

FIBERS

KAHILI GINGER (HEDYCHIUM GARDNERIANUM)

ORIGIN

The Kahili Ginger, also known under other names, such as Kahila garland-lily, ginger lily or wild ginger, is an invasive species prevalent in the Autonomous Region of the Azores, native to the Himalayas, where it has become a growing problem for the development of native species.

CHARACTERISTICS

The Kahili ginger plant can reach up to 4 meters in height, with large, green leafy stems and yellow aromatic flowers. The proliferation of the development of this plant species stems from its non-dependence on pollinating agents to form seeds. It produces a large number of seeds that are easily dispersed by wind, water and birds, and it also propagates vegetatively by rhizomes (underground stems that grow horizontally.) It's a plant that is tolerant to several types of soils and climates, from sand to clay, dry to humid, developing very well in areas with good sun exposure.

APPLICATIONS

Its main uses in the region's building & construction industry include:

- Textiles
- Disposable utility components for day-to-day use
- Advanced composite materials
- Reinforcement of structural materials

PINEAPPLE

ORIGIN

The pineapple of the Azores, whose existence in the Region dates as far back as the 19th century, originally started out as nothing more than an ornamental plant from Brazil. Once it was discovered that it was a delicious fruit with strong commercial value, it quickly began replacing the region's dying orange industry, whose productions had been affected by an invasive fungal disease known as *Phytophthora Citrophthora*.

CHARACTERISTICS

From the planting to the harvest of the fruit, the whole production process takes about two years and generates a considerable amount of residue rich in organic matter, the highest concentration of which can be found in its leaves. Pineapple leaf fibers (PALF) fall within the category of natural fibers of plant origin and consist essentially of cellulose (40-60%), hemicellulose (20-40%) and lignin (10-25%). This unique chemical composition gives these fibrous materials very interesting physical properties.

APPLICATIONS

The main uses of the extracted fibrous material include:

- Clothing
- Handicrafts
- Advanced composite materials resistant to corrosion and fatigue
- Soundproofing
- Architecture and urban furniture
- Sports equipment
- Car components
- Decorative pieces

HYDRANGEA

ORIGIN

The Hydrangea is a species of flowering plant native to China and Japan. The shrubs are typically 1 to 3 meters tall and can be seen in large swaths of landscape across the islands of the Archipelago. It's estimated that the Hydrangea were introduced to the region in the mid 19th century, and currently this species is grown as an ornamental plant.

CHARACTERISTICS

The Hydrangea grows large heads of white, pink, purple or blue flowers in varying shades depending on the pH of the soil. An acidic soil will usually produce flower color closer to blue, whereas an alkaline soil will typically produce flowers in more pink shades. At its base, it consists of woody tissue that is rich in organic phenolic compounds such as phyllodulcin and glycoside.

APPLICATIONS

The main uses of the extracted fibrous material include:

- Advanced composite materials
- Reinforcement of structural materials
- Architectural components of interior design



COFINANCIAMENTO:



PROMOTOR:

PARCEIROS:

