

THE

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Journal

OF THE AMERICAN CHESTNUT FOUNDATION



Highlights from the 2013 American Chestnut Summit

Chestnuts in China - An Expedition Turns Into an Adventure

TACF's Restoration Plan – Charting Our Course Up the Mountain

This Season, Give A Gift They'll Remember All Year . . .

Membership In The American Chestnut Foundation



A gift of TACF membership for your friends or family members is a gift that comes from the heart. It's an opportunity to share with them one of the greatest environmental success stories of our time. And it's a chance to help TACF reach our goal of restoring the American chestnut to our eastern forests.

All members of The American Chestnut Foundation receive...

- A subscription to the *The Journal of The American Chestnut Foundation* published six times a year
- Membership in one of our state chapters
- An invitation to TACF's state and annual meetings
- Access to expert advice on growing and caring for American chestnut trees
- Opportunities to participate in local breeding and research activities

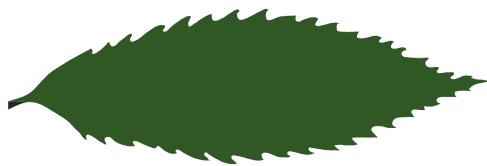
The American Chestnut Foundation depends upon its members to support research to develop a blight-resistant American chestnut tree. Today, almost 6,000 members are helping to bring this important tree back from the brink of extinction.



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The Mission of The American Chestnut Foundation

Restore the American chestnut tree to our eastern woodlands to benefit our environment, our wildlife, and our society.

We harvested our first potentially blight-resistant nuts in 2005, and the Foundation is beginning reforestation trials with potentially blight-resistant American-type trees. The return of the American chestnut to its former range in the Appalachian hardwood forest ecosystem is a major restoration project that requires a multi-faceted effort involving 6,000 members and volunteers, research, sustained funding, and most important, a sense of the past and a hope for the future.



About Our Cover Image

Jack LaMonica is the newly elected president of the Virginia Chapter of TACF. An architect by profession, he is renovating a circa 1870's log cabin near Ada, Virginia, which is largely built with chestnut. He recently took this photo of one of his outbuildings, also built of chestnut, which may have originally been a smokehouse.

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Background photo:
Polygala senega growing at Box Creek Wilderness
Photo by Lloyd Raleigh



Restoration 1.0 Chestnut growing on reclaimed mine land

Making Good Time on the Road to Restoration

by Dr. Kim Steiner, TACF Chairman of the Board and Bryan Burhans, TACF President & CEO

When The American Chestnut Foundation was formed almost 30 years ago, many thought our goal of developing a chestnut resistant to the blight was impossible or at least impractical. And some knowledgeable and experienced scientists put the time estimate for working through the breeding program at a minimum of 60 years.

Fast-forward thirty years. Now the organization is faced with considering how to reintroduce potentially blight-resistant trees into the forest as the first tentative step toward restoration. While we anticipate that our efforts to develop even better disease-resistant chestnuts will continue for many more

decades, we are now at a point where we know that a proportion of the Restoration Chestnut 1.0 trees in current production will have *at least* moderate levels of resistance to the blight. The chestnut now has a fighting chance!

But our work is far from over. New scientific developments and advances in our understanding of chestnut genetics will help us to develop even better trees in the future.

To help us chart our course, TACF recently adopted a Restoration Plan (see page 14). This plan will help communicate to our members, volunteers, and partners how we will move our program forward toward the success of our mission. But the key to our Restoration Plan is a built-in process of annual review and refinement as we continue to fill our knowledge gaps about chestnut genetics, ecology, and silviculture.

Filling these knowledge gaps represents an important hurdle for the organization to clear. Making investments in research and continually striving toward a “better” tree must remain at the forefront of our efforts as we move forward. Critical to developing a better tree is our ability to closely evaluate the trees currently coming out of our breeding program.

We must also invest in outreach to new supporters because we cannot accomplish the work of many decades without continually attracting new members and volunteers. We need to inspire others with this grand and noble project! So many people are still unaware of the chestnut story, and it is up to us to share this story with anyone willing to listen. Ok, even with those not willing to listen!

Prior to its demise from the blight, the American chestnut was a keystone species in our forests, a tree that provided so much for our wildlife, our environment, and our society. No one 30 years ago could have possibly envisioned the high level of research activity on American chestnut that has occurred during the past several years. This has been almost certainly catalyzed by the promised success of our program. We must keep our shoulders to the wheel. The American chestnut will not be saved without TACF.

TACF Welcomes Ginny Blossom Kruntorad as Vice President for Development

We are pleased to announce the hiring of Virginia (Ginny) Blossom Kruntorad as TACF's Vice President for Development. Ginny began work in mid-October and had her first introduction to TACF members at the 2012 American Chestnut Summit in Asheville, North Carolina.

"We are so excited to have Ginny on board," said President and CEO Bryan Burhans. "Her experience working with donors and members and her vast expertise working in conservation will help TACF to move forward along an exciting new path."

For the past three years, Ginny served as director of philanthropy for The Nature Conservancy (TNC) heading up the organization's Caribbean Program. Prior to working with TNC, Ginny was director of marketing and philanthropy for the Indian River Land Trust and the Indian River Medical Center Foundation in Florida. Ginny holds an MA in advertising/communications from Syracuse University and a BA in Art History and English from Bowdoin College.

Outside of her work, Ginny enjoys horseback riding (English style), yoga, cooking, entertaining friends, traveling, and spending time exploring the outdoors with her 5-year-old daughter, Emma. She currently lives in Vero Beach, Florida, with Emma and her husband, Mark. The family will move permanently to Asheville during the summer of 2013.



TACF's newest staff member, Ginny Kruntorad.
Photo Credit: Mark Kruntorad



Black Hill Orchard in Montgomery County, MD. Pictured left to right: Barbara Knapp, Ron Kuipers, Gene Hillegas, Norm Hines, Stephen Peck, Darryl Johnson, Steve Haggblade, Stan Fisher, Gary Carver, Ron Clements, Dave Gill.

Photo Credit: Credit: Rachel Kuipers

Technician, David May. "The plant donated the funds in order to support the chapter's educational and scientific endeavors."

Paul Eriksson, past MD-TACF president, was astonished when he heard about the award. "We keep telling the story of the chestnut, and it amazes me how it touches people," he said. "In true forester fashion, we plant seeds of trees that we will never see mature."

Maryland Chapter of TACF Awarded Brandon Shores Honorarium

Earlier this year Exelon Power awarded its 2012 President's Environmental Stewardship award and associated \$1,000 grant to its Brandon Shores power plant located near Pasadena, Maryland. The award recognized Brandon Shores' efforts to improve storm water quality through the installation of a limestone lined swale, considered a best management practice for managing run-off from impervious areas.

The winners of this internal awards program each designate an environmental 501(c)3 non-profit of their choice to receive a \$1,000 honorarium. The Brandon Shores power plant selected the Maryland Chapter of The American Chestnut Foundation for the award.

