



Cultures + Generations + Hearts + Connected

ANTINANCO

**Bringing Back the American Chestnut Tree
Impact Report 2018-2022**

www.antinanco.org

2022

Project Summary 2018-2022

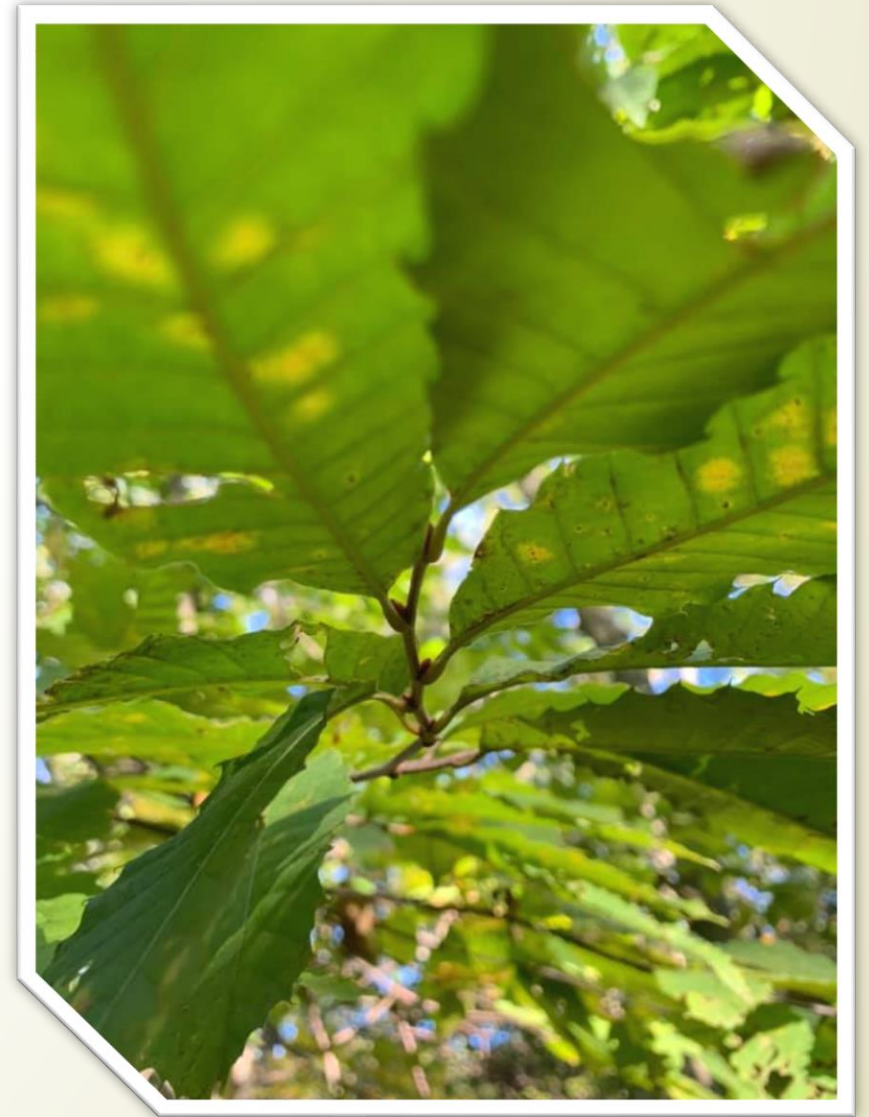
- ❖ The Project is now in its Fifth Year
- ❖ Like the rings in a tree, the Project is growing

202

American Chesnut trees planted
in **2018-2021**

50

more trees to be planted
in **2022**



Project Summary 2018-2022



202

American Chestnut
Trees planted and
continuously monitored



400 +

Lesson Plans and
Educational Materials
distributed

along with



700 +
companion plants
planted

on



5

Planting Sites in NJ
and PA

involving

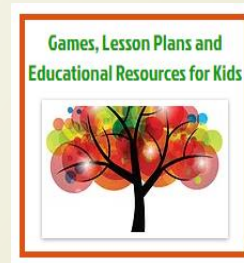
400+

Volunteers, children,
citizen scientists



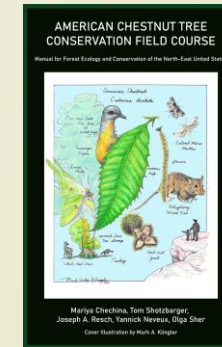
15

Presentations
and Workshops
Held



2000+

Outreach through
Educational
Resources Website



Field course
Manual
Published



Tree Care
Guidelines
Developed

Conservation

We plant American Chestnut Trees on public sites in NJ and PA

Provide ongoing maintenance and tree care, and Involve community, volunteers and children in planting trees with us and independently

