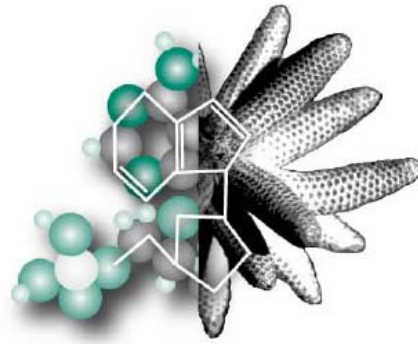


Pine Genome Initiative



Unlocking the Secrets of the Pine Genome – the Key to Healthier Forests

What is the Pine Genome Initiative?

The Pine Genome Initiative (PGI) is a scientific plan to use the revolutionary tools of genomics to increase our knowledge of molecular processes that control economic and ecological traits in pine and related coniferous trees, such as spruce, Douglas-fir, cedar, and hemlock. PGI is supported by a broad coalition of scientists, universities, foresters, land owners, and forest products companies. The USDA's Forestry Research Advisory Council recently identified Pine Genome research as an important national priority that will provide "the foundation for enhanced conifer productivity and production of bio-based products and fuels."

Why Undertake this Effort?

PGI will provide important benefits to:

- Help US timber growers and forest products companies remain competitive in global markets.
- Help protect trees in forests, parks, and gardens from invasive pests and pathogens.
- Increase the capacity of managed forests to sequester carbon and produce renewable materials and energy.
- Assist the world in reaching a carbon-neutral energy budget.

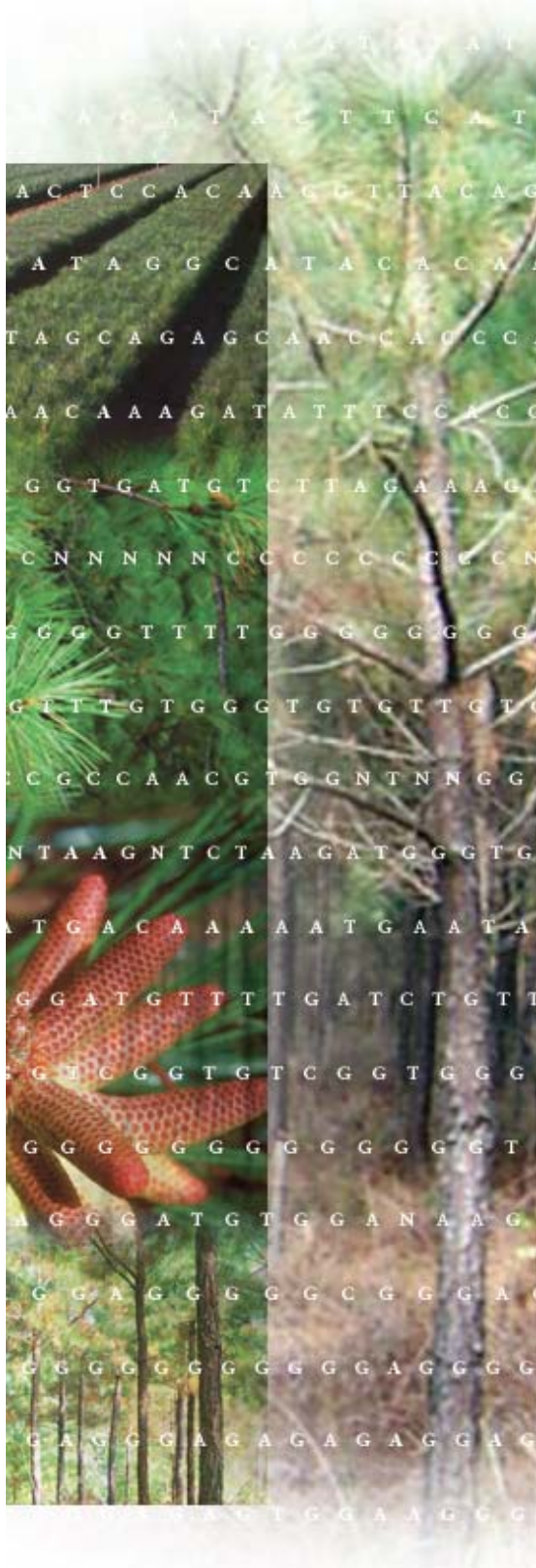
What are the Deliverables?

In five years, PGI will produce scientific deliverables in four key areas:

- Identify all of the active genes in the pine genome, determine their locations, and study their functions.
- Identify specific genes that regulate photosynthesis, wood formation, disease resistance, and other important processes.
- Use knowledge of pine genomes to accelerate genetic tree improvement.
- Use knowledge of pine genomes to increase scientific understanding of the ecology and evolution of tree species and enhance forest health, conservation, and restoration.

What will be the Infrastructure for this Initiative?

The PGI should be implemented through a competitive grants program administered by federal agencies with responsibilities and expertise in tree genomics research. The recommended funding level for PGI is \$10 million in FY 2008 and \$30 million in each of the following four years (\$130 million total). The program would be administered, jointly by USDA CSREES, DOE, NSF, and USDA Forest Service. U.S. scientists interested in pine genome research have organized into a self-governing body that developed the clear and achievable research objectives outlined in the PGI.



Why Pine Trees?

- Timber has the highest annual farm gate value of any crop other than corn
- Pines and other conifers are among our most valuable tree species from both economic and ecological perspectives
- With over 1 billion seedlings planted annually, it is expected that these plantations will provide about 70 percent of the U.S. timber supply by 2040.

What are the Benefits?

- Energy security by improving tree characteristics to produce liquid biofuels
- A more reliable source of biofuel feedstock to achieve Renewable Fuel Standards
- Climate change management through faster growing trees to store greenhouse gases
- Healthier forests by combating pests with improved breeding, bioengineering and management
- Degraded land reclaimed by hardy trees designed to withstand harsh conditions
- More productive tree varieties to keep wood production forests competitive and in business
- International competitiveness through lower cost fiber grown locally
- More students graduating in the high value sciences and biotechnology fields
- Additional money will be leveraged into research from international sources

For more information please contact:

Susan McCord
Institute of Forest Biotechnology
susan_mccord@forestbiotech.org

Or visit the PGI website: pinegenomeinitiative.org