



Your way to advanced solutions

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Evolution of Growing Media

Welcome to your advance

ADVANCED Substrates set the benchmark for future-oriented horticulture. They combine the most valued raw materials to high performance blends with a low carbon footprint. Wood fibre, perlite, cocos, green compost and peat boost essential characteristics in the substrate, thus ensuring the precise crop control in your nursery and the healthy growth of your plants.

ADVANCED Substrates cover all plant and cultivation segments for any horticultural

application. The mixes are tried and tested and have proven their suitability for all internationally common applications in commercial horticulture.

Decades of experience with all major raw materials and the widest range of growing media give us a unique edge. That makes your next step easier. When you're ready to advance, we're ready to join you.



"ADVANCED Substrates by Klasmann-Deilmann..."

"... are the result of decades of research, development and experience. They guarantee the correct recipe for every crop, the best raw materials for every cultivation method, the highest quality for your nursery – and the use of highly sustainable resources for the environment and climate. We are convinced that more advanced means more success for your crops."

Dr. Sebastian Kipp

Head of Advisory Services and Quality Management at Klasmann-Deilmann





"... contain a proportion of alternative raw materials. We rely on proven constituents such as wood fibres, green compost, coir and perlite. The tried and tested recipes meet all requirements for pioneering horticulture. They combine maximum crop safety with reliable availability and a reduced carbon footprint."

Anja Fritzen

Technical Advisor at Klasmann-Deilmann





From coir to wood fibre: Modern constituents for your ADVANCED Substrate



Why GreenFibre®?

GreenFibre[®] ...

- ... is a wood fibre from sustainably managed forestry and manufactured by ourselves
- ... is a RHP certified raw material, specially developed for the needs of modern horticulture
- ... leads to better aeration and higher structural stability
- ... increases drainage in the root zone, thus less issues with waterlogging
- ... improves the water distribution in the substrate
- ... ensures easier rewetting of the substrate
- ... enables a healthy and fast root development
- ... ensures better drying off of the substrate surface, thus less pressure from root diseases
- ... prevents algae and moss, due to drier substrate surface
- ... provides a stable nitrogen balance to suit normal feeding regime



Why perlite?

Perlite ...

- ... increases air capacity and drainage
- ... prevents waterlogging
- ... provides excellent structural stability
- ... is pH-neutral and has an extremely low salt level
- ... is ideal for use in substrates for propagation and potting when strong drainage and structural stability is required
- ... is produced according to high quality standards in our own factory

Reduce CO₂ emissions significantly. With climate-friendly substrate blends

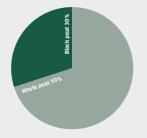
30% alternative

= 28% less CO₂ emissions



Read more

Bedding substrates

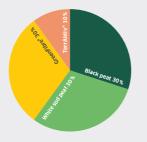


0% alternative constituents (230 kg CO₂/m³)



Container substrates

10% alternative constituents (204 kg CO₂/m³)



40% alternative constituents

= 24% less CO₂ emissions

Why cocos products?

Coir Pith ...

- ... shows good rewettability
- ... supports a quick water uptake into the substrate
- ... provides a balanced air-water ratio and good drainage

Coco Fibre ...

- ... is characterised by a very high air capacity and low water capacity
- ... provides a high capillarity for a very fast water transport within the root zone
- ... supports the structural stability of a growing media

Coir for organic growing ...

- ... is carefully washed and not treated with mineral fertilisers
- ... carries the ecolabel IMO ensuring organic and ethical standards



Why TerrAktiv®?

TerrAktiv® green compost ...