Monitor trees' health and growth, and involve citizen scientists

Distribute seeds and seedlings that people can plant at home



To Maximize Survival, We:

- Plant trees on sites with diverse but optimal conditions
- Add nitrogen-fixing herbaceous and woody companions
- Diversify genetics by planting trees that come from native survivors from different parts of the Appalachian forest range
- Inoculate the tree roots with ectomycorrhizal fungi spores to help uptake nutrients and have better overall health and growth

Education

We offer presentations, webinars and training sessions to children, volunteers and site managers

Provide planting instructions and encourage participants to plant the American Chestnut trees in their backyards

Train citizen scientists to track and record their findings

Distribute lesson plans, resources and educational materials

We developed a website with educational resources, stories and games for children about the American Chestnut Tree, outreaching to 2,000+ viewers annually. www.antinanco.org/act-site

Published the [American Chestnut Tree Conservation Field Course Manual](#)

Developed Tree Planting Guidelines



Shifting Community Choices into Green

- Through involvement with the Project, we galvanize the members of the local communities to become involved in the transformation of their surrounding landscapes
- Participants are trained as citizen scientists to become directly involved in planting, caring for, and monitoring trees during and after their training, habits to keep for a lifetime



The Combined Impact Is:

- More American Chestnut Trees Planted and Cared For
- Improved Lifestyles and Connection with Nature
- Greener Communities

Research and Data Collection

- We collect, record and analyze data about health and growth of the trees, and involve citizen scientists in the process. We generate and tabulate reports, which are then distributed to all stakeholders and the conservation community at large.
- Metrics that we track:
 - Tree genetics
 - Soil composition and site conditions
 - Sun/shade on site
 - Companion plants present
 - Juglone presence
 - Presence of Blight
 - Insect/rodent/deer damage

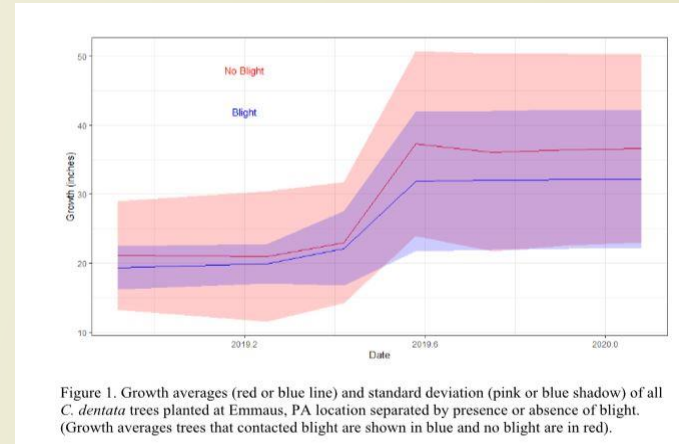
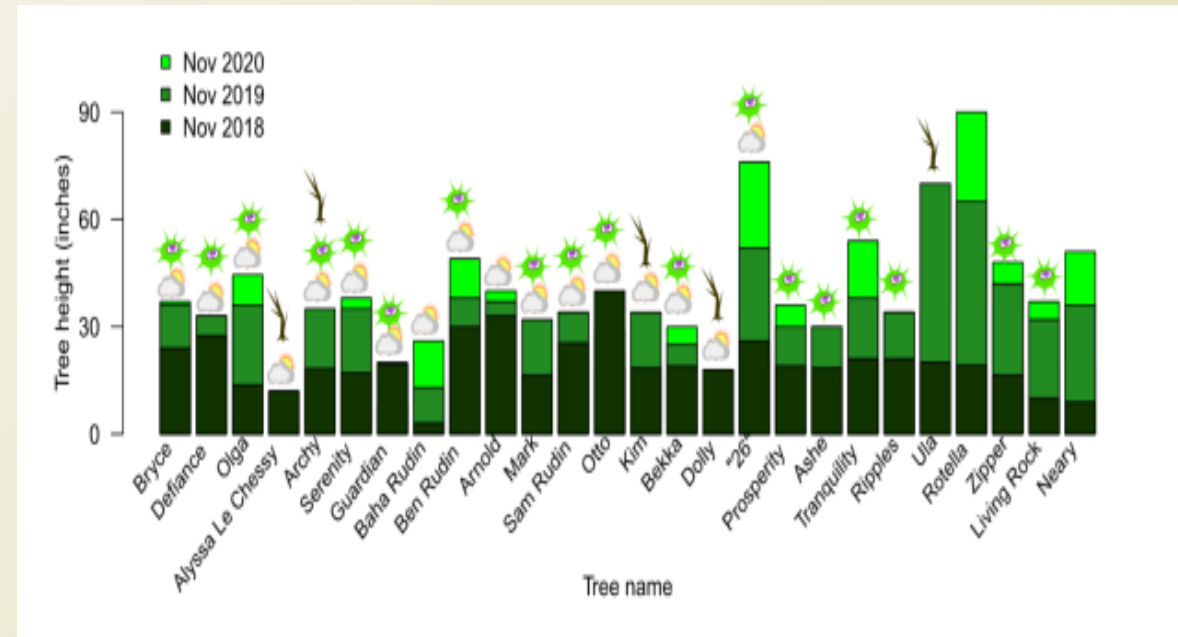


