

Breadfruit propagation · Catalogue · November 2026

Otea breadfruit plantlets, propagated in the laboratory for Vietnam.

In-vitro propagation of *Artocarpus altilis*, variety Otea, selected for commercial breadfruit flour. Multiplied in Finland, acclimatised and planted in Vietnam.

VOLTIRA OY
EMPOWERING A SUSTAINABLE FUTURE

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Voltira in brief

Voltira Oy is a green-energy and agri-tech company in Ruovesi, Finland, with operations in Finland and Vietnam.

We run three lines of business. In Finland we develop ground-mounted solar farms and carry them from land to ready-to-build, and we freeze-dry Lion's Mane for food and supplement makers. For Vietnam we propagate breadfruit trees in the laboratory, starting with the Otea variety for breadfruit flour.

In Vietnam the company operates 4 MWp of rooftop solar with Reishi cultivation beneath the roofs, and 15+ hectares of robusta coffee farms.

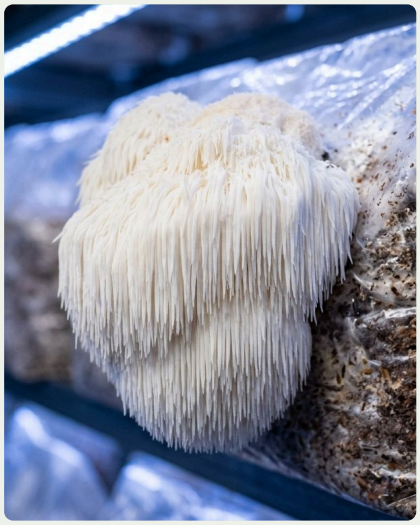
Head office	Operations	Business ID
Ruovesi, Finland	Finland and Vietnam	3503161-6 · VAT FI35031616

Three lines, three catalogues



Mounted solar

Solar farms in Finland, developed to ready-to-build.



Freeze-dried Lion's Mane

Fruiting body only, as slices, powder and capsules.



Breadfruit propagation

Otea tissue-culture plantlets, planted in Vietnam.

The catalogue you are reading is outlined. All three are available at voltira.fi or from julian.hua@voltira.fi.

Why breadfruit, why Otea

Breadfruit is a perennial staple: one tree, planted once, yields starchy fruit for decades. Dried and milled, the fruit becomes a gluten-free flour.

A tree crop for flour

Unlike annual staples, breadfruit needs no yearly replanting and little input once established. Trees typically begin bearing a few years after planting and keep producing for decades. For a flour supply chain the fruit is harvested mature, sliced, dried and milled.

Otea

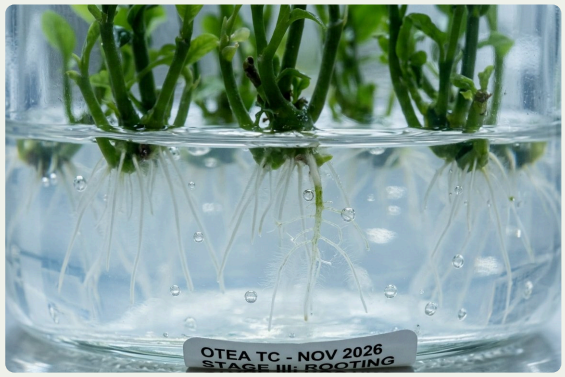
We selected the Otea variety for commercial breadfruit flour. Like most commercial breadfruit varieties it is seedless: it cannot be grown from seed and must be multiplied vegetatively. Vietnam has no stock of Otea mother trees to take cuttings from, so plantations cannot start the traditional way.

Why tissue culture

Tissue culture starts from a small amount of clean plant material and multiplies it into thousands of uniform, disease-free plantlets, true to the mother variety. It is the only way to reach planting scale for a variety that is not yet in the country.



Acclimatised plantlets ready for the field. Photograph illustrative.



Rooting stage in sterile medium.

The method

From culture to field

1 **Starting material**

Sterile in-vitro cultures of Otea from a laboratory in the United States, with variety documentation.

2 **Multiplication**

Shoot-tip culture in our laboratory in Finland. Each cycle multiplies the shoots; every culture is labelled by variety, stage and date.

3 **Rooting**

Shoots are moved to rooting medium and form their own root system in sterile conditions.

4 **Shipping**

Rooted plantlets travel from Finland to Vietnam in sealed culture vessels: no soil, no pests, with a Finnish phytosanitary certificate.

5 **Acclimatisation**

In a shaded nursery in Vietnam the plantlets are weaned from the vessel to pots over several weeks, then hardened for the field.

6 **Planting**

Hardened plantlets go to the orchard with planting and management notes for the variety.



Shoot multiplication. Cultures labelled by variety, stage and date.



Laminar-flow work in the culture laboratory. Photographs illustrative.

What you receive

Crop	Breadfruit, *Artocarpus altilis*
Variety	Otea, selected for breadfruit flour
Starting material	In-vitro cultures from a laboratory in the United States
Method	Shoot-tip tissue culture in Finland, true to type
Shipping	Sealed in-vitro plantlets, Finland to Vietnam, with phytosanitary certificate
Output	Plantlets acclimatised and planted in Vietnam
Documentation	Variety origin chain, lot record, phytosanitary certificate, planting and management notes
Import permit	Confirmed with the Vietnamese plant-protection authority before dispatch

Documents we provide for your import permit

- Variety origin statement, from the source laboratory to our lot
- Laboratory lot record: stage, date, vessel count
- Phytosanitary certificate issued in Finland
- Packing list and commercial invoice per consignment

Programme

- The first plantlets go to Voltira's own orchard in Vietnam
- Growers who want to plant breadfruit for flour register their interest now and receive plantlets from the same lines
- Quantities, timing and price are confirmed per order once the multiplication cycle for that order is scheduled

For growers and processors

Tell us the planting area, the province and whether the fruit is for fresh sale or flour. We reply with a plantlet schedule and the documents your import permit application needs.

Contact

Register your interest with the planting area and province, and we will come back with a plantlet schedule.

Julian Hua, CEO

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We reply in English, Finnish or Vietnamese.

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Our other catalogues

- **Mounted solar** — development services, project sizing and configuration, reference project.
- **Freeze-dried Lion's Mane** — products, specifications, lot testing, packaging and trade terms.
- **Breadfruit propagation** — method, plantlet specifications, delivery and planting in Vietnam.

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