Select Seedlings

IDNR Division of Forestry
Vallonia State Tree Nursery
812-358-3621

"Select" tree seedlings are grown from seed collected in seed orchards controlled by the Division of Forestry and Purdue University.

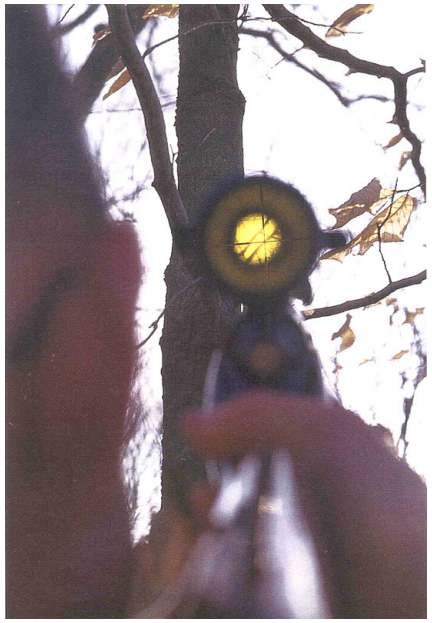
Researchers from Purdue University and the Division of Forestry's Tree Improvement Program have been collecting seed and scion wood (branch cuttings for grafting) from "plus trees" for more than 35 years.

A "plus tree" selected for growth and form

"Plus trees" are parent trees that have been selected for various phenotypic (visibly observable) traits like:

- Height and diameter growth,
- Stem form,
- Branching habit
- Disease resistance,
- Cold tolerance, etc.

They are collected from both natural stands and established plantings.



Collecting Scion wood with a rifle

The selected "plus trees" are planted into dedicated grafted seed orchards and seedling seed orchards. These orchards are then monitored for comparison both among the

population of "plus trees" and also with common nursery-run planting stock. Trees that exhibit the best performance are retained for seed production. Those that don't perform well are eliminated from the planting.

A grafted black walnut seed orchard

Progeny testing (comparative study plantings of the offspring) is underway to quantify the increased potential of the orchard trees to pass on their good traits to their seedlings.

A 4 year old black walnut progeny test

Until recently it had been the policy of the Division of Forestry's Nursery Program to mix all orchard seed into the general nursery population. A recent survey of the Nursery Program's customers has shown that a high percentage of their trees are planted primarily for reasons other than high quality timber production. Mineland reclamation, wildlife habitat, erosion control, and windbreak establishment don't benefit greatly from the inclusion of orchard seed. Therefore, it was decided to segregate the seed from the best performing orchard trees for a ***"select"*** seedling line, and make them available to planters specifically interested in high quality timber production.

SeedHarvest

"Select" seedling lines will be available for the following species subject to annual seed production:

- Black Walnut
- Red Oak
- White Oak
- Black Cherry

Select Parent Performance in Managed Seed Orchards at Vallonia Nursery

Species	Annual Increment (diameter growth)
Black Walnut	0.55 inches
Red Oak	0.47 inches
White Oak	0.54 inches
Black Cherry	0.54 inches

Comparison of Select and "Forest Run" Black Walnut at Martell Research Forest

Source	Diameter (36 yrs)	Annual Increment
Select	13.5	0.37 inches
Forest Run	11.0	0.29 inches

"Select" seedlings cannot be expected to perform well on a poor planting site. Please contact your IDNR District Forester to discuss appropriate species for your planting.

Select seedlings may be ordered from the state nurseries. When order forms are available in the fall of the year, a notice will be posted on the nurseries' webpage: http://www.in.gov/dnr/forestry/3606.htm.