



Hemp board.

In much of the world, vast quantities of agricultural waste are burned, contributing to air pollution and releasing CO₂. A consortium called Alberta Innovates—Technology Futures (formerly the Alberta Research Institute) has recently been working to develop varieties of industrial hemp, wheat straw, and other fibres. Hemp produces 10 to 15 tonnes of usable fibre per hectare, while wheat produces up to three tonnes of useable fibre. Compared to wood, hemp produces four times more biomass, and as an annual plant, it can be harvested every year.

According to Hemp Technologies of Asheville, North Carolina, industrial hemp has a fibre content of 30 to 40 per cent and can be made into paper and hemp panels, replacing the use of wood pulp. The panels are useful for furniture and cabinet projects and can essentially replace plywood and medium density fibreboard at a similar cost of about \$8 per square metre. The surface is typically painted or veneered, and panels are available in seven thicknesses from six to 38 millimetres.

China currently produces about 80 per cent of the world's industrial hemp. In Australia, Queensland, Tasmania, New South Wales, and Victoria have issued licences for industrial hemp cultivation, but production has not reached the world's top tier yet.

Another firm, the Kirei Company, makes a variety of sheet goods suitable for different applications. The company's Kirei sorghum board is made from sorghum straw and provides a bold natural pattern that works well for cabinetry and furniture projects. It's available in six, 10, 20, and 30 millimetre thicknesses at \$110 to \$170 per square metre, depending on thickness.

Kirei wheat board, in contrast, provides a very plain appearance and can replace traditional wood-based medium-density fibreboard. Both materials use a minimum of 90 per cent post-industrial content, and are eligible for LEED credits for recycled content, rapidly renewable materials, and low-emitting materials.

Several companies make sheet goods from different types of straw. Novofibre has licensed technology for oriented structured straw board (OSSB) from Alberta Innovates—Technology Futures and built a factory in central China to produce structural and decorative panels for China's growing building needs.

A similar product comes from the Enviro Board Company. The company has patented a process that can use a variety of different waste fibres, such as barley, oat, rice, and wheat straw, as well as flax, sugar cane, elephant grass, and sisal. The raw materials go into a dedicated machine that chops the fibres, presses them together at 35,000 psi at about 204 degrees Celsius with a nontoxic glue, then applies a waterproof membrane, cuts the panel to length, and caps the edges. Each panel can be framed with steel studs to create a fast, fire resistant, economical, versatile, and environmentally friendly building panel.

The company says each machine can produce up to 200,000 panels per year, with standard dimensions of 5.71 centimetres by 81.28 centimetres by 243.84 to 365.76 centimetres. Enviro Board claims using the panels in place of traditional methods saves builders up to 50 per cent in costs thanks to reduced set-up and installation time. Compared to OSB and gypsum board, the company says the process uses only one per cent of the energy to manufacture the panels. *Story courtesy of Friday Offcuts.*

Old Trees.

Last month I brought to you an article about the oldest Yew tree in the UK. One of our readers, Helen, has actually visited the tree and let me know this. Her photo of it has disappeared into the ether but Helen did send me a photo of a 500 year old Ginko from Japan. This is a very impressive specimen. I will pop the image on our Facebook page shortly. In Australia we have the mighty Huon Pine which can reach over 3000 years. The oldest fossil has been dated at 3462 years. Puts the 30-60 year rotation of regrowth into some perspective!

That's all for another month. *Cheers Shaun*

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