"Brandon Shores recognized the importance of the Maryland Chapter's role in restoring the American chestnut tree to its native range," said Brandon Shores Environmental

TACF Board of Directors Approves Seed Allotment Increase Due to Surge in Production

At the Fall meeting, TACF Board of Directors voted to increase the seed allotment this year to TACF Annual Sponsors, Life Sponsors, and Legacy Tree donors based on a recommendation from the Seed Distribution Committee.

Chairman of the committee, Dick Will, said “Thanks to Dr. Fred Hebard and the generous donors who sponsor Legacy Trees, we have more than doubled the number of seeds this year. Of these: 50,000 will be put into seedling production; 2,000 will go to Dr. Joe James for *Phytophthora* research; qualifying sponsor members will get double the amount from last year; and the remainder will go to various research locations. This is also a good time to remind members that sponsoring a Legacy Tree, either as an individual or a group, is one of the fastest ways to help us increase the quantities of seed we produce each year.”

To qualify for increased amounts of seed, donations must be received before February 1, 2013. Annual sponsors will receive one allotment of seed as follows: Chestnut Leaf Sponsors (\$300+) will now receive 4 seeds, Bronze Leaf Sponsors (\$500+) will receive 6 seeds, and Silver Leaf Sponsors (\$1000+) will receive 12 seeds. Annual Sponsors can renew their sponsorship on an annual basis.

Life Sponsors (\$10,000+) will receive 8 seeds and Legacy Tree donors (\$10,000) 22 seeds. Both Life Sponsors and Legacy Tree donors are eligible for seed every year.

Jeff Krause, on the seed distribution committee and a member of the Raystown Restoration Branch in



More Restoration Chestnuts 1.0 will be available for research, sponsors and chapters this year due to a large harvest this fall. Photo Credit: TACF file photo

Pennsylvania, is enthusiastic about the increase. “There is nothing that stirs passion more than being intimately involved in a cause,” he said. “The perfect illustration of this is a TACF sponsor or long-term member taking the utmost care in planting, tending, and watching their Restoration Chestnut 1.0 seeds grow.”

To learn more about how you can be eligible to receive Restoration Chestnut 1.0 seeds, call 828-281-0047, email chestnut@acf.org or visit <http://shop.acf.org/annual-sponsor-seed-distribution.aspx>.

MARK YOUR CALENDARS FOR THIS UPCOMING PLANTING WEBINAR!

Due to requests for more assistance on how to plant and grow Restoration Chestnuts 1.0 and American chestnuts, TACF Regional Science Coordinators are organizing a free webinar that you won't want to miss. The first showing will take place on Tuesday, February 19th at 12:00 noon and the second on Wednesday, February 20th at 4:00 pm. If you can't make those dates, the recorded webinar will be available on our website after airing. Be on the lookout for information on how to sign up at www.acf.org.

Help Us Plant Tomorrow's Forest

TACF volunteers, partners and scientists have undertaken a project to plant, test and evaluate more than one million potentially blight-resistant American chestnuts within six years.

**To succeed,
we need your support.**

Help us reach our goal to raise over \$100,000 by the end of 2012.

Please make a personal financial contribution to TACF today

Three easy ways to donate:

- Fill out and mail the enclosed reply envelope
- Donate online at: www.acf.org
- Call us at (828) 281-0047

The Stanback Challenge

Once again this year, your donation will have twice the impact. Long-term TACF supporters Brad Stanback and Shelli Lodge Stanback will match your gift, doubling its benefit.



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The American Chestnut Foundation's mission is to restore the American chestnut to our eastern forests to benefit our environment, our wildlife, and our society





Navitat staff, along with TACF staff and volunteers, gathered in November to plant a chestnut demonstration orchard on Navitat property near Asheville, NC.

Chestnut Demonstration Orchard Brings Chestnut Awareness to Adventure Enthusiasts

What do American chestnuts have to do with gliding across ziplines, traversing suspended sky bridges, and rappelling to the forest floor? More than you can imagine at Navitat Canopy Adventures! Even before The American Chestnut Foundation partnered with Navitat to plant a demonstration orchard on November 5, there was a deep connection between the two. Both are seeking to build relationships between people and trees.

Navitat is a unique high-ropes canopy tour located outside of Asheville, North Carolina, that draws 20,000 guests annually and has been called “one of the best in the nation” by *USA Today*. As part of their mission, Navitat staff is highly trained in the natural diversity prevalent in the Blue Ridge Mountains. While on a tour, guides even point out the naturally occurring American chestnut stump sprouts and educate their guests on invasive species. Now, with the

implementation of a demonstration orchard on site, Navitat guests can see firsthand the chestnut’s story in a series of pure, backcross, and potentially blight-resistant American chestnut trees.

“We are thrilled to work with TACF to establish a demonstration orchard here in order engage our guests in the narrative of this fascinating species’ decline and rebirth,” said Navitat’s Environmental Programming Leader Sarah Marcinko. “Our hope is to raise awareness about the threats our southern forests face and to motivate the public to participate in conservation and stewardship.”

New Board of Directors Members and Officers Elected

This fall at the TACF Board Meeting, three seats were up for election. Dr. Kim Steiner, previously Vice Chair-Science Cabinet, was elected Chairman of the Board of Directors; Dr. Brian McCarthy, Board member and Ohio Chapter President, was elected Vice Chair-Science Cabinet; and Michael Doochin, previously a member of the Development Cabinet, was elected Vice Chair-Development Cabinet.

The Board also elected three members of the Cabinet to serve on the Board of Directors: Carolyn Keiffer of

the Ohio Chapter, Kathy Marmet of the Virginia Chapter, and David Morris of the Alabama Chapter.

Outgoing Chairman of the Board, Glen Rea, will continue to work for successful restoration of the American chestnut as president of the Maine Chapter. “The TACF Board has a diverse array of talent and an exceptional level of commitment and competence,” he said. “The organization is in excellent hands with our new officers and I look forward to what the future holds.”

Welcome to our new Board members and officers! You can find a full listing at http://www.acf.org/board_of_directors.php.

In Memory of our TACF Members September 1 - October 31, 2012

George A. Graham

Knox Family Foundation

Francis Kohanski

Cynthia Denis

Doris and Richard Talbut

Dennis Turner

Pat Krolak

Anne Penniston

E.L. Nicholson

Albert Rom

Dr. Charlotte Zampini

By Mila Kirkland

In the 1920s, when the American chestnuts in southern Ohio started falling to blight, Charlotte Zampini's grandfather planted various American/Chinese and American/Japanese hybrid trees on his farm outside of Dayton, Ohio. His records of those trees were passed down to Charlotte, which in part, helped inspire her to study American chestnuts later in life.

Charlotte earned a BS and MS in Botany from Ohio State University and a PhD in Evolution and Population Genetics from Washington University in St. Louis. She currently works as an associate biology professor at Framingham State University in Massachusetts. Her research involves the use of molecular techniques and field observations to investigate the genetic diversity found in surviving stump sprouts of the American chestnut.

