

**TACF Board of Directors Meeting  
Friday, October 18, 2019  
Gettysburg, VA**

Board of Directors Present:

Steve Barilovits Yuri Bihun Hill Craddock Jay Cude Deborah Delmer Michael Doochin Carolyn Keiffer Lewis Lobdell	Dennis Liu Cathy Mayes Brian McCarthy, Chair Greg Miller Allen Nichols Cartter Patten Jeanne Romero-Severson Jim Searing	Kim Steiner Lisa Thomson Barbara Tormoehlen Bruce Wakeland John Wenderoth Donald Willeke, Esq.
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Board of Directors Absent:

Brad Stanback		
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Board of Directors Emeritus Present:

Gary Carver	William MacDonald	
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Staff Present:

Judy Antaramian Kendra Collins Sara Fitzsimmons Betsy Gamber Ben Jarrett	Dan McKinnon David Kaufman-Moore Heather Nelson Cherin Marmon-Saxe Tom Saielli	Jules Smith Jared Westbrook Shana Zimnoch
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**Call to Order at 11:03 AM.**

*Review of minutes from August 5, 2019*

The Minutes unanimously approved with no changes.

**Chairman's Report (Brian McCarthy)**

- A. Acknowledged the hard work of our TACF Committee Chairs
- B. Welcomed new board members Dennis Liu and Jim Searing
- C. Recognized our special partners in attendance
  - a. James Votaw, Keller & Heckman
  - b. Jeremy Schmutz, Hudson Alpha
- D. Provided a brief Executive Committee Report

**Treasurer Report (Barbara Tormoehlen)**

- A. Reported that the External Audit was complete. Thanks to changes and good staff work, the process went smoothly this year with few findings. A request for Board approval of the audit was made and seconded. The Audit was approved.
- B. 1<sup>st</sup> Quarter results were reviewed.
- C. TACF investments were reviewed.
- D. Current status of our Fall Fundraising Appeal was reviewed.

**President's Report (Lisa Thomson)**

- A. Provided an overview of the work with our PR firm, Scott Circle. We are taking our critics seriously as we prepare for the regulatory public comment period.
- B. Summarized major fundraising & other events attended including:
  - a. Biltmore Forest Country Club, NC
  - b. Carter Center, GA
  - c. Betty Allison, Crumpler, NC
  - d. Southern Highland Reserve
  - e. Atlanta Botanical Gardens, GA
  - f. International Boy Scout Jamboree
  - g. Steve Antoline Family Conservation Center
  - h. Chapters Science Meeting
  - i. Meadowview Greenhouses
  - j. Beacon Hill Garden Club, Boston, MA
  - k. Private Landowner in New Hampshire
  - l. New England Chapters Joint Meeting
  - m. Scraggy Neck, Cape Cod, MA
  - n. Springside Hill Academy
- C. Lisa also reported that a correspondent and film crew from "CBS This Morning" visited Meadowview this past spring and returned to continue filming during the fall harvest. They are developing a story on TACF efforts to restore the chestnut. The air date should be around Christmas time. The interaction has been very positive and we are looking forward to seeing finished segment.

**Science Report (Jared Westbrook)**

Summarized scientific objectives and progress toward those objectives. Detailed steps towards these objectives are covered in the chapter specific science plan template

- 1. Maximize blight resistance in the breeding program
  - a. Increase stringency of selection at BC<sub>3</sub>/BC<sub>4</sub> through additional phenotyping for blight resistance and genotyping to infer Chinese/American ancestry
  - b. Incorporate new sources of BC<sub>1</sub> and BC<sub>2</sub> resistance in chapter seed orchards
  - c. Select the 1% most resistant BC<sub>x</sub>F<sub>2</sub> trees in seed orchards through a combination of phenotypic selection, accelerated progeny testing with small stem assays, and genomic selection