- ... provides a high microbial activity
- ... shows suppressive effects on root diseases
- ... stimulates root development and plant growth
- ... acts as a slow-release nutrient source
- ... has a high buffering capacity
- ... improves shelf life of crops
- ... improves rewettability
- ... improves the nutrient release from organic fertiliser
- ... is certified to RHP quality standards and approved for organic cultivation



Certified to the highest standards

Quality: Regelings Handels Potgronden (www.rhp.nl)

Responsibility: Responsibly Produced Peat (www.responsiblyproducedpeat.org)

Sustainability: Global Reporting Initiative (www.globalreporting.org)

Organic: EC No. 834/2007, certified by Ecocert®

Climate: ISO 14064
Nature: ISO 14001
Processes: ISO 9001









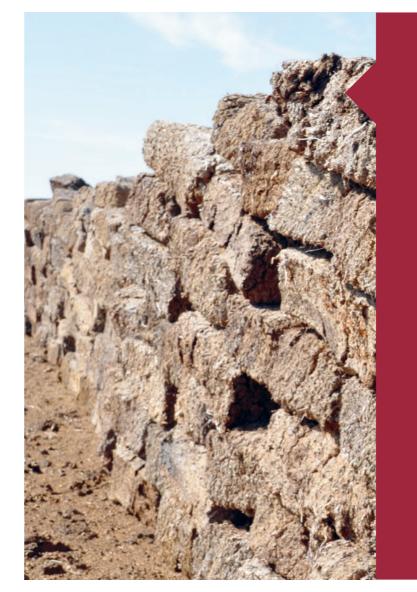


Sustainable growing media

We appreciate that you aim to manage your nursery responsibly also in terms of nature and climate protection. That's why ADVANCED Substrates offer you the maximum crop security while supporting your sustainable development.

By the use of alternative constituents, we optimise the characteristics of your substrate and reduce its carbon footprint at the same time. That leads to additional benefits such as ...

- ... more resource-saving cultivation through the use of more renewable raw materials
- ... lighter mixes and thus more environmentally friendly transport
- ... fewer emissions and therefore a more climate-friendly greenhouse
- ... increased microbial life and thereby stronger plants with less need for plant protection applications



Why Peat?

Peat ...

- ... remains the key constituent in substrate production
- ... enables the use of any other alternative raw material
- ... is well available long-term all year round
- ... provides uniform properties
- ... ensure a stable pH value and optimum nutrient level
- ... shows good buffering capabilities
- ... has a high structural stability and good wettability
- ... allows an optimum ratio between air and water capacity
- ... is free from pathogens or harmful substances and almost free from weed seeds