She got involved as a member of the Massachusetts/Rhode Island Chapter board in 2000 and shortly afterward assisted with the establishment and planting of the Grafton Orchard. As the chapter volunteer science coordinator, Charlotte is responsible for managing inoculations and pollinations, and coordinating science-related data collection.

"Charlotte has provided over a decade of invaluable scientific leadership to our chapter," said President of the MA/RI Chapter, Yvonne Federowicz. Charlotte's leadership exceeds the boundaries of her chapter, as Anne Myers Bobigan of the Kentucky Chapter can attest: "Her capacity for adventurous field work belies her slight frame, which she proved one day by whipping out a folding handsaw to take down a big dead chestnut sprout in five second flat, to haul back for study."



Charlotte Zampini checks out a new backcross chestnut tree planting on Sudbury Valley Trustee land in Wayland, MA.

Photo Credit: John Tarantino/Courtesy metrowestdailynews.com



Arlene and Stan Wirsig with an American chestnut on the patio behind their house.

Arlene Wirsig

By Herb Darling and Mila Kirkland

Arlene Wirsig's long and remarkable contributions to TACF started in 1990, when she and her husband Stan met Herb Darling of Buffalo, NY. He suggested they join forces with him to form the New York Chapter. Although a small beginning, the organization has grown to be one of the largest TACF chapters. Arlene worked tirelessly for sixteen straight years as secretary/treasurer of the New York Chapter. Arlene and Stan were also integral in jumpstarting TACF's Charlie Chestnut educational program which was conceived and implemented by the NY Chapter.

Organizing the chapter annual meetings was one of Arlene's favorite parts of her work with NY-TACF. "I got to meet so many terrific people in the process," she said. In addition to insuring an in-depth program, she always made sure everyone had fun. One year she planned a mystery train ride and another year a lake cruise!

Herb Darling, president of the New York Chapter, refers to Arlene as the "Queen of Chestnut." When she retired in 2006, Herb commented that "the chapter would be hard put to replace all her efforts and excellent results." After Stan's passing earlier this year, Arlene has continued to be an active member of the Education Committee. She uses the *Mighty Giants Anthology* as a tool for recruitment, distributing it to book stores and placing a copy on her coffee table to initiate questions from guests. And, of course Arlene continues to meet terrific chestnut people wherever she goes.

Becoming a TACF Annual Sponsor is a Great Idea . . . And We Just Made it Better!



TACF had a good harvest this year and we want to share our good fortune! Sign up as an Annual Sponsor before February 1st and we will **DOUBLE YOUR SEED ALLOTMENT**. Silver sponsor allotments are **TRIPLED!**

Chestnut Leaf Annual Sponsor \$300 = 2 4 Seeds

Bronze Leaf Annual Sponsor \$500 = 3 6 Seeds

Silver Leaf Annual Sponsor \$1000 = 4 12 Seeds

By becoming an ANNUAL SPONSOR, you are eligible to receive our latest line of potentially blight-resistant seed stock from our Restoration Chestnuts 1.0. This is a special offer made only to our members, to help us test our latest line of potentially blight-resistant seeds.

Restoration Chestnut 1.0 seeds are the result of 29 years of scientific research and advanced breeding and are for testing and evaluation only. There is no guarantee they will have adequate resistance to the chestnut blight, but by planting these seeds you become part of our science team by helping us evaluate these latest trees. Your feedback on seedling performance will be critical in helping TACF researchers improve resistance.



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The deadline for ordering chestnuts is February 1, 2013.
Orders received after February 1, 2013 will be processed in 2014.

Become an Annual Sponsor Today!

Call 828-281-0047 or Sign Up Online: www.acf.org

Highlights of the 2012 American Chestnut Summit

Photos by Paul Franklin

The 2012 American Chestnut Summit was a landmark gathering for TACF, based both on its size and remarkable content. More than 300 people attended the summit and on Saturday, programs quickly became standing room only. The number of walk-in visitors hit an unprecedented high, in part because of exposure in local Asheville press. One family read about the summit in a Pennsylvania newspaper and loaded the kids in the car to drive down and attend.



Friday afternoon, board members took a field trip to a breeding orchard owned and maintained by Jim Hurst of Weaverville, NC. Of particular interest was a fertilizer/irrigation drip system that Jim believes is responsible for the exceptional height and health of his trees.

The Summit atmosphere was festive and celebratory. Presentations were lively, laughter and conversation filled the hallways, old friends met, new friendships were forged, ideas were explored and plans were made. All the stuff of great meetings!

One landmark event during the summit was the Critical Needs Workshop, which brought together a wide range of TACF partners and stakeholders to discuss challenges that must be overcome to restore the American chestnut. This will also be remembered as the year TACF approved its Restoration Plan, a dynamic blueprint for what will soon become one of the largest, longest and most complex species restorations in history (see TACF's Restoration Plan – Charting Our Course Up the Mountain, page 14). A complete set of Summit proceedings will be posted on the TACF website in the near future.



Joe Nicholson accepts a Volunteer Service Award on behalf of Dr. Martin Cipollini, who was being honored for his exceptional work in support of the Georgia Chapter, as well as his work on the TACF Trees Database.



Outgoing board members were honored for their service. Glen Rea stepped down as chairman of the board, but will continue as president of the Maine Chapter. Dr. Kim Steiner stepped down as vice chair of the Science Committee to accept the position of chairman of the board. And Carolyn Hill stepped down as vice chair of the Development Committee but will remain active in the Georgia Chapter.



Two TACF members really got a lift out of the Summit. Teupen Corporation brought one of their remarkable Leo 23GT Aerial lifts, which has the capacity to raise passengers 75 feet in the air.



Summit keynote speaker Dr. Patrick McMillan gave a riveting presentation on the effects of mankind's actions on the environment over thousands of years. From ancient Indian shell mounds that now support Sugar Maples in the deep south, to immaculate suburban lawns that have no biodiversity, Dr McMillan talked of the effects on nature our actions have today, tomorrow and in the distant future.

Vice President of Science and Conservation at the Morton Arboretum, Dr. Nicole Cavender offered a fascinating presentation into the potential for larger arboretums and public gardens to be valuable partners with conservation and environmental groups such as TACF.



The TACF poster session was a great success with over 20 participants presenting summaries of recent research relating to the American chestnut. The poster session remained open for two days and allowed Summit participants to learn about a wide variety of ongoing research.



At the Saturday Gala dinner, Grace Knight enjoys good food and the company of fellow Vermont/New Hampshire chapter members. From left to right: Janet Robertson, Gary Robertson, Todd Ross, Grace Knight, Randy Knight, Curt Laffin and Carol Wallace.



Outgoing TACF Chairman Glen Rea and his wife, Ann, enjoying the Gala dinner.



Dr. Paul Sisco presents a special award to TACF board member Rex Mann for his work in leading the team that developed the TACF Restoration Plan.



Dr. Hill Craddock gave an engaging presentation on the global chestnut industry during the Saturday Gala dinner.



