013
-In 2013 21 trees were hand pollinated, 46 crosses were made, 2006 nuts from the crosses were collected as well as 500 plus open pollinated nuts from selected trees.-cuttings propagation has been refined and etiolated sprout grafting for use with American chestnut is being developed. Nuts that are sprouted in the dark are etiolated. The cells of etiolated tissue are not completely differentiated and juvenile, which allows for quick union formation between nut sprout and green cuttings with a formed terminal bud. An important of the technique is to properly acclimate etiolated tissue to light while the union forms. The use of a sexually mature scion results in the grafted tree being sexually mature and thereon only the plant's physiology determines its sexual robustness, often producing flowers in the first or second year.

-plan for 2014 is to plant out 2000 2nd generation crosses, as well as continue to develop the grafting processes and prepare for 2015 plantings by hand pollinating, crossing, collecting nuts, etc.

Greg Boland has done considerable work on monitoring for penicillium. This is reported elsewhere in this newsletter.

Tom Welacky and your CCC Science committee have produced a report to the board outlining a number of projects that they recommend go forward as soon as funding and government approval can be obtained. They include:

-break the breeding isolation of existing trees by planting out trees produced by etiolated sprout grafting and rooted cuttings at their location. Selection criteria will be developed to ensure suitability as to family breeding compatibility, seed zone, soil type, pH and drainage, landowner commitment, irrigation availability, etc.

-**Dr. Brian Husband** has agreed to champion a DNA review of our native American chestnut. Greg and Dragan are working with Brian on a proposal to the CCC and the MNR.

-there is interest in remapping the remaining American chestnut trees.

- A new nursery of pure American chestnut is being planned. The plan is to start with preserving the genetics of the mother trees we have used in our breeding program. As the project develops add other trees as they are found. DNA testing will verify that they are not hybrids. A site will be selected using the appropriate criteria and a search for a suitable partner will be undertaken. This is subject to board and MNR approval.

The CCC is looking to engage in the recovery of the American chestnut beyond its breeding program for blight resistance. This will require considerable funding. Accordingly, grant applications have been made by CCC funding teams to the MNR for support of the breeding, grafting development and isolation/new nursery projects. A proposal is being prepared for the DNA endeavour. In these difficult economic times, with government cutbacks, there is no guarantee that MNR funding will be achieved. The CCC is developing a networking partnership building program to reach out to MNR decision makers and others interested in the restoration of the sweet chestnut.

The fundraising committee is developing a campaign seeking 100 supporters of our programs. The target contribution is \$1000 each. The goal is to find folks or organizations that will make annual contributions. The committee is looking for the names of individuals that have influence over companies that might contribute or that may donate as individuals. Please forward them to d.fagan@sympatico.ca. Many Thanks!

CCC receives Permit for Species Protection and Recovery

The Ministry of Natural Resources of Ontario has renewed a permit permitting the CCC to continue recovery efforts for the American chestnut. The permit was issued to Ron Casier as Chair of the CCC and authorizes the CCC to engage in certain activities that would otherwise be prohibited under the Endangered Species Act. The permit restricts CCC activities to 5 specific sites including the CCC tree nurseries at Onondaga, Riverbend and Alymer as well as the Simcoe Research Station. The CCC is not allowed to collect nuts or cuttings from native trees except at one location where a chestnut is slated to be removed for development purposes. Dragan will collect bud wood from this tree, root it and add it to the CCC germplasm collection. The permit will allow the CCC to establish a planting of 400 trees in a replica Carolinian forest environment to evaluate adaptability to real world conditions. The CCC is not permitted to distribute seedlings or nuts of American chestnut.

(Editor's note) Although the permit appears to be restrictive, it does permit continued development of more blight resistant chestnuts. Without the permit all work would quickly cease. The MNR acknowledges the efforts of the CCC in the recovery plan and feels that our work is important. The MNR has provided moral and financial support for the breeding program during the past 4 years and has been an excellent partner in the CCC recovery effort.

Support the CCC!

CCC Polo shirts now available!



Cotton shirts available in the following unisex sizes

S,M,L,XL for \$30

2XL , 3XL for \$35

The shirts are high quality, beige only and come with an embroidered CCC monogram. Proceeds go to the CCC chestnut restoration efforts.

To order contact Doug Fagan, 519-846-5996 or e-mail d.fagan@sympatico.ca

New Facebook Managers

Tim and Michelle Casson from Miller Lake have assumed the duties of CCC Facebook managers. Tim has recently been appointed interim Director at the 2013 AGM and is an avid chestnut enthusiast. As of December, the Facebook site had 156 followers from a number of provinces and countries. Tim has posted his own photos of trees, nuts, seedlings, etc as well as the CCC nurseries. He feels that interest in the CCC is increasing and more information on CCC activities and progress will increase this interest even further.

Many thanks to Tim and Michelle for assuming these duties!



Tim Casson with a healthy, blight-free American chestnut in Owen Sound, ON

CCC Director's Meetings

Thursday Sept 12, 2013 THF/Onondaga Farms

The meeting was essentially for last minute planning for the AGM. An inquiry was received from Glen Gibbons, Northumberland county regarding some chestnuts planted on his property that were now producing nuts. Doug Fagan and Dragan Galic agreed to visit the site. The schedule and duties were finalized for the AGM.

Adam Dale presented updated breeding plans to be discussed in detail at a future meeting. Land use requirements were estimated at sufficient space to accommodate 2000 new trees/year for the next 3 years. Doug Fagan outlined future fund raising activities and events

Thursday, Nov 14, 2013. THF/Onondaga Farms

Charman Ron Cassier reported that he had received at least 25 requests for chestnut trees from Elgin county. The tentative date for the 2014 AGM was set at Oct 18th. Doug Fagan reviewed more details of the by-law changes that have been proposed. Adam requested that for breeding and MNR purposes that all pure native American chestnuts in the nurseries be preserved as long as possible. Doug Fagan revealed plans for fund raising that involves getting pledges from 100 corporate donors for \$1000 each. New funding will be applied for from the Species at Risk Stewardship Fund. and the SAR Research Fund for DNA analysis studies.

Thursday Dec 5, 2013 Science sub-committee meeting, Woodstock.

The sub-committee met to address research plans and funding. Dr Greg Boland found more

Penicillium mould on chestnuts as harvest approached so it was decided to surface treat nuts with surface disinfectant prior to storage. Nuts will be monitored frequently for the presence of mould. More than 1500 hybrid and 500 open pollinated nuts were harvested in 2013. Plans were made for funding initiatives. The CCC will supply plant material to graduate student, Christie-Anna Lovat at U of McGill for studies on somatic embryogenesis. Dr Adam Dale presented the proposed science budget for 2014. Discussion followed on potential funding sources and grants available over the next few years. Tom Welacky announced that he is planning to step down as Sub-Committee Chair in 2014. The Research Committee is the main sub-committee of the CCC and Directors are searching for a replacement for Tom after the 2014 AGM.

Volunteering with the CCC

If you wish to volunteer in 2014, the rough schedule for field work at the 3 nurseries is as follows: contact D. Galic 519 426 7172 ext 332

Planting seedlings and seed.....May 15-30th
Inoculating.....June 10-20th
Bagging and pollinating.....June 20-July 15th
Rating resistance.....Aug 10-15th
Nut collection.....Sep 15-Oct 30

Do you wish to receive your Newsletter by e-mail ?

Some members have expressed an interest in receiving their Newsletters via e-mail rather than a paper copy. From the CCC's point of view, e-mail will save financial resources that can be used elsewhere in the CCC budget. If you wish to receive an electronic copy of the Newsletter (in colour!) send your name and e-mail address to the Editor : anderson.terryross@yahoo.ca

Membership

Membership and donations are tax deductible. Please make cheques payable to the Canadian Chestnut Council

Annual subscription = \$25.00 \$ _____

Donations in excess of the annual subscription will be recognized in the Newsletter in the following categories.

(Requests for anonymity will be honoured.)

Gold Leaf: \$1,000 or more
Silver Leaf: \$500-\$999
Bronze Leaf: \$250-\$499
Green Leaf: \$100-\$249
White Leaf: Less than \$100

Donation: \$ _____

Total enclosed: \$ _____

Note: Membership and donation cheques should be sent to the Secretary at the address listed on page 2