Figure 1. Growth averages (red or blue line) and standard deviation (pink or blue shadow) of all *C. dentata* trees planted at Emmaus, PA location separated by presence or absence of blight. (Growth averages trees that contacted blight are shown in blue and no blight are in red).





Findings, Results, Stats to Date

- 202 American Chestnut Trees Planted since 2018
- 35.5% of trees have blight
- 1 tree with blight did not survive. The remaining trees are surviving or recovered
- 20 trees were lost due to the following: (a) rodent/deer/insect damage; (b) Phytophthora root rot disease; (c) adverse site conditions/field drying out; (d) damage from fallen Ash trees affected by Emerald Ash Borer Disease
- Trees planted in sunny spots exhibit lowest mortality (16.4%); The mortality for fully and partially-shaded trees ranges between 23.5% and 27.6%
- Blight does not seem to affect the trees' growth, unless it kills the main stem



Solutions and Methodologies

- 2019 - Rodent and deer protection strengthened to maximize survival
- Ongoing – Management plans implemented by site managers to remove structurally compromised and brittle Ash trees from the planting sites
- Ongoing – Companion plants introduced to improve nitrogen levels
- Ongoing – Areas with trees exhibiting Phytophthora root rot disease excluded from future plantings
- 2020 – Added ectomycorrhizal fungi spores inoculant to help the trees uptake nutrients
- 2021 – Added mulching to the sites with full sun exposure to prevent drying out
- 2021 – Additional volunteers and citizen scientists recruited and trained for ongoing planting and monitoring on our sites and in their communities



New Initiatives

- 2020 – mapping and tracking mature American Chestnut survivors in the MA/NJ/NY/PA forests with the intent to pollinate and propagate them. In NJ, this undertaking is done in partnership with The Land Conservancy of NJ (TLCNJ) on the TLCNJ preserves.
- 2020 – root inoculations. We inoculate tree roots with a granular mycorrhizal inoculum consisting of 7 species of ectomycorrhizal fungi and 4 species of endomycorrhizal fungi, to help the trees with improved access to water and nutrients, promoting health, growth and performance.
- 2021 – The American Chestnut Tree Conservation Field Course offered to High School Seniors and Undergraduate College Students in NJ and PA. The Course is based on the American Chestnut Tree Conservation Field Course Manual we published in 2020.

2020-21 COVID-19 Impact

- Due to the COVID-19 related restrictions, the Citizens for Informed Land in Holmdel, NJ and the Lee and Virginia Graver Arboretum of Muhlenberg College in Bushkill Township, PA sites could not host our plantings. As a result, we moved the 2020 plantings to our existing sites where restrictions were more relaxed, the Land Conservancy of NJ preserves and Columcille Megalith Park in Bangor, PA.
- Over 150 volunteers came out to plant the trees with us. With all social distancing and safety precautions in place, we had two happy planting events in 2020 as planned!
- The Lee and Virginia Graver Arboretum reopened, and we are planning 15 trees there in April 2021





Our Partners

- The Land Conservancy of New Jersey
 - Columcille, Inc, Bangor, PA
 - The Lee and Virginia Graver Arboretum of Muhlenberg College, Bushkill Township, PA
 - Tree Pro
 - Tropic Forest.com
 - Paw Paw Everlast Label Company
 - Keystone 10 MILLION TREES Partnership
 - United Plant Savers
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Thank you!

Your support in action