Mila Kirkland holds the winning image in the 2012 TACF photo contest. The winning entry, entitled "Its Going to Fall" was by Laura Pirisi del Balzo of Italy. When informed of her win, Ms. Del Balzo apologized for taking so long to respond as she and her family had been "in the mountains harvesting chestnuts."



Long-time Carolinas Chapter member Jon Taylor receives a Volunteers Award from Carolinas Chapter president, Dr. Paul Sisco. In addition to working tirelessly to help the Carolinas Chapter plant and maintain its breeding (and first seed) orchards, Jon is a skilled woodworker whose beautiful hand-rubbed chestnut frames grace many of the prints TACF uses as gifts and awards.



Music during the Gala dinner was provided by Asheville's hottest young singer Sarah Tucker and guitarist Elijah McWilliams. Sarah and Elijah donated half of the proceeds from CD sales during the event to TACF.



On Sunday the Critical Needs Workshop brought together a number of TACF members, partners and stakeholders to explore the challenges and opportunities that TACF faces as it moves forward into the restoration phase of its mission.



TACF national staff members Betsy Gamber, Mila Kirkland, Judy Antaramian, Tina Wayne, and Lisa Sousa (with help from a number of Carolinas Chapter volunteers) kept the registration process moving smoothly.



TACF Science Coordinators Kendra Gurney and Sara Fitzsimmons taught a class in chestnut wood identification. Attendee Christine Clodfelter feels the relative density of chestnut compared to oak as her husband Fred looks on.



Participants in the field trip to Bent Creek Experimental Forest were rewarded with a spectacular day of warm temperatures and peak fall colors.



Field trip participants visited three areas where American chestnuts have been planted by the US Forest Service to test the success rates in different types of microclimates.

NEXT YEAR
*Celebrate our 30th Anniversary at TACF's Annual Meeting
in Washington D.C. - Watch Here for Dates and Details.*

TACF's Restoration Plan – Charting Our Course Up the Mountain

By TACF President and CEO,
Bryan Burhans

Prior to the outbreak of the chestnut blight, the American chestnut grew on more than 200 million acres of land from Maine to Alabama. It's hard for the mind to grasp the vast expanse of this range, but when you consider that the entire state of Pennsylvania is only 30 million acres, you start to understand the magnitude of the job ahead of us. To fully restore the American chestnut to its historic range, TACF will need to plant chestnut trees over an area **six times** the size of the entire state of Pennsylvania!

A project of this size needs a good plan - and that is just what TACF has produced. On October 19, 2012, The American Chestnut Foundation's board of directors made history when they voted to adopt the first version of our American Chestnut Restoration Plan. And while it may take 100 years to achieve full restoration, having the plan allows us to move forward in an efficient and coordinated manner.

Five years in the making, the Restoration Plan was created by a committee led by long-term TACF board member and retired forester, Rex Mann. "Several years ago," says Mann, "the board saw the need for a comprehensive, forward-looking road map to help guide the organization."

Core to the Restoration Plan are three guiding principles. Top priority is to develop and refine a disease-resistant chestnut. Second, we will focus on range-wide reintroduction using chestnuts developed by our state



New seedlings growing in the greenhouse at Meadowview Research Farms
Photo by Paul Franklin

chapters. And third, TACF must encourage participation with new partners, expand key programs to support our efforts, such as education, and use the best available science throughout the entire process.

"One of the most important ideas that the plan conveys," says TACF Chairman of the Board Dr. Kim Steiner, "is that restoration is about so much more than just planting trees. TACF will continue breeding and research efforts to keep improving the quality of the trees we reintroduce. And we must carefully study our reintroduction methods - perhaps for decades - to learn more about and build on what makes reintroduction successful. This plan represents a starting point, rather than the final word on how we will restore the chestnut to our eastern forests."

Intuitively, one would think you merely develop "the" tree, mass produce it, and then stick it in the ground. In reality, TACF will be developing new lines of trees,



A large surviving American chestnut growing near Quabbin Reservoir in Massachusetts. With the adoption of TACF's new Restoration Plan, we are closer to one day seeing trees like this thriving throughout the eastern forests.
Photo courtesy of Massachusetts/Rhode Island TACF

planting them, and evaluating those lines to further refine the process of developing a disease-resistant chestnut.

Five years ago, TACF started to test our Restoration Chestnut 1.0. “Much of our testing work is focused on progeny tests,” says TACF Chief Scientist Dr. Fred Hebard. “These progeny tests offer a formal testing tool to provide us the information we need to make further refinements to our efforts to develop a better tree.” It also represents our early efforts to actually reintroduce a disease-resistant chestnut to our forests.

The information we obtain from our testing program now will help our state chapters improve their breeding programs. And once the state chapter seed orchards start producing seed, the challenging but exciting task of planting and evaluating these trees will begin, and in a big way. TACF’s vision represents a continuous and incremental process of tree improvement until we finally reach a point where we feel we have “the tree.”

“Although we have confidence that many of the current-production Restoration Chestnut 1.0 trees will have enough resistance to allow them to sexually reproduce on their own in the wild, we will always want to develop an even better product,” says Steiner. “There are still many knowledge gaps we must fill.”

Those knowledge gaps include our need to more fully understand the genetics involved with resistance, as well as how to deal with an enemy, the chestnut blight, that is constantly evolving on its own and will always attempt to overcome the resistance in the trees. “Successive versions of the plan will need to critically address these difficult scientific and technical issues. We don’t have all the answers right now, but that should not stop us from taking the first steps toward restoration,” says Steiner.

Don Willeke, one of the founding members of TACF, is enthusiastic about the Restoration Plan. “When we were originally laying the groundwork for the organization,” Willeke said, “respected voices told us that it would be at least sixty years before we would start reintroduction. None of us thought we would live to see that day. And here we are preparing for it, thirty years ahead of schedule!”



A US Forest Service employee measures the growth of Restoration Chestnuts planted on National Forest land. Developing partnerships is an important part of TACF’s new Restoration Plan.

Photo by Stacy Clark

Action does not always guarantee success, but inaction will always result in failure. When our founding members decided to form TACF in the 1980s, most scientists and tree experts in the US had given up hope that the American chestnut could be saved and restored. But TACF’s founders not only had the correct vision, they had a plan, one based on using the best available science.

As we move forward, TACF will add to and modify the Restoration Plan to reflect the current state of knowledge. “Taking an approach of adaptive management is critical to making this a workable plan,” says Mann. “The fact that we don’t have all the answers is not as important as finding ways to answer those questions and adjust our path to achieve success. TACF is an organization of action.”

The Restoration Plan represents both the continuation of TACF’s incredible story and the first step on a new path. Years of effort by dedicated volunteers have brought us to this point. Come join us on this exciting journey!

