

# Restoration Efforts

## The American Chestnut Foundation



*Flowers bagged for controlled pollination*

For many years, the federal government launched vigorous programs to stem the spread of the blight and to develop resistant varieties of the chestnut, but to no avail. Government efforts did not produce trees with high levels of resistance and the desirable nuts of the American chestnut. With recent developments in genetics and plant pathology, there is a promise that this critically important wildlife food source and timber tree will once again become part of our landscape and natural heritage. To make this possibility a reality, a group of prominent scientists in 1983 established the non-profit, research-oriented American Chestnut Foundation (TACF). The Foundation's mission is simple: to restore the American chestnut as an integral part of the Eastern forest ecosystem.



*ROWS OF YOUNG TREES IN VARIOUS STAGES OF BREEDING AT TACF'S MEADOWVIEW RESEARCH FARMS*

TACF employs the backcross method of plant breeding to transfer the blight resistance of the Chinese chestnut to the American chestnut. This method entails first crossing the two species, then backcrossing repeatedly to American chestnut. Each backcross reduces the Chinese parentage by a factor of one-half. After three backcrosses, the progeny average fifteen-sixteenths American, and one-sixteenth Chinese. The growth characteristics of the American tree are retained, as Chinese traits are diluted, by backcrossing--except for blight resistance, which is retained by using only blight-resistant American trees in the crossing.

### *TACF Volunteers*



**WE ARE CLOSE TO HAVING THIS PRECIOUS TREE BACK.** TACF is currently expanding the regional diversity aspect of its breeding program. Native trees are being sought throughout the tree's former range to be incorporated into the extensive breeding program now underway. Greater genetic diversity will be incorporated into the resulting blight-resistant trees. TACF plans to start reintroducing these trees in early forest trials by 2010 in cooperation with the United States Forest Service and university partnerships.

### THE AMERICAN CHESTNUT FOUNDATION

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