

Flippo Gravatt and Chestnut Blight Research, 1926-1953

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The summer 2020 issue of the *Watershed Observer* featured Land Manager Autumn Phillips-Lewis's article, "New Hope for Restoring an Old Forest Giant." (*The Watershed Observer*, Summer 2020, p.7, <https://bit.ly/ACLTSummer2020NL>)

The American chestnut is the land trust's namesake and Autumn's article describes recent developments that may restore this important species. This article reports on an older, more intimate connection between ACLT and *Castanea dentata*.

The ACLT was launched in 1986-87 with the purchase of about 440 acres of land from the estate of Annie and George Flippo Gravatt. Both were forest pathologists in the Department of Agriculture, based at the research facility in Beltsville, Maryland. Flippo's main professional interest was the blight affecting the American chestnut. As Autumn reports, the disease was introduced from Asia, identified in New York in 1904 and, within a few decades, it had destroyed a species that had once represented twenty-five percent or more of forested land in the East.

Gravatt's contributions to the effort figure in Susan Freinkel's 2007 book *American Chestnut: The Life, Death, and Rebirth of a Perfect Tree* (Berkeley: University of California Press). Freinkel reports that the state of Virginia established a Chestnut Blight Laboratory at Virginia Polytechnic Institute in 1912 and that Gravatt became the unit's head, just before his move to Washington and the USDA. Gravatt's report, *The Chestnut Blight in Virginia* (Commonwealth of Virginia), was published two years later and it counseled the cutting of diseased trees, not to stop the inevitable advance of the blight but rather to give residents south of the front line "a year longer to market chestnut products, a year longer for [tannin] extract plants to operate."

Gravatt studied and wrote about the fungal disease that is the main cause of tree death, *Cryphonectria parasitica*; referred to in Gravatt's day as *Endothia parasitica*. Gravatt also studied a second disease-causing fungus that attacks the chestnut's roots, *Phytophthora cinnamomi*. He coauthored a paper on this disease published in *Phytopathology* in 1945. The most recent article this writer has identified is dated 1953, published in *First Proceedings, Northeastern Forest Tree Improvement Conference*.

In the late 1940s, Gravatt participated in USDA efforts to hybridize American and Chinese chestnuts, an effort ultimately judged to be unsuccessful. By the 1960s, the USDA had stopped its work on chestnut diseases and, as Autumn writes, the work has primarily proceeded under the auspices of entities at the state level and by independent organizations like the American Chestnut Foundation.



Flippo Gravatt inspecting the end of a branch cut from an American chestnut tree, probably during the 1930s. Courtesy Norman Prince and the Scientists' Cliffs archives.

The Gravatt-Miles family papers are held in the Scientists' Cliffs Archives. The collection does not include a copy of the 1914 work cited by Freinkel, but it does hold several others, including the 1945 article. Copies provided to the ACLT can be accessed at the following links:

- 1926: G.F. Gravatt and R.P. Marshall, *Chestnut Blight in the Southern Appalachians*, U.S. Department of Agriculture Circular 370. (<https://bit.ly/Gravatt1926>)
- 1930: G.F. Gravatt and L.S. Gill, *Chestnut Blight*, U.S. Department of Agriculture Farmers' Bulletin 1641. (<https://bit.ly/Gravatt1930>)
- 1945: Bowen S. Crandall, G.F. Gravatt, and Margaret Milburn Ryan, "Root Disease of *Castanea* Species and Some Coniferous and Broadleaf Nursery Stocks Caused by *Phytophthora Cinnamomi*," *Phytopathology*, Vol. XXXV, no. 3, pp. 162-180. (<https://bit.ly/Gravatt1945>)
- 1949: G.F. Gravatt, "Chestnut Blight in Asia and North America," *Unasylva* (Food and Agriculture Organization of the United Nations), Vol. III, No. 1. (<https://bit.ly/Gravatt1949>)
- 1953: G.F. Gravatt, J.D. Diller, F.H. Berry, A.H. Graves, and H. Nienstaedt, 1953, "Breeding Timber Chestnuts For Blight Resistance," *First Proceedings, Northeastern Forest Tree Improvement Conference*, Williamstown MA. (<https://bit.ly/Gravatt1953>)