We invite you to review our Restoration Plan. **The Restoration Plan can be found in its entirety at www.acf.org/restoration_plan.pdf.**



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Box Creek Wilderness, Restoring a Legacy

Unique landowner hosts one of the largest progeny tests to date

By Susan Andrew

Tim Sweeney has a dream for the natural areas of the southern Appalachian mountains, where the great chestnut trees once stood. And considering his land holdings—anchored in the 5,500-acre Box Creek Wilderness, straddling McDowell and Rutherford counties in North Carolina—he’s got a better chance than most to pull it off.

That dream includes the return of mature American chestnuts to forest canopies across the Southern Appalachians, says Jeff Fisher, whose Durham-based land conservation firm, Unique Places, LLC, is overseeing the project.

“Our client’s vision is not merely to show that the American chestnut can be tweaked genetically and therefore survive in the wild,” Fisher explains. “He wants to see these trees restored on thousands of acres, creating a solid foundation for returning the American chestnut to its original range. Box Creek Wilderness is ground zero for these restoration efforts, but there are other areas that will also have large-scale efforts in place.”

In generations past, Box Creek Wilderness was included in the Dysartsville Game Land, one of a number of large properties owned by regional timber companies. Thanks to agreements between the state and the timber companies to allow public access for hunting, thousands of acres of Western North Carolina remained forested. Things took a turn in 2007 when the property was acquired by a Charlotte-based developer; but when the developer subsequently went broke, Sweeney was able to purchase the tract in 2011.



Top: Box Creek Wilderness covers more than 5,500 acres of the southern Appalachian mountains. Above: A topographical map of the Box Creek Wilderness shows the current planting locations of potentially blight resistant chestnut trees.

Photo by Lloyd Raleigh. Map art by Michael Scisco, BioGeoCreations

Late last year, Fisher connected the project with the restoration program of The American Chestnut Foundation (TACF); the resulting partnership began last spring with the planting of 15 seedlings in carefully selected sites on the property. But that was just the start. TACF is now preparing to plant 1,000 potentially blight-resistant chestnuts here.

This trial, known as a progeny test, will be one of the largest ever undertaken by TACF. It starts with nuts collected from trees bred in careful crosses between the blight-resistant Chinese chestnut and the blight-susceptible American variety. The key test comes in growing them out, deliberately exposing the young trees to the fungal pathogen that causes chestnut blight, and then observing which lineages are most resistant to the blight, while simultaneously maximizing the characteristics of the American parentage. It’s a great experiment in Darwinian survival of the fittest.



Photo by Lloyd Raleigh

Above: Bryan Burhans, President and CEO of The American Chestnut Foundation, plants a potentially blight-resistant Restoration Chestnut 1.0 in a select site in the Box Creek Wilderness. Right: Reintroduction of fire is just one of the land management practices used at Box Creek Wilderness.



Photo courtesy of Unique Places

“Going forward, we’re optimistic,” says Unique Places forester Jason Payne, “but we also have to be realistic. We know that a number of these trees are going to succumb to the blight. Or to drought. Or to other diseases.” The team will do their best to keep the trees alive, he says, including watering by hand during dry spells. The goal is to produce a population of trees that can sustain themselves for decades to come.

Foundation President and CEO Bryan Burhans speculates that the results should be clear within a couple of decades: “Based on our early testing results, I would expect that after about twenty years, approximately 150 trees should be growing well, still able to withstand the blight.”

Yet the outcome could be great indeed. “What begins as a research trial should become one of the largest areas of blight-resistant American chestnuts in the East,” says Payne. If all goes as planned, the planting “will serve as a source population for nature to take its course, with resistant trees cross-pollinating and spreading beyond the initial planting.”

“We’re kind of jump-starting evolution here,” he explains. “We’re just holding

Wholesale restoration

A large planting of chestnut trees is just one element of a bigger plan Tim Sweeney is pursuing to restore the ecological health of his extensive Box Creek property, a tract widely recognized as a critical steppingstone in a larger wildlife corridor connecting the state park and game lands in the South Mountains with the protected lands along the Blue Ridge. He’s engaged the team of experts at Unique Places to deliver a host of restoration objectives, including the reintroduction of fire, removal of roads and invasive species, and the treatment of hemlocks against the woolly adelgid.

Unique Places uses a client-focused approach to help landowners plan and implement conservation strategies on their land. Armed with a range of land management and habitat restoration tools, the firm assists landowners in managing their land using conservation-driven best practices.

For Payne, it’s a labor of love. “When we’re gone, people will be able to come here and see a diverse forest community that perpetuates naturally through fire and other natural processes,” he says. “The work we’re doing today will enable future generations to observe a forest our great-grandparents would have known: diverse, resilient forest communities that include majestic chestnut trees.”

nature’s hand, guiding it through the process to bring these trees back to a level of blight resistance and overcome the disease we humans introduced into the forest ecosystem.” The partnership hopes to expand the effort over time, installing more progeny tests at different locations, toward the eventual goal of having trees reproducing naturally on the landscape, without human assistance.

Payne finds his current line of work refreshing. “Most landowners focus on making the most money they can on every acre they own,” says Payne. “This landowner is unique; he’s focusing on ecology; his first interest is ecological restoration. We’re establishing a legacy that will be here for decades.”

Bryan Burhans at TACF agrees. “The great thing about this partnership at Box Creek Wilderness is that it’s more than just a reintroduction of blight-resistant trees. They’re engaging in the overall effort to help us improve our breeding program. The goal of the foundation is to reintroduce a tree that can be wild, allowing the chestnut to again be part of natural selection, not needing to be cared for by man.”

“We’re committed to a long-term approach to reintroducing a tree that will be able to survive in the forest,” Burhans adds. “Not a quick fix, but a long-term investment to reverse extinction.”



Box Creek Wilderness at a Glance

Size: 5,100 acres

Location: McDowell and Rutherford counties in Western North Carolina

Designation: North Carolina’s largest privately registered Natural Heritage Area

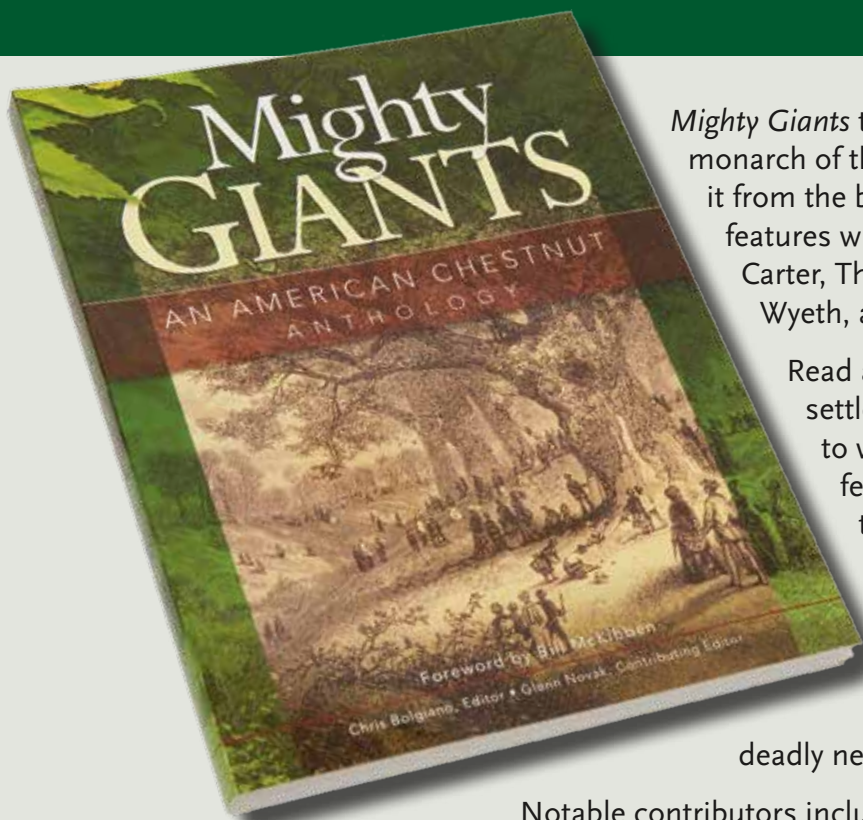
Ecological Significance:

- Home to over 100 North Carolina Natural Heritage Program rare and watch-list wildlife and plant species, including some known only from the South Mountains: Blue Ridge Ragwort, the Grey-Cheeked Salamander, the Broad River Crayfish, and the Carolina Foothills Crayfish
- Boasts as many as 20 rare habitats with their unique plant communities—some previously thought to occur only west of the Blue Ridge—including rocky summits and cliffs, basic glades, alluvial and headwater stream forests, low-elevation seeps, and shortleaf pine forests
- Extensive areas of hill cane (*Arundinaria appalachiana*, a native bamboo newly designated in 2006) across the property may represent a previously unknown, globally rare subtype of basic montane oak-hickory forest
- Contains old growth forest; numerous waterfalls up to 80 feet tall; and large bedrock cascades in the steeper stream drainages
- Laced with more than 50 miles of perennial streams
- Part of a chain of large natural areas linking the South Mountains with the Blue Ridge Mountains, serving as a critical bridge for wildlife movement between the mountains and the piedmont

Photos by Lloyd Raleigh

Mighty Giants: An American Chestnut Anthology

A great gift for nature enthusiasts everywhere!



Mighty Giants tells the inspiring story of the once mighty monarch of the eastern forests and the struggle to save it from the brink of extinction. This full-color anthology features writings and artwork by Jefferson, Lincoln, Carter, Thoreau, Frost, Winslow Homer, Andrew Wyeth, and many more.

Read about the chestnut's importance to early settlers in the eastern wilderness and its value to wildlife and the ecosystem. Learn about the fearless plant explorer who tracked down the blight in war-torn China, and the plant pathologists and geneticists who labored long and valiantly to understand the blight and find a way to thwart it. It is a story of hope, of small but vital triumphs, as the secrets of the American chestnut and its deadly nemesis are gradually revealed.

Notable contributors include former President Jimmy Carter, author Barbara Kingsolver, Nobel Peace Prize laureate Norman Borlaug, and Bill McKibben, author of *The End of Nature*. Full Color, 296 pages.

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Chestnuts in China

by Rebecca Hirsch

All photos by Sara Fitzsimmons

Sara Fitzsimmons and Katie D'Amico were at Newark Liberty International Airport when they got word of a problem. After months of careful planning, endless meetings and hundreds of emails and phone calls they were finally headed to China to study Chinese chestnuts in the wild. Now standing in line at security just moments from their flight, they learned via an email that there had been a misunderstanding with Chinese officials. The trip might be off.

For Sara, a Regional Science Coordinator for TACF, this was a return visit. She had traveled to China in 2008 with other TACF scientists, locating wild Chinese chestnuts with different levels of blight resistance. This trip would be led by Dr. Bill Powell of the State University of New York College of Environmental Science and Forestry. He would be bringing members of his lab: graduate student Katie D'Amico, technicians Andy Newhouse and Kathleen Baier, and Chinese graduate student Amelia Zhang. The trip was supported by TACF and the USDA Scientific Cooperation Exchange Program. As part of the exchange, Chinese officials had planned the itinerary and made all travel arrangements.

Now standing in line at security just moments from their flight, they learned via an email that there had been a misunderstanding with Chinese officials. The trip might be off.

The goal of the visit was to collect DNA, RNA and metabolites from wild Chinese chestnuts, material that could lead to the discovery of the genes involved in blight-resistance. The American team would first go into the field to collect samples and then extract DNA



The team in the field with their guide, Mr. Chen. From left: Andy Newhouse, Sara Fitzsimmons, Dr. Bill Powell, Katie D'Amico, Amelia Zhang, Mr. Chen.

and RNA at the lab of Dr. Xiangning Jiang, their collaborator at Beijing Forestry University.

Chinese officials viewed the visit differently. They saw it as a chance for the U.S. team to talk about their work with Chinese scientists and officials. The fieldwork was secondary, and the itinerary reflected this, with the fieldwork stuffed into the latter part of the trip.

“That’s not what we wanted,” Bill Powell told the interpreter, Mr. Lin Luogent. “We’re not going to come unless we can do this.” The field days needed to come first so they had time to extract their samples.

Mr. Lin explained that it would be difficult to change the trip now. Each province had its own officials. Each of them would have to be contacted. Bill resolutely held his ground and Dr. Jiang weighed in. He stressed how important it was for the group to get samples. Finally, the interpreter agreed to reroute the trip.

Arriving in Beijing, the group met their hosts, Dr. Jiang and Dr. Wei He. In Dr. Jiang’s lab they unpacked materials and prepared the supplies they would need in the field. Then there was time to squeeze in a little sightseeing. They visited the Olympic Village and dined that evening on Peking duck, a signature Beijing specialty that included a side dish featuring the head of the duck, split in half, cooked to a crisp, and served on a plate.

But their challenges were just beginning. Before leaving Beijing to fly west to the city of Xi’an, their hosts warned that there had been torrential rains in the area, causing mud and rock slides in the mountains that were their final destination. The forecast was for more rain.



Dr. Bill Powell looks on as Andy Newhouse takes a sample from a tree while Katie D'Amico takes notes.

Into the Mountains

Three species of chestnut trees grow in China: *Castanea mollissima*, *C. seguinii* and *C. henryi*. All are blight resistant, but according to local experts, *C. henryi* is the most resistant, followed by *C. seguinii* and *C. mollissima*.

Groves of chestnuts are easy to find in China, but the American group didn't want cultivated trees. They wanted wild, timber-type trees, preferably six of each species, three healthy trees and three with cankers. That made eighteen trees to find.

The search started with a bumpy flight into Xi'an. They met their driver, a quiet man who spoke no English, but had a fondness for the accelerator of their van. They tore along the rain-slicked highway and shot through long tunnels that threaded the mountains. The driver however, was forced to slow around curves littered with mud and rocks, places where the rains had washed the mountain onto the road.

