



PalmPith®



GROW SUSTAINABLY With PalmPith®

First Growing Media and Substrates
from Date Palm Residues



PalmPith® Transforms Palm Residues Into Soilless Media and substrates

PalmPith is the world's first soilless growing media and substrates extracted from date palm agricultural residues.

PalmPith provides a renewable and sustainable alternative to sphagnum peat moss, which has been facing increasing regulatory pressure on its extraction.

PalmPith expands the range of peat-free soilless substrates. Resulting in more geographically dispersed economical supply, in suitable volumes and quality with minimal carbon footprint. Which fulfills the ever-increasing demand for soilless growing media by the horticulture industry, without threatening the sensitive sphagnum peatland ecosystem.

PalmPith® Stands for

- Sustainable soilless growing media, alternative to sphagnum peat moss
- Available in many forms including particles, chips and mulch
- Suitable for wide range applications, such as horticulture, hydroponics and nurseries
- Geographically dispersed and close to major markets in MENA region and Europe
- Derived from renewable bioresources and 100% biodegradable
- Excellent water holding capacity, wettability and airspace with controlled pH and EC
- Biologically stable and free from pathogens, nematodes and harmful microorganisms



PalmPith®- Grades and Products

Soilless Media from Date Palm Residues

PalmPith is very versatile and can be processed into various substrates, including, particles with uniform texture, high water-holding capacity and high porosity, providing good drainage while retaining moisture and enabling healthier root growth. It can also be processed into chips that promotes aeration of substrates

and allows easy repotting, which is ideal for growing orchids and for balancing air to water ratio for different applications. Or it can be processed into mulch with decorative appearance, which preserves humidity and limits rapid evaporation during summer, and prevents erosion and limits weeds growth.



PalmPith



PalmChips



PalmMulch

PalmPith can be wrapped in growbags in different sizes, which is ready to use and can be supplied with planting, dripping and drainage holes

and can be reused in multiple growing cycles. It can also be compressed into blocks of various sizes, which are very easy to use and cost-effective in transportation, and can easily expand and transform into fluffy PalmPith by adding water. PalmPith can be pressed into discs which is ideal for starting seedlings and floriculture crops.



Growbags



Blocks



Pellets

Applications

Peat-free Substrates For Climatic Agriculture

The unique features and characteristics of PalmPith make it an excellent sustainable growing media for a wide range of applications. Ranging from horticulture, floriculture, nurseries, gardening, landscaping, indoor farming, hydroponics, organic farming and lawns.



Nursery

- Plants/ shrubs in containers
- Plant propagation
- Perennial plants
- Vine plants in containers

Horticulture

- Horticulture
- Annuals and biennials
- Flowerpots
- Chrysanthemums
- Perennials





Landscape

- Green roof
- Green wall
- Flowering
- Sports fields

Berries

- Strawberry
- Raspberry
- Blueberry
- Blackberry



Specialty Crops

- Orchards
- Mushrooms farming
- Aromatics herbs

Mulching

- Annual
- Perennials
- Vegetables
- Animal bedding



Features and Benefits



Sustainable & Renewable

PalmPith is peat-free media obtained from renewable bioresources and which does not threaten the sensitive sphagnum peatland ecosystem. It is 100% biodegradable and compostable and has the ability to naturally degrade and return back into the environment.

PalmPith is carbon dioxide neutral and consumes very low amounts of water and energy during extraction (sun-dried).



Geographically Dispersed

PalmPith is obtained from date palm, which is widely grown across the Middle East and North Africa, with very high populations in Saudi Arabia, Iran, UAE, Iraq, Egypt, Algeria, and Tunisia. This close proximity to major markets in MENA and Europe minimizes the transportation carbon footprint. The estimated global PalmPith availability can reach up to 1 million tons/year (moisture ~20%).



Economical

PalmPith is obtained from palm agricultural residues and does not require extra investment in water, fertilizer, pesticide, or land. Those residues are often regarded as agricultural waste, with zero price in the field. Valorizing these residues provides an extra source of income for palm growers and generates thousands of decent jobs. In addition to, creating entire value chains within rural communities.