2. Diversify transgenic populations
  - a. Conserve 1,000 wild-type American chestnuts from across the species range in germplasm conservation orchards
  - b. Outcross one or two transgenic founders over 5 generations to 2, 25, 50, 150, and 450 wild type Americans. The objective is to increase the effective population size to > 500 and to minimize inbreeding. We finished the second generation of outcrossing in 2019.
  - c. Genotype the outcross progeny to select individuals with the least amount of transgenic founder genome
  - d. Accelerate outcrossing by growing the transgenic outcross progeny under high light to induce early flowering
3. Combine blight and Phytophthora root rot (PRR) resistance
  - a. Screen chapter backcross trees for PRR resistance and outplant survivors at sites with *P. cinnamomi* in the soil. We have started screening chapter backcross material in 2018 and plan to continue for approximately five more years.
  - b. Cross the PRR resistant trees with transgenic trees in the final generation of transgenic outcrossing
  - c. Test for inheritance of OxO and then inoculate the OxO positive trees with *P. cinnamomi* to select for resistance to blight and PRR
4. Plant restoration trials to determine in current levels of resistance are adequate for restoration
  - a. Planning on planting more restoration trials after finishing selection at Meadowview in 2020/2021
  - b. Looking for collaborators to maintain and collect long-term data on these plantings
5. Discover candidate genes for resistance to chestnut blight and Phytophthora root rot
  - a. Finish Chinese and American reference genomes (Expected to be complete in 2020)
  - b. Map regions of the genome associated with resistance to blight and PRR in backcross populations and compare the Chinese and American chestnut genomes in these regions (Expected in 2020/2021)
  - c. Measure gene/protein/metabolite expression in American chestnut, Chinese chestnut, and F1 hybrids. Determine if differentially expressed genes/proteins/metabolites are associated with genes in regions that are statistically associated with resistance in hybrid populations (2020/2021).

**Field Staff Update (Sarah Fitzsimmons)**

- A. Recognized Regional Coordinators and their efforts.
- B. Reported on the New England Regional Meeting at Urban Forestry Ctr, Portsmouth, New Hampshire. There were about 50 attendees and the focus was on transgenics.
- C. Reported on work at Purdue with the Indiana Chapter on germplasm conservation and sharing harvest data.
- D. Reported on work at Penn State to study herbicide translocation.
- E. Reported that the Maryland Chapter was using Small Stem Assay to screen B3F2 seedlings.
- F. Reported that the Mid-Atlantic Region was working on screening technology to improve backcross selection.
- G. Reported that the Bent Creek Research Station in Ashville, NC was working on Phytophthora screening.
- H. Reported that there was an overall focus in the southern U.S. on conserving pure American germplasm, scouting for pure American trees, and genotyping.

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- I. Reviewed SUNY efforts at outcrossing the Darling 58 with pure Americans.
- J. Reported on collaboration with Portuguese scientists on grafting.

Committee Reports

- A. Chapters – Carolyn Keiffer reported:
  - a. Jared and the Regional Science Coordinators have developed a list of breeding plans for the chapters in an effort to move forward with our research. Chapter leaders and their RSCs will work closely together to consider which activities within the plan make sense for their volunteers.
  - b. In a closed session, Jim Searing and Jay Cude answered questions about the upcoming public comment period related to our regulatory Petition to Deregulate.
- B. Restoration – Bruce Wakeland reported a good discussion about “what’s good enough” as it relates to a restoration American chestnut, and a review or research needs relating to restoration.
- C. Science & Tech – Steve Barilovits
  - a. The S&T committee recommended \$43k in annual grants. The request was seconded and approved.
  - b. Requested that future meetings of the S&T Committee be allowed more time.
  - c. Reported that Jared had provided a good summary of how we go forward with breeding and how to deploy the transgenic chestnut.
  - d. Jim Searing and Jay Cude briefed the committee in a closed session on the eminent submission of our Petition to Deregulate (the transgenic chestnut) and the upcoming public comment period that is part of this process. Committee support was requested.
- D. Governance – Jay Cude reported that:
  - a. The committee had started discussing best ways to protect the TACF brand and intellectual property. Recommendations will be forth coming.
  - b. The committee recommends the reappointment of board members Brad Stanback and Jeanne Romero-Severson. The motion was seconded and approved.
- E. Promotion & Outreach – Cathy Mayes reported on continuing efforts to update and incorporate materials onto the TACF website. She also reminded the board members of the importance of personal annual giving.

There was no new business.

Retiring board members Yuri Bihun and Cathy Mayes were recognized.

Yuri was presented with a chestnut clock for his six years as a TACF board member and his leadership as the President of the Vermont/New Hampshire Chapter of TACF. He was also chosen as the Volunteer of the Year for the New England Region.

Don Willeke, on behalf of the board of directors and Amy Johnson with the Smithsonian Conservation Biology Institute, recognized Cathy Mayes’ 18 years of steadfast service and support to TACF and the Virginia Chapter by naming an orchard after her. The Catherine D. Mayes Chestnut Orchard is located at the Smithsonian Conservation Biology Institute. The orchard, which was planted in 2009 by the Virginia Chapter, sits on the iconic “Racetrack Hill” in Front Royal, VA which overlooks the Shenandoah National Park.

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Chairman Brian McCarthy adjourned the meeting at 12:29 PM.