BioBoost
Accelerating biobased horticulture

From Eggplant Stem to Facade Panel

Crop	Eggplant *Solanum melongena*
Croppart	Stem
Application area	Materials
Status	Commercial stage
Public availability	Non-public
Relevant plant compounds	fibers

Description

In greenhouse horticulture, there are mountains of hidden value. Take, for example, the woody residues of the eggplant plant — often seen as waste or low-grade biomass after harvest. But what if *that very material* could be the beginning of something entirely new? At **Reduco**, we see that potential.

Driven by our belief that nothing from nature should be lost, we explore ways to create value from agricultural residues. We search for solutions within nature's own cycle: how can agricultural by-products, short-cycle wood, plant nutrients, and minerals come together to form truly circular building materials?

With Reduco, we have already developed panels made from woody residues such as willow and pruning waste — transformed into high-quality façade panels that are fire-resistant, moisture-proof, and vapor-permeable — and that can, after dismantling, once again return to the living ecosystem.

What's new in this story is that we have now successfully used the woody residues of eggplant plants for the production of a building panel. This idea originated 15 years ago when our collaboration with **Greenbrothers** began — and today, that promise has become reality.

Once again, we are closing the loop *from land to building* — from the agricultural field to façade material in construction.

In concrete terms, this means:

- The stems of eggplant plants — normally composted — are now collected and used as raw material for high-quality panel production.
- Through a binding process with minerals and plant extracts (as used in Beyond Wood), this biomass is transformed into a façade panel with structural strength and a circular profile.
- The result is a product that meets construction and safety standards, can be applied in regular building systems, and — after dismantling — can return to the soil or be reused in plant support. A truly *technical and biological circular* solution.

This also underlines a broader point: agricultural residues are not by definition low-value biomass — they can be turned into *high-value materials* that add functional and aesthetic value, reduce waste, and promote circularity.

Moreover, this new type of panel offers new perspectives for greenhouse horticulture and fruit & vegetable growers generating biomass streams: what you now see as waste could become part of the building sector. It opens the door to *new value chains, new business models,* and a *bio-based economy that truly works.*

For the construction sector, it means access to a façade material with distinctive properties — biobased, circular, and of natural origin — and a story that makes sustainability tangible. For architects, builders, and clients, it's a chance to move beyond "less bad" toward "better by design."

For the agricultural chain, it means a partner in Reduco — one that is ready to collaborate, explore scale, and pioneer the use of new residual streams.

Our Call to the Network

*At **Reduco**, we are currently looking for:*

- ***Project partners:** Building projects where you want to apply sustainable, biobased façade materials. We are ready to explore how our panels — now also made from eggplant stems — can be used in your project, from design to implementation.*
- ***Investors and cooperative members:** Our cooperative structure offers investment opportunities for those who wish to contribute to the growth of the biobased construction materials market. Together, we aim to achieve scale, unlock residual streams, and accelerate the circular building transition.*

Examples of end products

Eggplant Façade Panel

The first panel made from the woody parts of the Eggplant stem.

Market topics

Looking for Project partners

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Used conversion methods

Mechanical-Physical processes

Milling

Pressing

Resources

https://beyondwood.nl/ Initiative website