



ANTINANCO

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

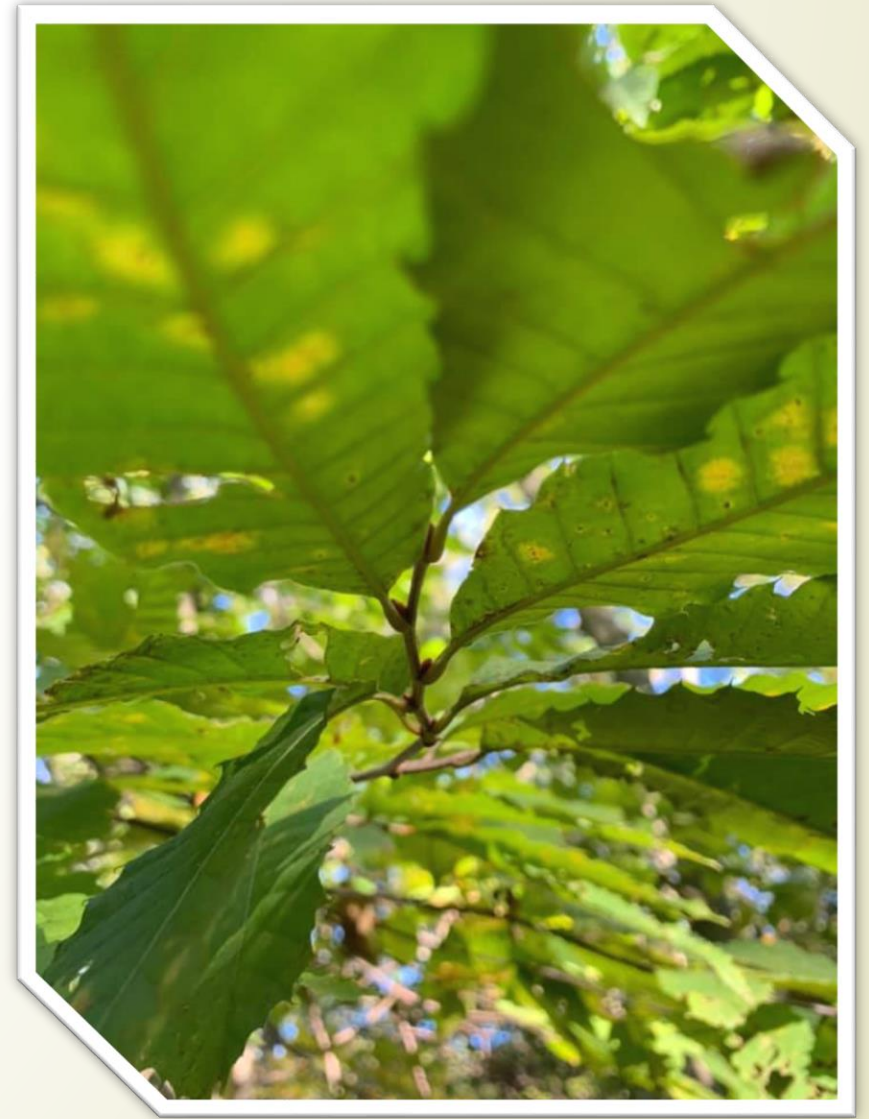
www.antinanco.org

Project Summary 2018-2022

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

214

American Chesnut trees planted
since **2018**



Project Summary 2018-2022



214

American Chestnut
Trees planted and
continuously monitored



600 +

Lesson Plans and
Educational Materials
distributed



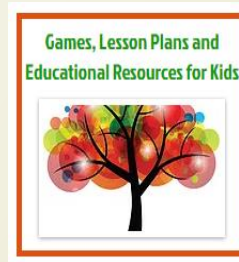
900 +

companion plants
and trees
planted



40+

Presentations
and Workshops
Held



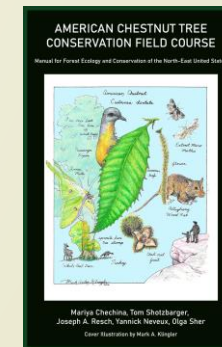
2500+

Outreach through
Educational
Resources Website



5

Planting Sites in NJ
and PA



Field course
Manual
Published



700+

Volunteers, children,
citizen scientists



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 2,500+ 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

