

Chestnut

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Junior High Partnership

GROWS AMERICAN CHESTNUTS AND STUDENTS

By Jesse J. Greene, 7th Grade Life Science Teacher at Tantasqua Regional Junior High School

It has been one year since 7th grade science teachers of Tantasqua Regional Junior High, in Fiskdale, MA, gathered in a science classroom with board members from the MA/RI chapter of The American Chestnut Foundation (TACF). They discussed how a partnership might bolster the school's life science curriculum to match students' enthusiasm and will to "do something to help" the American chestnut. After learning about the demise of the tree and the resulting social, economic, and ecological catastrophe that ensued, students repeatedly expressed both concern and an urgency to participate in the 100+ year effort to restore this grand tree to our forests and our common memory. A unique partnership evolved, and an ongoing environmental stewardship program has become part of the 7th grade curriculum, with the American chestnut tree as the centerpiece.



One of the first burs harvested, following June cross pollinations.



After a hot afternoon of tagging candidate trees for backcross pollination, Tantasqua Chestnut Project students, their teachers, and MA/RI chapter president Lois Melican, take a rest in the shade.



A student gently transfers blight-resistant pollen, provided by TACF's Director of Science Jared Westbrook, onto the styles of a pure American chestnut, flowering atop Mt. Ella, at Flynt Park in Monson, MA.

The program launched last spring, exposing all 300 seventh-grade students in the Tantasqua Regional Junior High School to the important ecological lessons inherent to the story of the American chestnut. Shortly after, a group of enthusiastic students joined together with their science teachers to form a group called the Tantasqua Chestnut Project. They have been working after school hours and throughout the past summer, mentored by MA/RI TACF board members, with the goal of establishing a 200-tree research orchard on school grounds. At the suggestion of TACF director of science, Jared Westbrook, the orchard will be used to develop a regionally adapted tree for Massachusetts' forests, and diversify the gene pool of potentially blight resistant trees. Throughout the process, students have been afforded an array of experiences. They have learned to identify American chestnut in the wild and have sought out, pre-bagged, backcross pollinated, and harvested hybrid seeds from flowering, native Massachusetts chestnut trees. Their work has inspired an additional partnership with the Town of Monson, MA, the location of the native flowering trees. The Monson Parks and Recreation Department agreed to designate the mountaintop site of the flowering American chestnuts as an American Chestnut Management Area, open to the

Tantasqua Regional School District and other interested schools for ongoing research endeavors. Students have been working to manage the area to

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encourage continued flowering of the chestnuts there, for future backcross pollinations. In addition to their field work, students of the Tantasqua Chestnut Project have been furthering the cause through presentations to the Tantasqua School Committee, TACF board members and enthusiasts at

the MA/RI Chapter annual meeting, and to a panel of Mass Audubon naturalists at the Broad Meadow Brook Wildlife Sanctuary, in Worcester, MA. Students are currently working in preparation of the establishment of their research orchard this spring. Organized into subcommittees, students are constructing an indoor seed starting station and an outdoor cold frame for hardening off chestnut starts. They're also drafting plans for the layout of the research orchard and an outdoor classroom area, creating a public art installation for the research orchard that will depict the story of the American chestnut and the lessons it can teach all of us about human impact on ecosystems. To top it off, they are organizing both a planting event and ribbon-cutting ceremony for the opening of the orchard this coming June.

The chestnut project is helping to grow and develop the students who have been involved. Current 8th grade student, Quinn McHugh, stated during his presentation at the MA/RI Annual Chapter Meeting, "Initially, my mom convinced me to join the after-school group, but now, working with American chestnuts has become one of the best things I do each week. I've learned that I want to pursue biology and be a biologist someday." The project inherently provides a wide array of valuable experiences for students. Aside from science skills and



Students plant the first potentially blight resistant A. chestnut trees, in what will be many years of successive planting, at Monson's Flynt Park A. Chestnut Management Area.

FOUNDING STUDENTS: Alexis Carson, Ian Morrell, Louis Desy, Emma Foley, Sydney Leanna, Olivia Hood, Olivia Roy, Rebecca Mahon, Quinn McHugh, Spencer Cipro, Nadine Chidester, Brendan Metz

FOUNDING TEACHERS: Jesse Greene (7th grade Science), Kristin Daley (7th grade Science), Talia Quinta (7th grade Science), Don Lavin (7th & 8th grade Technology/Engineering), Carol Willard (7th & 8th grade Art)

Jesse Greene is a 7th grade middle school science teacher at Tantasqua Regional Junior High School in Fiskdale, MA. He first learned of the American chestnut as an undergraduate landscape architecture student at the University of Massachusetts Amherst, and has since, been finding ways to incorporate its lessons into the teaching of middle school ecology. Jesse and his colleagues use project based learning (PBL) in their teaching, to bring real world, authentic, contexts, added purpose, and heightened intrinsic motivation, to students' learning experiences.

knowledge, field work promotes outdoor physical activity, speaking engagements provide opportunities for students to develop both written and verbal communication skills, project challenges motivate students to be critical thinkers, problem solvers, and generally, can-do people. The subject matter raises students' awareness of the fragility and value of the natural environment, as well as the necessity for people to be good stewards of it. Lois and Denis Melican, MA/RI chapter president and board member, respectively, and faithful weekly mentors, sum it up perfectly.

"We are impressed and delighted with the students and teachers of the Tantasqua Chestnut Project. This project gives students hands on understanding of the effects we can have on the environment, as well as helping the TACF MA/RI chapter with a critical piece of our mission - promoting citizen science.

We can't wait to begin planting the first research orchard on school property this spring, then working with another class of 7th graders who will explore Mt. Ella, in Monson, pollinate more chestnut trees this summer, and then harvest the nuts this fall. Taking students through this process has been enlightening and exhilarating for us."

The Tantasqua Chestnut Project is a collaboration between TACF MA/RI chapter and Tantasqua Regional Junior High School, in cooperation with the Monson Parks and Recreation Department. Each year, 300 students will leave their seventh-grade experience knowing the history of the American chestnut, the ecological lessons it has to teach humans about the importance of environmental stewardship, and an increased awareness of the tremendous impact that humans have on ecological systems. Each year, some of those students will join the ranks of the after school Tantasqua Chestnut Project. They'll work as citizen scientists in the effort to restore the American chestnut to forest ecosystems, and as environmental activists, extending the ecological lessons learned in school and through the project, to the larger community.

For a closer glimpse into the first endeavors of the Tantasqua Chestnut Project, please visit <http://tantasquachestnut.weebly.com/>