Ideal Performance

PalmPith has the excellent water-holding capacity and excellent airspace for better root aeration, root growth, and drainage. It has controlled pH and EC levels for the exchange of nutrients. Its spongy structure allows absorbing nutrients and slowly releasing them. It has excellent wettability and decomposes slowly, hence can be reused in multiple growing cycles.



Safe

PalmPith is free from weed seeds, pathogens, nematodes, and harmful micro-organisms. The material has up to 90% organic matter, and it is safe during handling, use and disposal. It has no traces of harmful pesticides or heavy metals.



Compatible

PalmPith can be used in the same way as sphagnum peat moss and (coco peat). It doesn't require any special preparations or setup. It is available in compressed form as well as direct grow bags for easy use. It can also be easily mixed with other soilless media, fibers, or fertilizers.

PalmPith® Technology

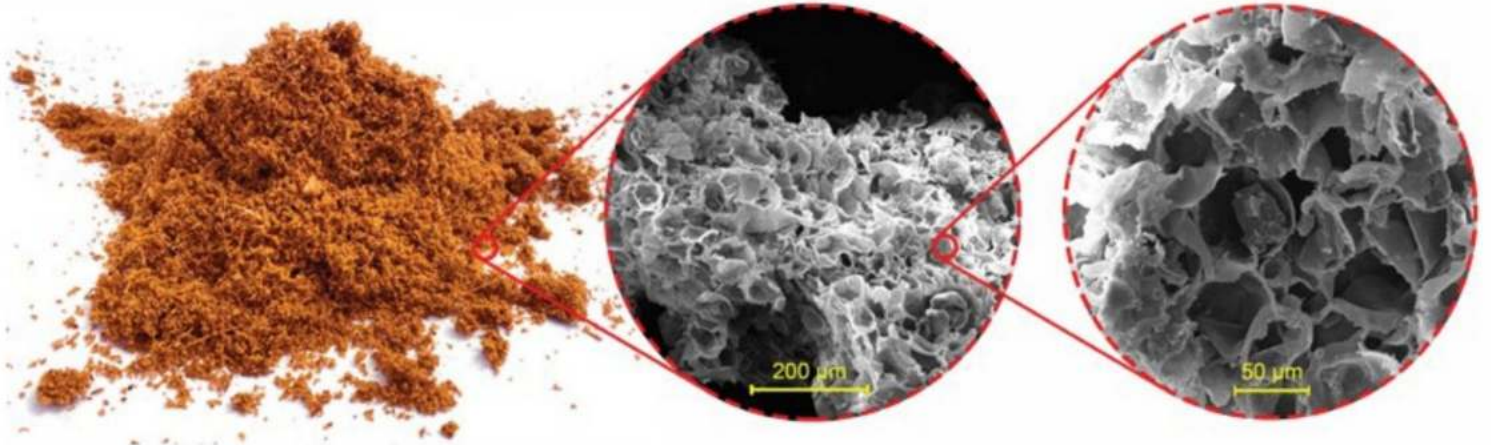
Contribution to Circular Bioeconomy

PalmPith is based on a proprietary technology (UK patent pending) for extracting lignin-rich media from date palm agricultural residues. The media is characterized by a unique spongy cellular structure, with high cell rigidity and minimal fiber content, which is important to enhance the water-holding capacity.

PalmPeat

Particle

Spongy Cells



The novel PalmPith media have been extensively tested in key laboratories in France, Belgium, and the Netherlands. They were also well received by the growing media industry, through a collaboration with leading soilless growing media suppliers in Europe and the United States.

PalmPith technology contributes to the global food security by providing a sustainable peat-free soilless media, to fulfill the urgent and increasing demand for alternative media. Driven by increased crop production, transition of newer crops from soil to soilless production, a thriving mushroom industry and an increase in home gardening. PalmPith proprietary extraction technology could be applied to agricultural residues of other palm species such as oil palm, and sugar palm.



