

## **Responsible Use: Forest Biotechnology Guidelines** - An Initiative of the Institute of Forest Biotechnology -

The Institute of Forest Biotechnology (IFB) has launched an initiative to develop guidelines for the Responsible Use™ of biotechnology in forests. Biotechnology is a powerful tool being used to grow trees with special characteristics. When used responsibly, society and the environment can benefit from advanced tree breeding technologies, such as genetic engineering, to protect threatened species, remove contaminants from soil, and grow more wood fiber on less land.

Genetically engineered forest trees will be grown for fiber production within the next five years. However, there are currently no long-term, post commercialization guidelines for the stewardship of these trees. There needs to be a mechanism to determine which uses of this technology will bring benefit, and which might cause harm. Without Responsible Use Forest Biotechnology Guidelines™, long-term management of these trees may never be addressed. Through science, dialogue, and stewardship, we can enhance the benefits of these trees while minimizing any risks.

### **Sustainable Fiber:**

Society needs sustainable sources of wood fiber for communication, food packaging, housing, and renewable energy. Yet the world does not have enough sustainable fiber to fill all these needs. Instead, we have illegal logging, land being converted from forests to housing developments, and an onslaught of invasive threats damaging the health of our forests. Biotechnology is a powerful tool that can grow more fiber on less land, and improve the health of forest ecosystems by combating invasive threats.

However, it is not a forgone conclusion that producing fiber from genetically engineered trees is sustainable - nor should it be today. Society has correctly identified forests as critically important to the well being of global ecosystems. Having a plan for the long-term stewardship of advanced trees of any kind is a prerequisite by most thoughtful societies. The proliferation of sustainable forestry certification schemes shows that the public places a high value on the responsible management of natural resources. The Forest Stewardship Council (FSC) currently bans the use of genetically engineered trees. This ban has serious consequences for organizations wishing to maintain FSC certification; the State of Minnesota has prohibited the use of genetically engineered trees in all state forests. Outright bans should be expected if no science-based guidelines addressing the long-term stewardship of genetically engineered forest trees exists.

The forest products industry, its customers, and end users bear high risks if there is no set of Responsible Use guidelines – whether they favor the use of genetically engineered trees or not. For example, there is little doubt that these trees can economically produce large quantities of fiber on less land. However, costs in the supply chain can be significant if genetically engineered fiber must be treated differently. Though fiber from genetically engineered trees will undoubtedly cost less to produce than conventional fiber, its use or explicit disuse will require additional supply chain systems if customers demand fiber segregation. If genetically engineered fiber is safe for people and the environment, then it should be treated the same as conventional fiber.

**Vision:** The Institute of Forest Biotechnology will manage the creation of Responsible Use Forest Biotechnology Guidelines to benefit society and the environment.

**Scope:** These guidelines will supplement regulations and help users determine what are responsible versus irresponsible uses of forest biotechnology. The guidelines will be based on scientific benefits and risks to the environment and society as a whole. Ultimately, the guidelines will be globally applicable, though early stages of guideline development will focus on regions first to plant genetically engineered forest trees. A multi-stakeholder process will drive the development of the guidelines. Experts from academia, environmental organizations, the forest products industry, and government agencies will participate in creating these guidelines. The guidelines will be robust to provide a high level of assurance that requirements are adequately met. Organizations may choose to verify their adherence to the guidelines, but no certification mechanism is planned in this scope.

**Process:** This initiative will be managed and produced by the Institute of Forest Biotechnology following its platforms of science, dialogue, and stewardship. Responsible Use will be developed in three phases. The final set of guidelines will be launched in approximately two years accompanied by a management framework for the ongoing improvement of the initiative. Committees will be developed to guide the process through strategic planning, guideline development, real-world testing, and ongoing management. Guidance from stakeholders in various fields will be combined with public comment to ensure all interested parties have a chance to participate in developing these guidelines.

**Phase I (Alpha):** A strategic/implementation committee will be convened of up to 25 experts from broad categories critical to sustainable development including: societal, environmental, economic, and public policy. This committee will begin to detail the range of guidance and set a strategic course for the initiative. Experts will be retained for an implementation committee to create a beta set of guidelines. The IFB will manage stakeholder dialogue, public comment, and develop a structured approach for testing the guidelines.

**Phase II (Beta):** Guidelines will be tested in real-world applications. Results from these tests will be used to determine how to adjust the guidelines to be most effective. Ideally, multiple organizations will test the guidelines and provide feedback. A set of operational guidelines will be produced and commented on by the public. The IFB will develop a management framework for the ongoing success of the initiative.

**Phase III (Live):** Guidelines will be targeted for release in 2009. Participants will be sought to use the guidelines and provide feedback for ongoing adjustments. While these guidelines are not intended to supplant regulatory programs and sustainable forest management schemes, they should be used as a supplement to such mechanisms. The IFB will continue to manage stakeholder interactions and update the guidelines every 3-5 years depending on both the pace of forest biotechnology advancements, and demand for guideline changes.

**Contact:**

Please contact us for additional information, ways to sponsor this initiative, stakeholder engagement opportunities, or if you have ideas on ways to strengthen the guidelines.

Adam Costanza – President  
[adam.costanza@forestbiotech.org](mailto:adam.costanza@forestbiotech.org)  
P: (+1) 919.424.4464

Susan McCord - Executive Director  
[susan.mccord@forestbiotech.org](mailto:susan.mccord@forestbiotech.org)  
P: (+1) 919.424.4461

Responsible Use website:  
Institute of Forest Biotechnology website:

[www.responsibleuse.org](http://www.responsibleuse.org)  
[www.forestbiotech.org](http://www.forestbiotech.org)

## Stewardship Based on Science - Driven by Dialogue

The Institute of Forest Biotechnology (IFB) promotes the responsible use of biotechnology in forest trees. We advance the societal, environmental, and economic benefits biotechnology can bring to forests around the world. The IFB is the only non-profit organization to address the sustainability of forest biotechnology on a global scale.

Our forests are under pressure from global trade, population growth, invasive threats, and increased demands on natural resources. When used responsibly, biotechnology can be a powerful tool to combat the damaging effects invasive pests and a changing climate has on our forests. The technology can also be used to balance the demands people place on forests. The IFB is focused on accelerating the benefits to society and the environment, while addressing the risks in this burgeoning field.

### How can the responsible use of forest biotechnology benefit society?

- **Improve biofuels:** Forest fuels are some of the most renewable biofuels on earth. Biotechnology can increase the efficiency of producing forest fuels.
- **Fight a changing climate:** Advanced trees can withstand weather extremes and sequester more carbon to reduce atmospheric greenhouse gas concentrations.
- **Protect species:** Diseases have destroyed the America Chestnut, the Elm, and many other trees. Biotechnology can bring trees back to forest ecosystems.
- **Conserve land:** From growing more wood on less land, to rehabilitating degraded soils, forest biotechnology is a powerful tool to conserve land.
- **Grow more wood:** Trees provide sustainable products for society. The responsible use of biotechnology can more than double wood production, and improve wood quality.
- **Make forests healthier:** Biodiversity is an important measure of an ecosystem's health. Biotechnologies can maintain diverse populations in a changing landscape.
- **Clean up after us:** Human development has put hazardous material in the environment. Trees can be engineered to absorb toxic substances for safe disposal.

The IFB dialogue to make sure positive aspects of forest biotechnology can be realized and any detrimental aspects are addressed. Our process is transparent and includes a wide range of stakeholders from academia, environmental organizations, public interest groups, industry, and government agencies.

The IFB has five Initiatives based on the platforms of science, dialogue, and stewardship:

- **Responsible Use™:** Forest Biotechnology Guidelines
- **Forest Fuels™:** Maximum, sustainable, potential of liquid fuels from trees
- **Pine Genome:** Decoding pines for vital forests
- **Heritage Trees™:** Species Protection through biotechnology
- **Addressing Bioforestry Concerns:** Stakeholder dialogue on ecological and social issues

Our success is a result of our Partners, Sponsors, and Board of Directors. The IFB is expanding globally where forestry plays a critical role in society and the environment. Together, we will bring science, dialogue, and stewardship to forest biotechnology. Please visit our website, [forestbiotech.org](http://forestbiotech.org), or contact us for additional information.

Adam Costanza - President  
[adam.costanza@forestbiotech.org](mailto:adam.costanza@forestbiotech.org)  
P: (+1) 919.424.4464

Susan McCord - Executive Director  
[susan.mccord@forestbiotech.org](mailto:susan.mccord@forestbiotech.org)  
P: (+1) 919.424.4461

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National Program Leader Genetics Research: USDA Forest Service and Co-chair: Pine Genome Initiative

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