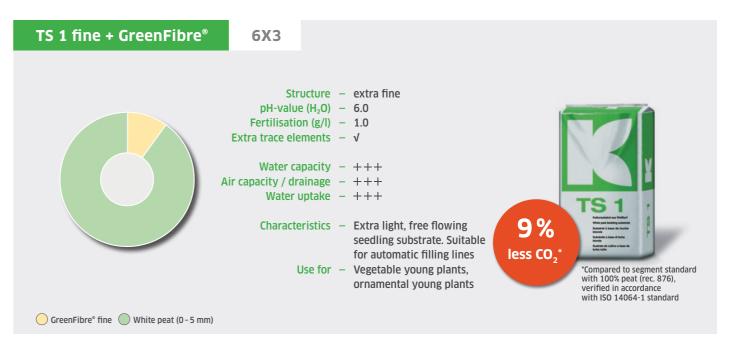


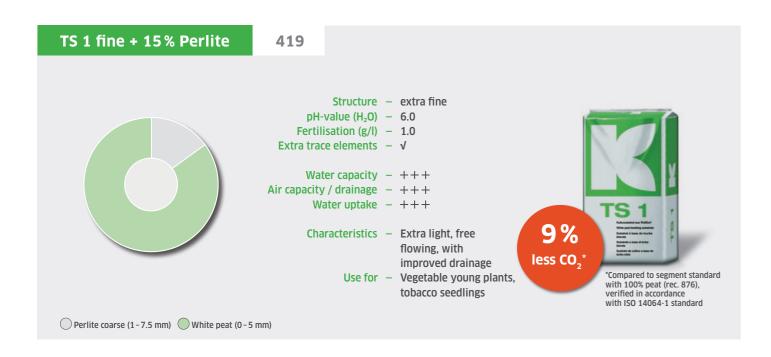














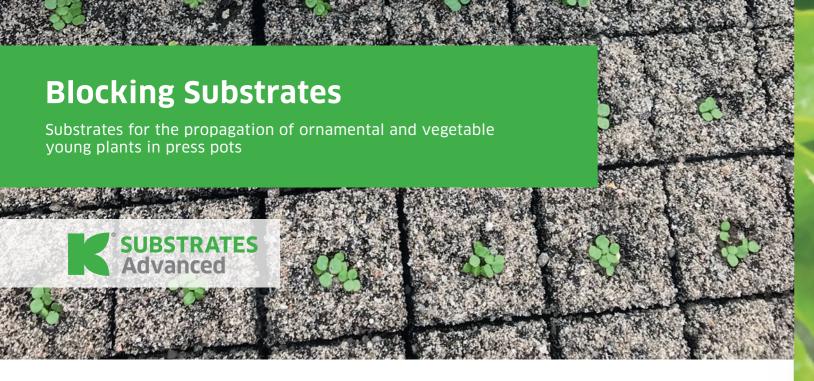


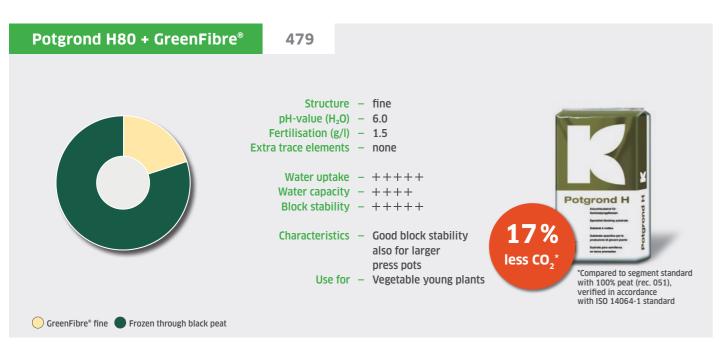


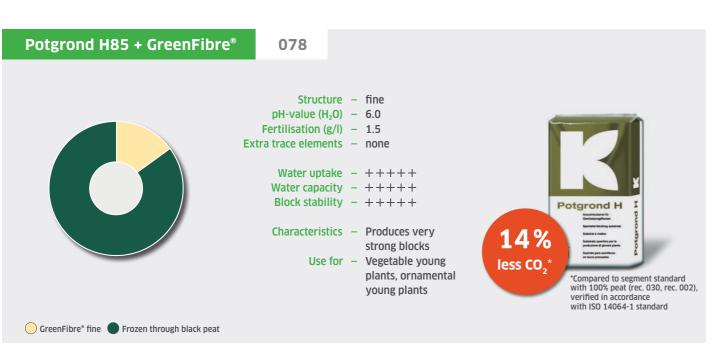


