PURDUE INNOVATES | Office of Technology Commercialization

Greatwoods: Genetically Optimized Black Walnut Trees

Genetically optimized black walnut trees increase timber value by growing faster, straighter, and stronger than traditional varieties.

Black walnut trees are one of the most valuable species in the United States. The hardwood is used in making quality lumber and veneer and has an added benefit of producing walnuts used in food production. In general, hardwood trees have many other benefits. They provide environmental stabilization as windbreakers, protection from watershed, and reclamation. The raw materials from the wood are used in cosmetic, pharmaceutical, and botanical industries. The lumber is used for residential and commercial structures, interior furnishings, musical instruments, and other specialty wood products. Trees are aesthetically pleasing and have the added benefit of conserving energy, controlling pollution, and providing habitats for animals in urban settings. Because of the high value placed on hardwood trees, efforts to maintain and develop genetically modified hardwood trees that are resilient to disease, nutrient deprivation, and deforestation.

Purdue University researchers have developed a genetically modified black walnut tree that has the advantages of growing faster, straighter, and stronger. The trees repopulate forests and tree farms quicker, saving time and money in hardwood cultivation. This technology will provide an optimized wood for the lumber industry, specialty wood products, and black walnut trees that will last longer in our urban areas.

Advantages:

-Grows faster, straighter, and stronger

Potential Applications:

-Forestry

-Agricultural industry

-Lumber industry

Technology ID

65146

Category

Agriculture, Nutrition, & AgTech/Crop Genetics & Breeding
Biotechnology & Life Sciences/Synthetic Biology & Genetic Engineering

Authors

Charles Michler

Further information

Raquel Peron
rperon@prf.org

View online

TRL: 6

Intellectual Property:

Trademark, 2008-09-05, United States | Trademark, 2009-04-29, Europe | Trademark, 2009-09-06, Chile | Trademark, 2010-01-27, Argentina | Trademark, 2014-08-14, United States

Keywords: genetically superior black walnut, improved growth rate, fast-growing walnut trees, high-quality black walnut wood, optimized nut production, tree breeding, superior black walnut cultivars, engineered walnut trees, black walnut timber, fast-growing timber, Agriculture, Hardwood Trees, Plant Genetics