ArborGen – the world's biggest GM tree research company plans to get bigger

In August 2007, ArborGen signed an agreement which brings the company's aim of being "the pre-eminent player in the global development and marketing of bio-engineered trees to the forestry industry" another dangerous step closer to reality.

When this US$60 million deal goes through, ArborGen will take over the tree nursery and seed orchard businesses from its three owners: MeadWestvaco and International Paper in the USA and Rubicon Limited in New Zealand and Australia. ArborGen will become the world's largest producer of tree seedlings, with operations in 20 locations in four countries. ArborGen estimates the combined yearly sales at 350 million tree seedlings, bringing in about US$25 million a year. So far, ArborGen's GM trees are not commercially available, but when ArborGen starts to sell its GM trees, this deal will give the company a huge, ready-made market.

Rubicon's Horizon2 will become part of ArborGen under the deal. Horizon2 produces tree seedlings for the plantations industry in Australia and New Zealand. Horizon2 is also carrying out research into GM eucalyptus and radiata pine, aimed at producing trees with less lignin, faster growth, insect resistance, stress tolerance and altered flowering behaviour.

Also in New Zealand, ArborGen has signed a research and development agreement with Scion, a state-owned forestry research organisation. The research is aimed at identifying the genes responsible for faster growth and other characteristics of interest to the plantations industry.

Rubicon's CEO, Luke Moriarty sees the potential market as ever expanding. "The annual unit sales of forestry seedlings are well into the billions, recur every year, and span the globe," Moriarty told Rubicon's shareholders in July 2005. What's more, ArborGen has so far cornered the market in GM trees. "There are no global competitors to Arborgen in this space," says Moriarty.

ArborGen is hoping to cash in on the biofuels boom and this year the company expanded its research to include biofuels. "Renewable energy can create new markets for green products," says ArborGen's CEO, Barbara Wells. ArborGen is one of the partners in the BioEnergy Science Center, a US$125 million project funded by the US government and led by Oak Ridge National Laboratory.

The company anticipates that its GM trees with reduced lignin content will be ArborGen's "first 'next-generation' treestock product to be commercialised". Trees with less lignin content are easier to pulp. But lignin is what holds wood cells together. It is what makes trees stand up. Reducing the amount of lignin in trees makes them more vulnerable to storms and more at risk to pests, fungi and disease.

ArborGen is currently carrying out field trials of reduced lignin GM trees in Brazil. The company set up operations in Campinas, Sao Paulo state three years ago. ArborGen started its GM tree trials in Brazil in 2005. This year, ArborGen won approval from Brazil's regulatory authority (CTN-Bio) to carry out a second full-rotation field trial of GM eucalyptus trees.

So far, the company does not have permission to market its GM trees in Brazil. "We have submitted all the required forms and met the government's guidelines for establishing trials. Information from these trials will be used to obtain the necessary authorization for commercial use," Fabio Brun ArborGen's director South America, told the forestry industry website RISI in May 2007. ArborGen is working in partnership with "some of the largest forest product companies in the region," according to RISI.

ArborGen is also researching a GM cold-tolerant eucalyptus which the company hopes will provide a source of raw material for the pulp and paper industry in the US South. Earlier this year, ArborGen won a controversial approval from the US regulatory authority (the Animal and Plant Health Inspection Service, APHIS) for a full rotation field trial in Baldwin County, Alabama. APHIS decided that the trial would have "no significant impact" and that ArborGen need not even prepare an environmental impact statement.

In December 2005, Rubicon stated that "ArborGen has been active with both the Brazilian and US authorities to ensure that any issues associated with the launching of biotechnology products in plantation forest trees are understood and that the regulatory regime implemented is science-based and workable in practice."

ArborGen's cosy relationship with the regulatory authorities seems to be paying off. The experts that APHIS turns to for advice about the risks of such trials are forestry scientists employed in academia or in pulp and paper corporations. APHIS even turned for advice to scientists working for two of the companies that own ArborGen: International Paper and MeadWestvaco. These experts all have one thing in common: an interest in trials of GM trees going ahead. Not surprisingly, in their advice to APHIS, they play down the risks and do not mention the precautionary principle.

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