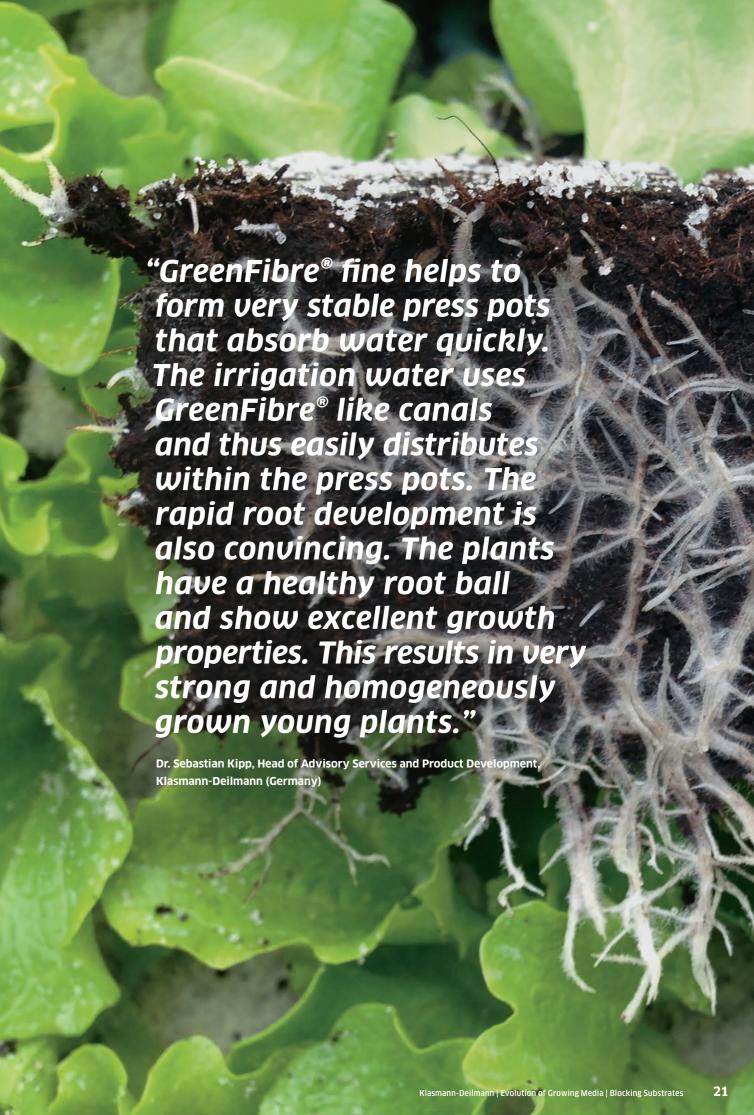










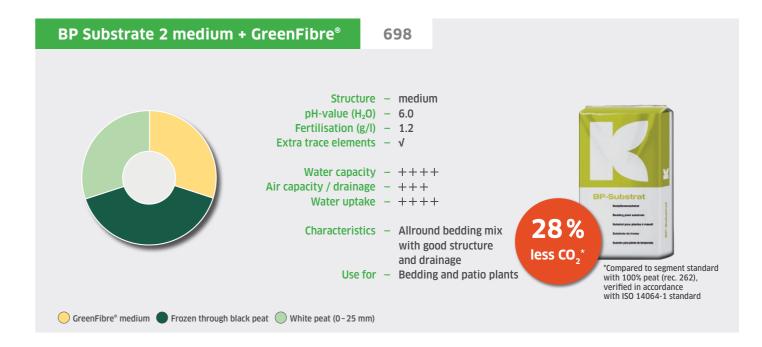




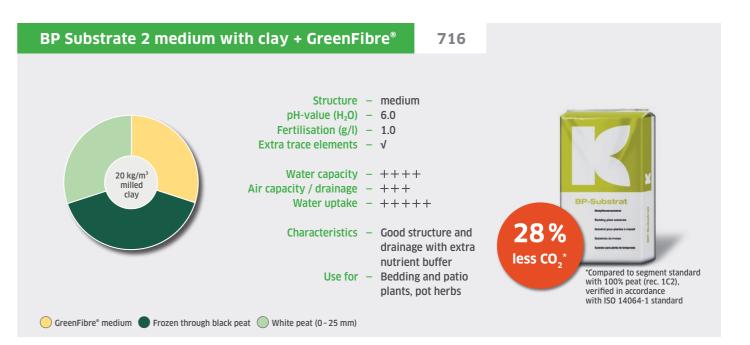




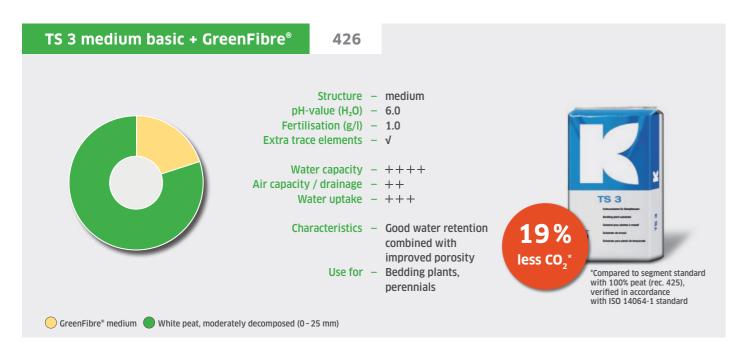














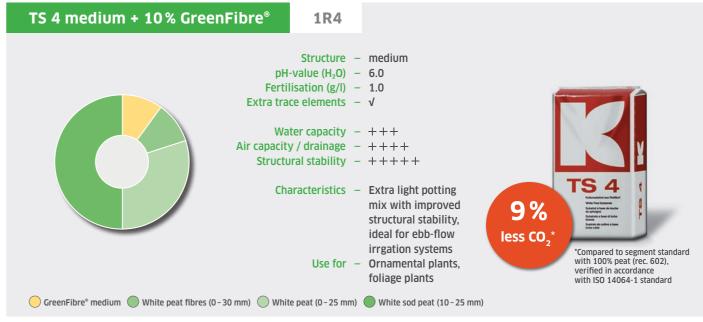










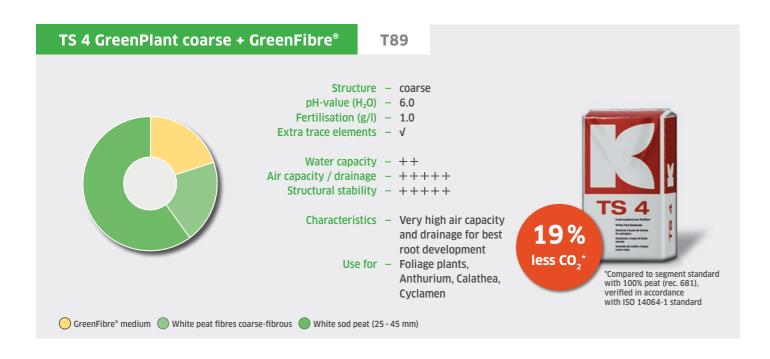












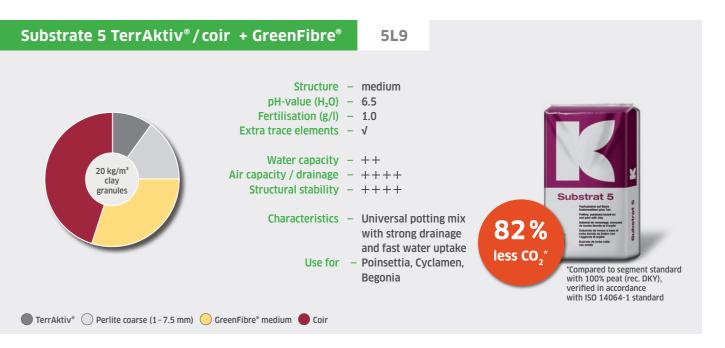




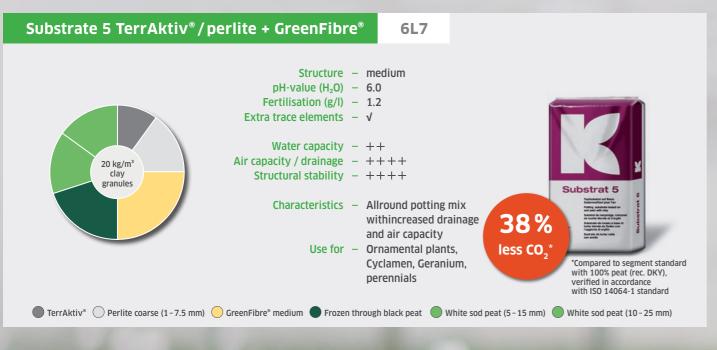
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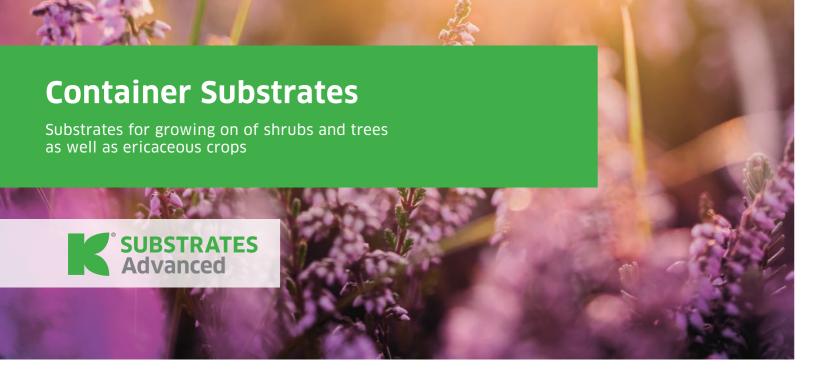


