

November Plant Highlights: Leaf Adaptations

**Please note: due to the ever-changing and growing nature of the Conservatory, plants may move locations and flowers and fruit may not always be visible.

Carnauba Wax Palm



Where do we find it in the Conservatory and why do we find it here?

We can find the carnauba wax palm in the Palm House because...it's a palm tree! Just like other palm trees, the carnauba wax palm likes to grow in warm, tropical places like Brazil, which is where the carnauba wax palm is initially from.

How does it grow or reproduce and what is special about it?

The carnauba wax palm is a flowering, seeding tree. It grows slowly and new leaf growth is protected by spines on the petiole, which is the stalk from which the palm fronds grow. The leaf sheaths, the smooth, brown pieces that cover the trunk of the palm tree, are remnants of where old palm fronds grew when the palm was shorter!

How do humans use it or interact with it?

Have you ever eaten gummy bears? If so, you have actually eaten carnauba wax! Carnauba wax is used to keep candy from sticking together in its packaging. It has many other uses, as well, and is found in products including but not limited to car wax, floor wax, dental floss, balms, lipstick, chapstick, and many other cosmetic products.

What is its leaf adaptation?

Carnauba wax comes from the leaf, or frond, of the palm. Brazil, where the tree is from, has a wet season and a dry season. In the dry season, carnauba palm fronds produce a waxy coating to help preserve water. When you hit the fronds against the ground or another hard surface, the wax will cake off!

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Green Wave Fern



Where do we find it in the Conservatory and why do we find it here?

We can find the green wave fern in the Fern Room. Since it is a type of fern, it enjoys the same conditions as other ferns: somewhat shady, humid air, and moist soil.

How does it grow or reproduce and what is special about it?

Instead of seeds and flowers, ferns have spores, which are on the underside of the fern fronds (leaves). When the spores drop off of the fronds, water will cause the spore to release its male and female parts, which, when they combine, create a rhizome that then grows into a new fern. By looking at ferns, we are looking back in time—spores are how plants reproduced before they evolved flowers, fruit, and seeds! Different species of ferns have different spore patterns. Can you find the spores on the green wave fern? The twisting nature of the green wave fern's leaves also exposes more surface area of the leaves to sunlight!

What is its leaf adaptation?

The leaves of the green wave fern (also known as the twister fern) twist and turn as they reach up to the sky! When it rains or when there is morning dew, the channels created by the twists of the fern help funnel water down to the base of the plant like a waterslide! The twisting leaves also help the fern absorb more sunlight. Finally, there are spores only at the tops of the mature green wave fern leaves so that they fall farther away from the mother plant and are more likely to grow into new ferns.

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Palm Grass



Where do we find it in the Conservatory and why do we find it here?

We can find the palm grass in the Palm House because the moist, partial-sun conditions of the Palm House are ideal for palm grass growth.

How does it grow or reproduce and what is special about it?

The palm grass can reproduce through rhizomes or through seeds and flowers. Its flexibility in how it reproduces increases its chances of survival as a species!

How do humans use it or interact with it?

People have used palm grass in a variety of ways. For example, people can use the grass to weave nets. The seed produced by the palm grass is a grain and can be eaten like rice. Also, in Taiwan, folklore says that the number of corrugations in a leaf of palm grass could predict the number of typhoons!

What is its leaf adaptation?

Did you know that the palm grass is the only type of grass with blades that look like palm fronds? The leaves of the palm grass are corrugated (like an accordion or a pleated skirt) in order to channel water towards the base of the plant when it rains! Sometimes, the leaves can be hairy to protect the plant from the sun. You also might see some blades of palm grass that have white edges; this is because no chlorophyll is produced in those parts of the grass!