Farther on, the road narrowed as it cut deeper into the mountains. Rain drummed on the roof as the driver forced the ancient van to its limits around hairpin curves. On one side the land rose straight up. On the other, it plunged into scenic valleys with nothing between the van's passengers and infinity but short stacks of concrete blocks placed here-and-there along the shoulder.

The Chinese countryside was crowded by American standards. The houses they passed had no yards, just farm fields marching up to the door. When they stopped in towns, people crowded around, curious and concerned. Surely they wouldn't travel into the mountains now. Hadn't they heard the roads were dangerous?

Searching for Large Chinese Chestnuts

The question of how Chinese chestnuts can fight off the blight has long puzzled researchers. The answer lies in a handful of genes that control blight resistance. When these genes are expressed, or "switched on," the information in the DNA is copied into strands of RNA. That expression most likely happens along the margins of cankers, where the tree is trying to wall off the pathogen. If researchers could isolate RNA from the canker margins, it might lead them to genes for blight resistance.

But RNA is a notoriously tricky molecule. Unlike stable DNA, RNA breaks down easily, dissolving into maddening bits that yield no information. To keep the strands intact, researchers typically plunge tissue into liquid nitrogen, freezing samples to a chilly -320°F . But in the mountains of Shaanxi province, that wouldn't



The washed out road from LanGao to Zoujiaping.

be an option. Instead, the group put their trust in a product that promised “immediate RNA stabilization and protection,” a liquid called RNALater.

After hours of winding roads, the group trekked up Nan Gong Mountain with their guide, Mr. Yu-Zhao Chen, who, like their driver, spoke no English. Nonetheless, under Mr. Chen’s guidance, they were able to find what they were looking for. Here, thousands of miles from where they started, the mountains revealed wild Chinese chestnut trees. Sara and Mr. Chen clambered up and down the slopes, choosing the best trees, and Amelia followed, translating. Once a tree was selected, Andy punched a cork borer into the trunk and pulled out a plug. Bill and Kathleen took turns cutting up the plug and dropping the pieces into tubes of RNALater. Katie sterilized equipment with a bottle of alcohol and a hand-held lighter. They often had to grab onto trees to keep from sliding down.

On the second day, six large *C. mollissima* were left to find. They drove for hours, now crossing a creek, now heading up again, on through the mountains in search of trees. In one place, heavy rains had almost completely washed the road away, leaving barely enough level ground to allow a single vehicle to transit. Everyone got out and walked and the driver inched the van through the narrow pass. In another spot, a rock slide blocked the road. Again, everyone disembarked as the van backed down the mountain. This time, they found a small 20-year-old *C. mollissima* beside the road and took a sample. Unable

If researchers could isolate RNA from the canker margins, it might lead them to genes for blight resistance. But RNA is a notoriously tricky molecule. Unlike stable DNA, RNA breaks down easily, dissolving into maddening bits that yield no information.



Dr Powell cutting up the stem segments and putting them in the test tubes with RNALater. Andy is in the background using a cork borer.

to continue forward, a dejected Mr. Chen told them of numerous huge *C. Mollissima* that lay beyond the rockslide, reachable by a two-day hike.

Back to the Laboratory

At last, the group was satisfied with the samples they had collected. It was raining as they started the drive from Ankang to Xi’an. Again, they wound along the mountain roads and slipped into the long, dark tunnels.

It was as they rocketed through one of those narrow tunnels that the van suddenly began to drift. The driver turned the wheel one way, but the van wobbled the other. Something was wrong with the steering. Suddenly the van slewed to the right, slamming into the tunnel wall and bouncing off, thankfully leaving only minor body damage and some shaken passengers. With no services until the next town, they had no choice but to slowly keep going, thankful that the steering had not given out along a steep drop-off. They would stop at the next town and assess the problem. Wobbling back and forth across the road, the van soon attracted the attention of a police officer, who escorted them into town.

There they learned that the twisting and turning of the mountain roads had loosened the fittings that connected



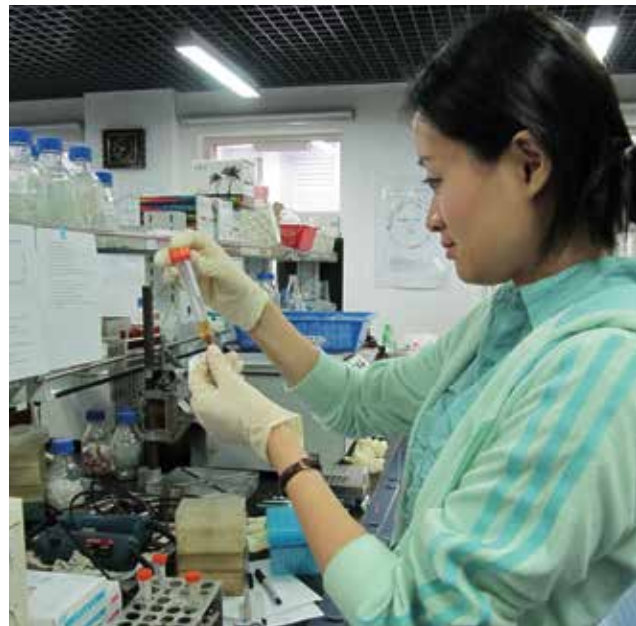
The team hikes up a mountain path through a bamboo grove to to the last collection point.

the axle to the front wheel. While the van was being repaired, the group seated themselves at a local restaurant. After four days of harrowing travel, they were ready to be back in Beijing. They had managed to get all of their samples, but the big question remained: would the RNA still be intact?

In Beijing, the group had two days to do the extractions. Dr. Jiang sent his own students home and graciously turned his lab over to the Americans. They froze tissue in liquid nitrogen and ground it with a mortar and pestle. What had been a chunk of wood became a fine frozen powder. The powder was scraped into tubes, liquids were poured, samples spun in a centrifuge. In the end, they had two sets of tubes. In one set was genomic DNA. It would travel to Penn State University for sequencing, part of an effort to read the Chinese chestnut's genome. The other set was RNA. Because RNA is so fickle, the group carried out an extra step, using an enzyme to copy the RNA back into a stable molecule of cDNA, or complementary DNA.

It was later, back in the U.S., that Bill Powell and his group learned that the RNA had broken down during their trek through the mountains. The samples were too degraded to be of much use in finding new genes. Fortunately, they were intact enough for the researchers to go looking for genes already suspected of having a role in blight resistance. They have used genetic engineering to add these genes, one by one, to the American chestnut's own DNA, and are testing whether they can give blight resistance to the American chestnut.

"It was a great experience," said Bill, speaking of the China trip. "We cloned 6 genes so far, we might clone



Amelia Zhang goes through the protocol to extract metabolites from the chestnut disk samples.

more." He pauses, then adds, "I was pretty amazed, Chinese chestnut trees are not that big. They're not like American chestnut trees."

Sara however still remembers what Mr. Chen had told her in the mountains. Huge Chinese chestnuts are out there somewhere, only a two-day hike beyond the last road. Just waiting.

You can read more about the China trip at Sara Fitzsimmon's Chestnuts in China blog: http://www.personal.psu.edu/sff3/blogs/chestnuts_in_china/

Chestnuts Roasting...

The Origins of “The Christmas Song”

by Paul Franklin

...where did the song come from and how has it worked itself so indelibly into the fabric of our holiday season? The answer to the first part of that question begins on a very un-Christmas-like sweltering July day in Los Angeles.

I recently asked an eight year old what she knew about chestnuts. “People roast them at Christmas,” she replied with confidence. “I know, cause I heard it in that song.” The song she was referring to is the much-loved “The Christmas Song,” which opens with the line “Chestnuts roasting on an open fire.” Over the years, the song has become synonymous with the spirit of the holiday season throughout the western world. Most of us can sing a few bars, and in the singing, young and old alike “from one to ninety two” often find a touchstone that releases warm holiday memories.

But where did the song come from and how has it worked itself so indelibly into the fabric of our holiday season? The answer to the first part of that question begins on a very un-Christmas-like sweltering July day in Los Angeles. The year was 1944. WWII was still raging in Europe and the Pacific, and a young singer named Mel Tormé went to visit his friend, songwriter Robert (Bob) Wells, at his home in the San Fernando Valley. Just two years out of high school, Tormé was already making a name for himself as an all-around

The Christmas Song

Words and music by Mel Tormé and Robert Wells

Chestnuts roasting on an open fire
Jack Frost nipping at your nose
Yuletide carols being sung by a choir
And folks dressed up like Eskimos

Everybody knows a turkey and some mistletoe
Help to make the season bright
Tiny tots with their eyes all aglow
Will find it hard to sleep tonight

They know that Santa’s on his way
He’s loaded lots of toys and goodies on his sleigh
And every mother’s child is going to spy
To see if reindeer really know how to fly

And so I’m offering this simple phrase
To kids from one to ninety-two
Although it’s been said many times, many ways
Merry Christmas to you

entertainer. He had just finished playing a small part in Frank Sinatra’s first movie *Higher and Higher* (1943). He had two more movie roles on the horizon, and in another three years he would become a teen idol from coast to coast with his role in the musical *Good News*.

But Tormé’s first love was songwriting, and like Wells, he was gifted in his ability. While visiting Wells that hot day, he wandered over to the piano where he noticed a pad of paper with four lines written on it:

Chestnuts roasting on an open fire
Jack Frost nipping at your nose
Yuletide carols being sung by a choir
And folks dressed up like Eskimos

Tormé asked Wells if he was writing a song, and Wells replied no, but that it was so hot that he was trying to think of cool things and had written down a few. “I think this would make a good song,” replied Tormé, and the two sat together, thinking up things that reminded them of the holiday season, while Tormé began working on the tune. The whole song took them just 45 minutes to compose.

Tormé and Wells were excited about the song, but neither of them had a recording contract. So that day they began showing it to agents and managers, including the manager for superstar singer, Nat King Cole. Cole loved the song, but his meteoric career kept him busy and it took almost two years before it was recorded. In 1946 two versions were recorded: the first one featured just Nat and the King Cole Trio; but at Cole's insistence, a second version was recorded with a string section backing them up. This recording was the one that was released and it quickly became a hit on the R&B and Pop charts.

Several writers have speculated about what made the song so popular. At the top of the list is that it simply and poetically evoked those nearly universal moments that we share around how we celebrate the season - something that was hugely popular to a war-weary world. "The Christmas Song" is less about religion and more about the feelings of the season. The song is filled with references to caroling, yuletide logs, children's eyes filled with wonder, and "Jack Frost nipping at your nose."

Whatever the reason, "The Christmas Song" became a season standard – earning steady royalties for Wells and Tormé. Cole recorded it again in 1953. And again he recorded two versions, one with his trio and another with a string section. One story relates that Cole was a stickler for perfection, especially when it came to diction and pronunciation in his songs. The 1944 version of the song was apparently written with the line "To see if reindeers really know how to fly." When the grammatical error was pointed out to him, Cole reportedly insisted on the second 1953 recording, so he could substitute correct "reindeer" for the incorrect "reindeers."

Cole recorded the song one more time, in 1961. By then his voice had reached a remarkable richness, and his years of experience lent depth and warmth to the delivery that made this the iconic version of the song, and the one we hear most often today.

Mel Tormé recorded the song four times over his career. And more than a hundred other singers and entertainers in the ensuing decades have recorded it, including Frank Sinatra, Barbara Streisand, Dolly Parton and Christina Aguilera, to name just a few. Over and over, this classic has been recorded and reinterpreted by new generations looking for a way to connect with the Christmas spirit. And for the current generation of children, who may become adults before they see or taste a chestnut (at least an American chestnut), this song may help keep a valuable cultural image alive. In fact, the song that was originally subtitled "Merry Christmas to You" is now almost universally known by its first line: "Chestnuts roasting on an open fire."



Mel Tormé and Bill Wells wrote "The Christmas Song" on a hot day in July, 1944. An unmistakable voice and near perfect pitch, earned Tormé the nickname "The Velvet Fog." He recorded "The Christmas Song" four times during his career.

Nat King Cole recorded "The Christmas Song" three times in his career. It became a perennial hit, and one of his most popular songs.

Valerie says, "I am not bound by tradition when it comes to stuffing, so I don't consider it essential to include bread."



Apple Chestnut Stuffing

Recipe & image by Valerie Vago-Laurer of the blog "Nettle & Quince" (www.nettleandquince.com)

Ingredients

(For stuffing a 16-18lb turkey)

- 1 large bunch parsley
- 2 handfuls fresh thyme
- 2 handfuls fresh sage
- 10 thick slices bacon
- 800 g (5 cups) whole peeled cooked chestnuts
- 8 medium-sized tart apples
- 5 medium-sized red onions
- Maldon sea salt
- Freshly ground black pepper

Directions

Pick leaves from herbs and discard stalks. Set aside.

Brown half the slices of bacon in a large skillet over medium heat. Remove from skillet and set aside, keeping rendered fat in the pan.

Peel, core, and cut apples into quarters, then cut each quarter in half crosswise. Brown apples in bacon fat for 3-5 minutes over high heat.

Crumble 2/3 of the chestnuts, leaving about a third whole, and add them all to the apples. Stir to combine and remove from heat. Chop the thyme and sage and add to the apple/chestnut mixture. Transfer to a bowl.

Place the remaining slices of bacon in skillet over medium heat and repeat browning process. Remove from skillet and set aside, keeping rendered fat in the pan. Slice onions and cook them in bacon fat until translucent and just starting to brown. Add to apple/chestnut/herb mixture.

Chop bacon, chop parsley leaves, add to the rest of the stuffing, season generously with salt and pepper, and mix carefully.

Proceed to stuff turkey as planned. Follow your turkey recipe instructions for proper cooking times.



Courtship on a Chestnut by Susan Bull Riley

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and Warmest Wishes for the
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Throughout the New Year*



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