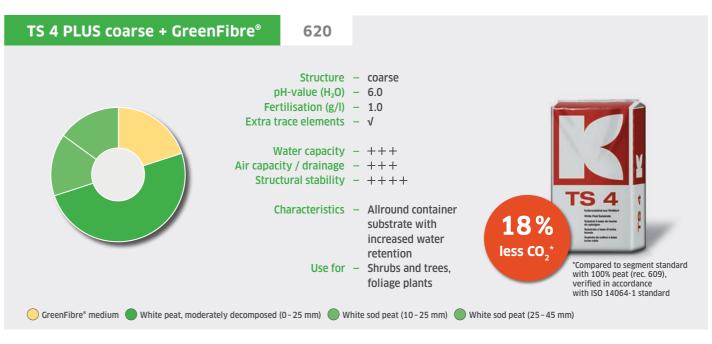


"Helleborus is a niche product. This is where the right substrate recipe is essential. We see great success with TerrAktiv® and GreenFibre® in our mixture. The plants are stronger, more compact and resistant. We are very grateful to have such a reliable partner in Klasmann-Deilmann."

Thierry van Paemel, Satisfied ADVANCED customer
Co-owner of BVBA Helleborus, a leading producer of Helleborus in Belgium

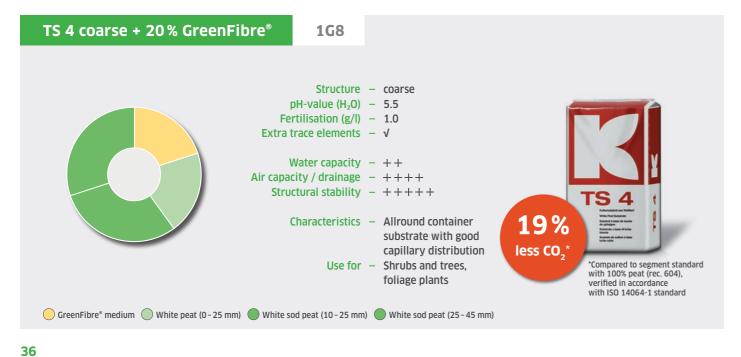








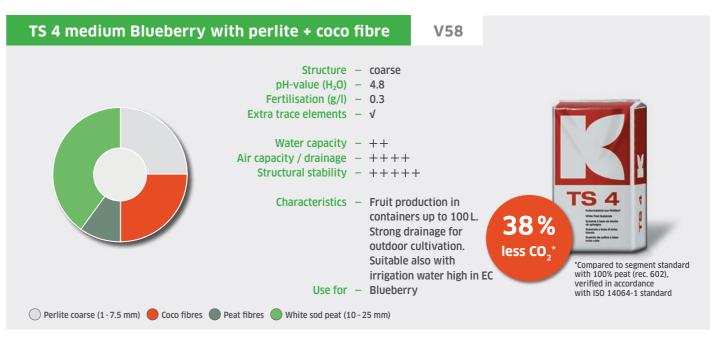


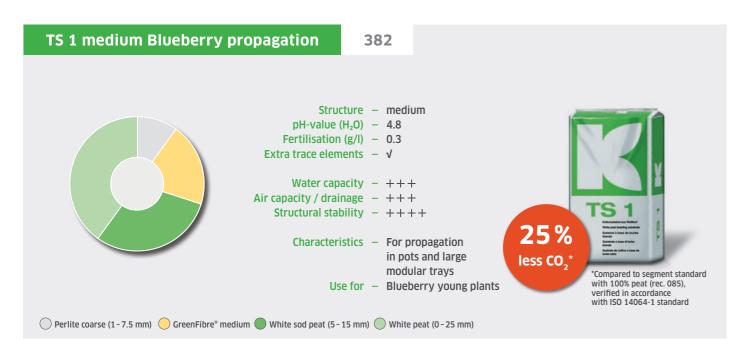


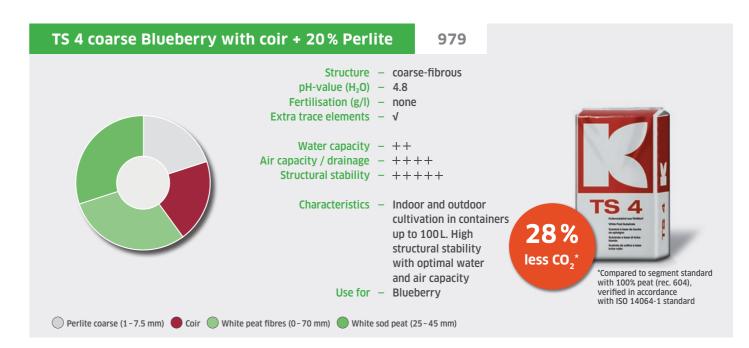


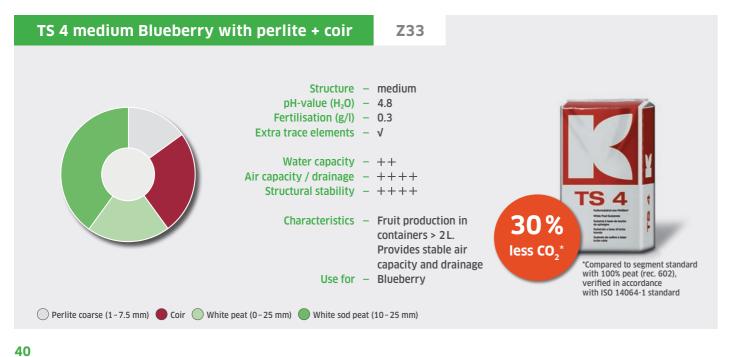


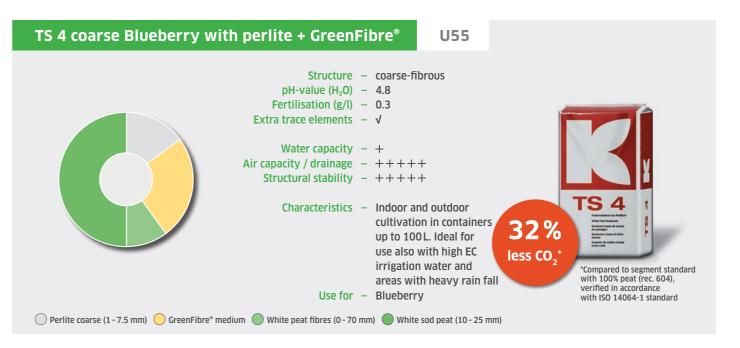






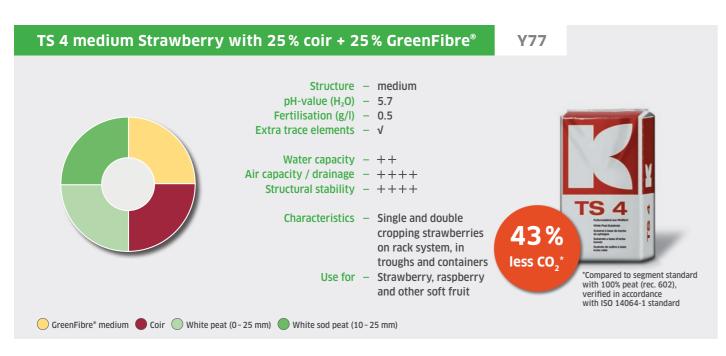


