

# Sustainability & Engineered Foam Substrates



## A Cradle-to-Grave carbon footprint assessment compares OASIS® AeroMax™ engineered substrate to two peat-based products, with surprising results.

One of the most common questions we get asked about our engineered foam growing media relates to sustainability. We understand how important it is for growers to make environmentally sound choices in their propagation and production substrates. Sustainability is a primary concern for us here at Oasis Grower Solutions and our parent company Smithers-Oasis. This isn't something new for us; it's been a focus of ours for quite some time.

Like many people — and many companies — we have come to realize that the sustainability of any product, including our engineered foam substrates, involves much more than raw materials and disposal. As such, it's become increasingly important to us to understand the bigger picture surrounding the sustainability of our growing media, particularly the carbon footprint of the products we produce.

To that end, we took the step to commission a Cradle-to-Grave carbon footprint assessment of our OASIS® AeroMax™ substrate after its 2021 launch (under the name OASIS® HortiCubes® AeroMax). OASIS® AeroMax™ was the first in a new line of OASIS® AeroFamily Substrates, a line based on years of research and innovation here resulting in a new core technology and a new generation of engineered growing media. Now we'd like to share the results of that carbon footprint assessment with you.



## OASIS® AeroMax™ Carbon Footprint Assessment Details

Our carbon footprint assessment of OASIS® AeroMax™ substrate was conducted by Carbon Footprint Ltd., a well-known U.K.-based company respected for their work. The study focused on the 2021-2022 production period. Because many of our current and potential customers use peat-based substrates, we requested a comparison of OASIS® AeroMax™ substrate's carbon product footprint with two peat products: Gravity Filled Loose Plugs (our own gravity-fed stabilized peat plugs) and Pressed Peat.

To determine the greenhouse gas emissions associated with OASIS® AeroMax™ and the two peat products mentioned, Carbon Footprint Ltd. conducted a full assessment following established Cradle-to-Grave carbon footprint boundaries for each product, including the following:

- Extraction, processing and transport of raw materials
- Manufacture, processing and packaging of product (including offcut waste)
- Product distribution, usage and disposal
- Relevant transport/freight elements



## OASIS® AeroMax™ Carbon Footprint Assessment Results

The results of the carbon product footprint assessment, specific to OASIS® AeroMax™ substrate, can be seen in Table 1 below. The Cradle-to-Grave carbon emissions of OASIS® AeroMax™ engineered foam substrate were assessed to total 6.40 grams of CO<sub>2</sub> equivalent emissions per Functional Unit (FU) — one 47.18 cm<sup>3</sup> plug (3.175 cm x 3.90 cm x 3.81 cm). As noted, embodied emissions of raw materials accounted for more than 70% of that total.

Process	Emissions per 47.18 cm <sup>3</sup> Plug	
	gCO <sub>2</sub> e	Percentage
Raw Materials - Embodied	4.72	73.70%
Raw Materials - Transport	0.12	1.80%
Manufacture	0.84	13.10%
Product Distribution	0.21	3.30%
Disposal	0.51	8.00%
<b>Total gCO<sub>2</sub>e</b>	<b>6.40</b>	<b>100%</b>

The results of the carbon footprint assessment's plug-to-plug comparison can be seen in Table 2 below, again based on the Functional Unit of one 47.18 cm<sup>3</sup> plug. The Cradle-to-Grave CO<sub>2</sub> equivalent emissions of OASIS® AeroMax™ substrate, Gravity Filled Loose Plugs and Pressed Peat were assessed at 6.40 grams, 80.08 grams and 278.70 grams respectively.

We'll admit these results surprised even us. That's one reason we're only now releasing this report, a full year after it was complete. We took time to understand and confirm every aspect of the carbon footprint assessment. As you can see, the CO<sub>2</sub> equivalent emissions for Pressed Peat were assessed at 278.70 grams per plug, more than 40 times higher than an equivalent OASIS® AeroMax™ plug. Gravity Filled Loose Plugs, at 80.08 grams of gCO<sub>2</sub>e per plug, were assessed as 12.5 times higher than an equivalent plug of our engineered substrate.

Product Name	Emissions per 47.18 cm <sup>3</sup> Plug		
	OASIS® AeroMax	Gravity Filled Loose Plugs	Pressed Peat
Raw Materials - Embodied	4.72	74.28	264.87
Raw Materials - Transport	0.12	0.86	3.06
Manufacture	0.84	2.67	2.67
Product Distribution	0.21	2.27	8.10
Disposal	0.51	<0.01	<0.01
<b>Total gCO<sub>2</sub>e</b>	<b>6.40</b>	<b>80.08</b>	<b>278.70</b>

## What's Next for OASIS® AeroFamily Substrates?

Now that we've shared these results, you may be wondering what we plan to do with them. Well, we're going to keep working to find ways to lower the carbon footprint of our next-generation engineered OASIS® AeroFamily Substrates even more — and our Gravity Filled Loose Plugs, too. At the top of the list is biodegradability, one of the many sustainability issues we have been focusing our Research efforts on. We will continue to bring sustainable innovations to the market.

In the meantime, we're grateful we undertook this carbon footprint assessment and gained a better understanding of the bigger picture about sustainability and our engineered substrates, for our own knowledge as well as yours. If you have any questions about the report and why Oasis Grower Solutions engineered substrates are environmentally sound choices for precision propagation and production, please contact us at [info@oasisgrower.com](mailto:info@oasisgrower.com) or call us at 855.585.4769. We welcome your call.



CO<sub>2</sub>e  
Assessed

