

Biotech Trees

SweTree Technologies identifies genes influencing wood composition, fiber dimensions and biomass growth in trees. We currently test approximately 300 genes annually in our internal program. These genes are mainly selected on gene expression data from the growth zones of trees. We also have collaborations with external parties among the Woodheads researchers as well as with Mendel Biotechnology Inc.

Increase fiber and biomass growth.

From our in-house research on fiber dimension and biomass and our collaboration with the Woodheads researchers we have identified a number of genes that, with altered gene expression, greatly increase growth and fiber length in trees. We have solid green house data with many parameters analysed on several samples of each gene. We are continuing the tests on the best genes in the green house as well as planning for field testing.

- These technologies will provide new transgenic trees that can grow taller and faster. We will develop trees with increased fiber length and stem biomass. Presently, we focus on poplar, eucalyptus and spruce.

Several genes involved in biomass growth comes from our collaboration with Mendel Biotechnology. This company has an expert understanding of the function of plant transcription factors and has identified genes, which, when over-expressed, gives increased biomass production in several plant species.

- These genes are present in poplar and other trees and has, in our first tests in poplar, shown a profound influence on biomass. We are also successfully working with Mendel Biotechnology on genes giving interesting phenotype related to different forms of stress.

Improve wood properties.

Through our in-house research we have identified a number of genes that, when gene expression is altered, can influence wood composition, such as strongly change the Klason lignin levels in trees or other energy related parameters.

- This technology can provide trees with higher energy content.

- These trees are also being tested for other improved bioenergy properties, such as easier hydrolysis of the sugar polymers for subsequent production of ethanol.