

Canadian Chestnut Council

. . . on the Chestnut Trail

1332 Suncrest Road
Kingsville, Ontario N9Y 3H3

NEWSLETTER #9
April 1994

Why this newsletter?

Our major newsletter objective is to keep chestnut enthusiasts informed about the progress of our American (sometimes called sweet) chestnut restoration program. Newsletters are issued each spring (April) and fall (September). Each issue is assigned a number. From time to time, references will be made to previous issues; e.g. see #7 for nut storage, see #4 for nut harvesting, etc. CCC members may find it advisable to keep a file of newsletters as they may be of value at a later date.

The newsletter also keeps members and friends informed about membership status. For instance at our annual meeting (Nov. 1993) it was agreed to institute a family or spousal membership at \$15.00 per year. Individual membership dues remain at \$10.00 per year.

CCC has also requested Charitable Organization Status from Revenue Canada. When obtained, we will be able to write receipts for annual dues and contributions for income tax purposes.

We hope to establish a trust fund in the near future for donations and contributions toward our chestnut blight control research program.

We are interested in hearing your comments re our newsletter, research program and other programs. Also, we appreciate your continued financial support. Our newsletter and other programs depend on it. Thanks!

The North American Chestnut Restoration Program

The CCC represents only a small part of the total chestnut restoration program in eastern North America. Early in the 1980's, U.S. scientists and chestnut workers launched the American Chestnut Foundation (ACF). Because government funding for blight research programs had faltered greatly by that time, ACF organizers recognized the need for a substantial component of solicited funds from non-governmental sponsors. This has been very helpful to the ACF programs. Today, the ACF is grateful for government funding, but is also very thankful to its members and benefactors for many other financial contributions. CCC hopes to proceed on a similar pattern in the future.

ACF Publications and Programs

The ACF publishes a scientific magazine entitled "The Journal". There are two

issues a year. The ACF also produces a newsletter called "The Bark", issued six times a year.

Several states in the U.S. have their own organizations, which are known as "Chapters" of the ACF. Connecticut and Illinois have become chapters recently. New York state has had a very active chapter for several years, and often publishes interesting highlights of its work. The American Chestnut Cooperators' Organization, with its headquarters in Newport, Virginia, summarizes the results of growers findings and makes them available annually or oftener to interested persons.

Canadians are welcome to join these U.S. organizations and thus obtain a broader picture of the Chestnut Restoration Program in North America. For further information write to:

The American Chestnut Foundation
401 Brooks Hall, Box 6057
West Virginia University
Morgantown, WV 26506

News Item from "The Bark"

In the Jan./Feb. issue of The Bark, the 90th birthday of Dr. Charles Burnham was acknowledged. Dr. Burnham is the ACF co-founder. He has charted the plight and future restoration of the American Chestnut in North America.

On January 13th, his 90th birthday, more than 30 friends, colleagues, ACF members and former students joined him for refreshments and recollections. It was in 1959 that Dr. Burnham recognized that persons trying to breed a blight-resistant American Chestnut earlier in this century, were incorrect in their back-crossing method. He changed the procedure based on many excellent results obtained in breeding cereal crops in North America against diseases. The chestnut-breeding project is now going forward at the Wagner Research Farm in Meadowview, West Virginia.

A great debt of gratitude is owed to this 90 year old scientist.

CCC Annual Meetings 1993 & 1994

The 1993 annual meeting was held November 3 at Ontario Horticultural Experiment Station, Simcoe.

About 55 people attended. Reports on the blight research programs were given. Also several members showed slides and displayed other pictorial material on their findings, and this prompted considerable discussion. A home-made tree shelter from 2 litre plastic pop bottles attracted much attention and enthusiasm. Emphasis was placed on the need to control grass and weeds around new chestnut seedlings for at least the first two years after planting. Tree shelters offer several advantages.

The 1994 annual meeting is scheduled for Saturday, November 5, 1994 at the Horticultural Station, Simcoe. A Saturday date has been chosen so interested

persons who work Monday through Friday can attend. The meeting will begin at 1:30 p.m. - mark the date on your calendar.

Chestnut Blight Research Program

Our main effort is now centered in the Department of Environmental Biology, University of Guelph, under Dr. Greg J. Boland. Adequate funding has been obtained for now, and renewed funding to support future graduate students will be sought. As in many other research areas, government funding has been reduced or discontinued, so that future programs may be restricted.