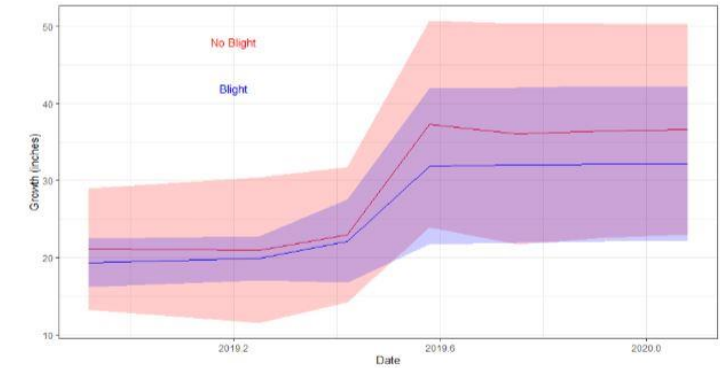
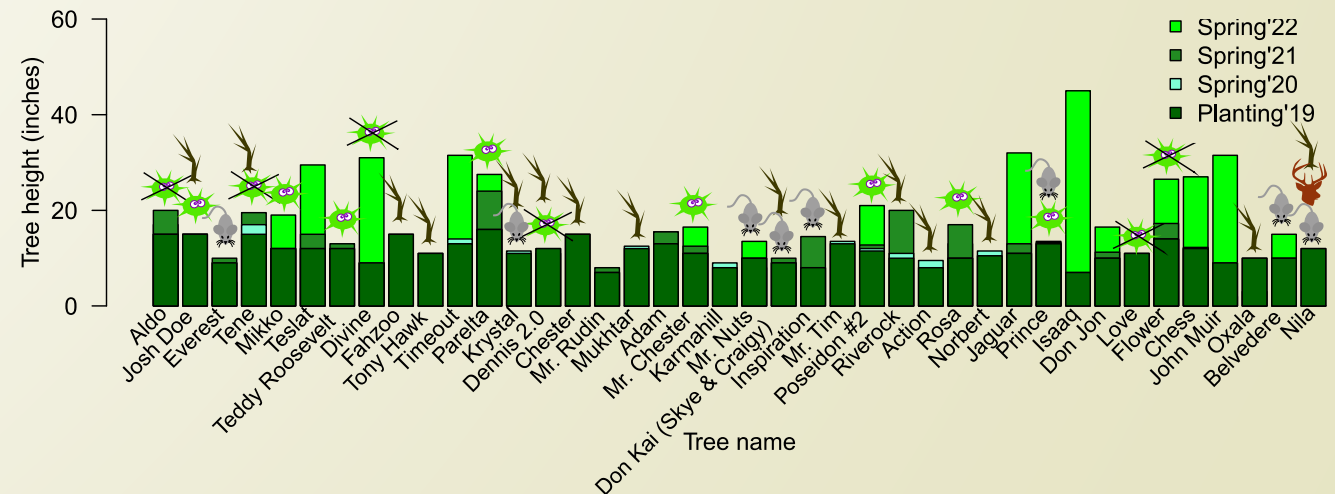


Figure 1. Growth averages (red or blue line) and standard deviation (pink or blue shadow) of all *C. dentata* trees planted at Emmaus, PA location separated by presence or absence of blight. (Growth averages trees that contacted blight are shown in blue and no blight are in red).





Findings, Results, Stats to Date

- 214 American Chestnut Trees Planted since 2018;
- Out of 214 trees (37 hybrid and 177 pure breed), blight occurred in 66 trees (31 %), 26 of which are hybrid and 40 are pure;
- There were 41 trees (62 % of blight cases) that are growing well or thriving with the blight now inactive, 26 of which are pure and 15 hybrid;
- There are 18 cases of active blight currently present (27 % of blight cases), 6 are hybrid and 12 are pure;
- From the Project inception in 2018, we lost 33 trees (15%) due to the following causes: (a) 6 trees (11 % of blight cases) died from blight and other causes, 5 of these were hybrids and 1 pure; (b) 6 lost to rodent and 2 to deer damage; (c) 11 lost to drought/unfavorable soil conditions; (d) 2 lost to root rot; (e) 4 lost to fallen Ash trees; (f) 1 lost to mowers; (g) 1 cause unclear, no signs of blight.




Developments and Solutions

- 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
- 2021-2022 – Added mulching to the sites with full sun exposure to prevent drying out
- 2021-2022 – Additional volunteers and citizen scientists recruited and trained for ongoing planting and monitoring on our sites and in their communities
- 2022 – All shelters upgraded, new sources of pure American Chestnut seeds found in the wild
- 2022 – science team expanded, additional site added



Where We Are Heading in 2023:

- Plant additional American Chestnuts with beneficial companions;
 - Involve 300+ members of the public and volunteers to participate;
 - Distribute 100+ trees to the community members to plant on their sites;
 - Continue to offer educational component, and develop the American Chestnut Tree Conservation Field Course;
 - Continue to care for all planted trees;
 - Conduct research on hypovirulent inoculation as a method to address blight;
 - Continue to collect, analyze and share data on the Project progress.
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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

Thank you!

Your support in action