Technical Data Sheet

Physical Properties

Properties	Values	Test Methods
EC washed (ms/cm)	0.1	NF EN 13038
pH washed	5.6	NF EN 13037
Dry bulk density (kg/m ³)	107	NF EN 12580
Organic Content of dry matter (%)	91.6	NF EN 13039
Particle size (mm)	1 – 8	-
Fiber Content (%)	2 – 5	-
Expansion Ratio (l/kg)	12 – 15	-
WHC (ml/100gm)	600 - 700	-
Oxygen uptake (mmol O ₂ /kg o.m./h)	7	-

Macro/ Micronutrients

Nutrient Ions	Values	Test Methods
N-NO ₃ ⁻ (mg/l)	<0.050	NF EN ISO 11885
P (mg/l)	1.01	NF EN ISO 11732
SO ₄ ²⁻ (mg/l)	33	NF EN ISO 11885
Cl ⁻ (mg/l)	9.7	NF EN ISO 11885
N-NH ₄ ⁺ (mg/l)	0.110	NF EN ISO 11732
K ⁺ (mg/l)	89.26	NF EN ISO 11885
Mg ²⁺ (mg/l)	119.26	NF EN ISO 11885
Ca ²⁺ (mg/l)	183.31	NF ISO 9297
Na ⁺ (mg/l)	78.71	NF EN ISO 11885

Metallic Trace Elements

Elements	Values	Test Methods
Cadmium (mg / kg MS)	0.07	NF EN ISO 11885
Chrome (mg / kg MS)	4.88	NF EN ISO 11885
Copper (mg / kg MS)	5.25	NF EN ISO 11885
Mercury (mg / kg MS)	<0.011	NF EN ISO 12338
Nickel (mg / kg MS)	<0.27	NF EN ISO 11885
Lead (mg / kg MS)	<0.53	NF EN ISO 11885
Zinc (mg / kg MS)	13.6	NF EN ISO 11885
Chromium + Copper + Nickel + Zinc (mg / kg MS)	24.00	NF EN ISO 11885

Pathogens

Organisms	Values	Test Methods
Escherichia coli (UFC/g MB)	<100	NF ISO 16649-2
Clostridium perfringens (UFC/g MB)	<100	NF EN ISO 7937
Enterococcus (/ g MB)	40	NF EN ISO 7899-1
Other microorganisms		
Listeria monocytogenes	Not detected	NF EN ISO 11290-1
Salmonella	Not detected	NF EN ISO 6579-1
Helminth eggs	Absence	FD X33-040
Biological Analysis	Not detected	DNA Multiscan
Nematodes	Not detected	Nematodes t.b.v. RHP
Pesticides	Not detected	LC-MSMS , GC-MSMS



Resource of The Future

Five reasons why date palm is the resource of the future

- Highly tolerant to difficult environmental conditions.
- Very important for food and nutrition security in deserts and drylands.
- Its agricultural residues are considered renewable resources of biomaterials for many applications.
- The utilization of its agricultural residues is part of a long technical heritage.
- The main source of livelihood for a big proportion of the world population.

Developer

The Sustainable Material Valorization Center

PalmPith® is developed by VALORIZEN Research and Innovation Center which is specialized in developing, scaling up and commercializing technologies to valorize sustainable materials. It is the research arm and a wholly owned subsidiary of UK-based Scaleup Innovations Holdings Limited. VALORIZEN operates in 3 core areas, including biomass valorization, waste valorization, as well as knowledge valorization.



Partnership & Sponsorship Opportunities

Supporting Sustainable Development and Improving Livelihoods

We believe that there is a very promising future for PalmPith as a novel class of peat-free soilless substrates, with an estimated annual market worth of US\$ 330 million. We are seeking partnership to scaleup and commercialize PalmPith proprietary technology. Possible partners include palm growers, soilless media mixing companies, developmental organizations, government agencies, and research funding organizations.

The scope of partnership includes but is not limited to:

- Joint venturing
- Technology licensing
- Product development
- Research collaboration

For inquiries, collaboration, partnership, sponsorship, and trial samples
Please contact:

VALORIZEN
RESEARCH AND INNOVATION CENTER

Valorizen LLC.

☎ +20 225 734 250

✉ info@palmpith.com

🌐 www.palmpith.com





+20 225 734 250



info@palmpith.com



www.palmpith.com



Corporate Address. Unit 571, New Cairo Industrial Zone, Cairo Egypt

VALORIZEN
RESEARCH AND INNOVATION CENTER