There has been moderate success in biocontrol of chestnut blight in North America, through hypovirulence. At several locations in Ontario, the virus that attacks the chestnut blight fungus, appears to have become established via inoculation. During 1994, scientists will monitor these sites very closely, and also check to see if the hypovirulence has spread on its own to other diseased trees. This phenomenon occurred naturally in Italy and France, some 25 years ago, so chestnut tree populations there were not destroyed.

Today, hypovirulent strains of blight found in Ontario and Michigan look promising. The blight fungus found in the Arner tree in Essex County is very similar to isolates obtained in blighted trees in Michigan's Kellogg Forest, and also farther north near Crystal Lake. Because hypovirulent strains are infected with a virus that debilitates them, they are being used to inoculate virulent blight cankers. The virus may pass from strain to strain and thereby convert virulent strains of the chestnut blight fungus to hypovirulent ones. It is research of this kind that is in progress in Ontario and elsewhere.

New Plantings (Culture and Care)

Chestnut seedlings that have been started indoors should not be set out until the danger of frost is past. Tender plants should be hardened off by a gradual exposure to the elements. Even if new leaves are nipped by a late frost, the chestnut seedling will leaf out again.

Remember that chestnuts like a sandy or coarse-textured, well-drained soil. They thrive on abundant moisture, but will not tolerate 'wet feet'. Several of the new plantings of recent years have suffered from inadequate moisture. After a summer dormancy brought on by extreme drought the chestnut seedling makes little or no growth for the remainder of the growing season.

Clean cultivation is advised. In the first and second years of outplanting do not allow grasses or weeds to grow with 15" to 18" of the seedling.

Tree shelters are helpful. The greenhouse effect accelerates growth. They also prevent browsing of the foliage by deer and other wildlife. If commercial plastic shelters are used, cover the open top with wire mesh or cheesecloth to prevent small songbirds from becoming trapped inside.

Fertilization: Unless you are an experienced grower, fertilization in the first year is not advised. In subsequent years a complete fertilizer like 10-10-10 may be applied. Best results are obtained by applying a teaspoonful to the

bottom of a 12 inch deep hole punctured in the soil at the drip line of the outer branches. Five points of application should be adequate for a 2 year old seedling. As the sapling grows more points of application can be used and made at greater distances from the trunk. Do not fertilize after July 1st. If the soil is dry, fill the fertilized holes with water once or twice.

Seed Production and Nut Harvesting

A major limiting factor in getting more American chestnuts planted in Ontario is the scarcity of seed. A second big problem is gathering the limited amount of seed produced.

The chestnut tree requires cross-pollination for a good set of seeds. Every tree contains male and female flowers. On the bisexual catkins, the male flowers open and shed their pollen before the female flowers at the base of the catkins are ready for pollination. This seems to be nature's way of favouring cross pollination from another tree. Because many of the large healthy chestnuts in Ontario are often single specimens, cross pollination does not readily occur. Even so however, several single trees have been found to produce a variable amount of seed each autumn.

Harvesting the nuts is also a difficult problem. Squirrels, blue jays, etc. are aware when the burrs begin to open and are always anxious to help with the harvest. In a Virginia Cooperator's Foundation project, the nut crop has been taken for the last nine years by cutting the largest burrs off the trees as soon as the first ones open. Removing the nuts from the burrs later is difficult, but it ensures a full harvest. In Ontario nut gatherers often visit the trees daily, in early morning, to pick any fallen nuts off the ground. Know your tree and, by keeping a daily watch, efforts may pay off.

Regional Coordinators

CCC would like to hear from you, if you are growing some chestnut seedlings or if you know of trees growing in the wild. A report form, developed by enthusiasts from Elgin County, is enclosed. This year, co-ordinators have been named in several areas, to visit and/or record chestnut sites within their regions. Via this type of combined effort, we hope to establish a good inventory of existing trees, new plantings and incidence of chestnut blight disease. The tree "report form" will also help our researchers monitor the disease and locate new sites for hypovirulent inoculations. Your help will be appreciated!

Chairman's New Address

Dr. Colin D. McKeen, Chairman of CCC, is moving from Nepean, Ontario to a location closer to the geographical centre of southern Ontario. This will bring him closer to the old chestnut belt where our research programs are centred. Also, it will make it easier for him to visit many of the newer chestnut plantings in eastern, central and southwestern Ontario, as reported by members and coordinators. Colin and his wife Beatrice will be moving early in May to: 62 Westmorland Street, Orangeville, Ontario, L9W 3B6.