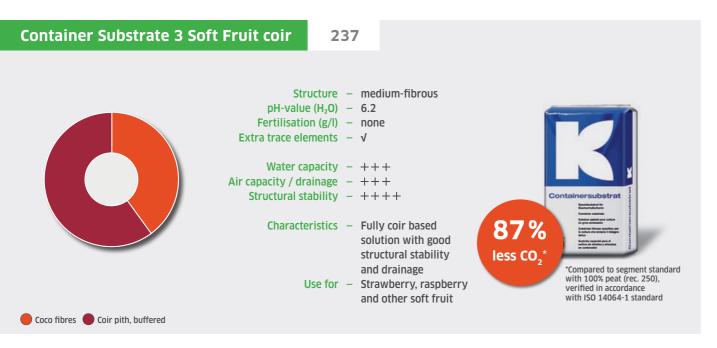


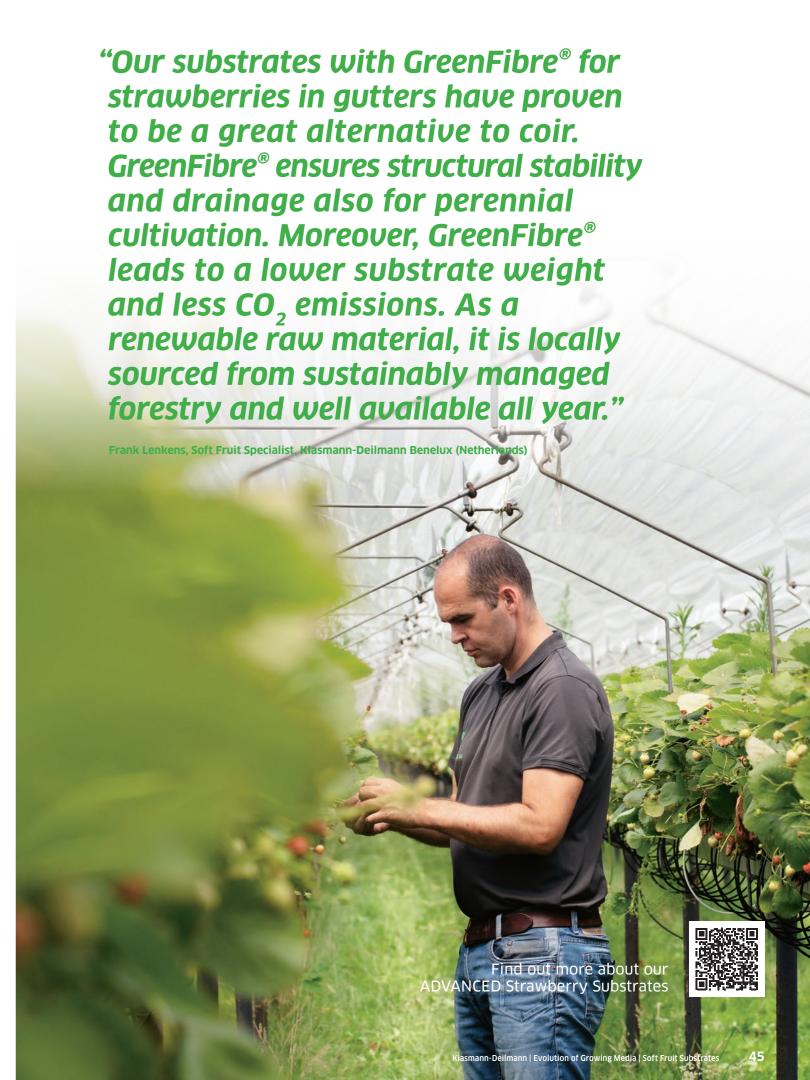














ADVANCED Substrates – The forms of supply

Our substrates are available in following standard forms



Packaged goods: 70-litre-bags



Big Bales 2.5 - 6.0 m³



Packaged goods: 210-litre-bags



Bulk

For all growing media manufactured by Klasmann-Deilmann, the volume is measured in accordance with European Standard EN 12580. The standard lays down the procedure to be used for measuring the volume of growing media and other peat products which are supplied in bulk or as packaged products. The quantity indication generally relates to the quantity at the time of production.

Average substrate consumption for different pot sizes

| S | | |
|------------------|---|----------------------------------|
| Pot size ø in cm | Substrate requirement in I for 1,000 pots** | Number of pots per m³ substrate* |
| 6 | 130-160 | 6900 |
| 8 | 230-280 | 3,920 |
| 9 | 330-380 | 2,820 |
| 9 x 9 x 9,5 | 600-650 | 1,600 |
| 10 | 460-510 | 2,060 |
| 10 x 10 x 11,5 | 920-970 | 1,050 |
| 11 | 670-720 | 1,440 |
| 12 | 880-930 | 1,150 |
| 13 | 1,100-1,200 | 870 |
| 1.5 l cont. | 1,700-2,000 | 540 |
| 2.0 I cont. | 2,300-2,600 | 410 |
| | | |

^{*} Average figures only, based on the volume as per EN 12580. Variations may arise in particular through different pot types, varying substrate moisture levels and the compression during potting. The size of the seedling root ball also has a significant impact.

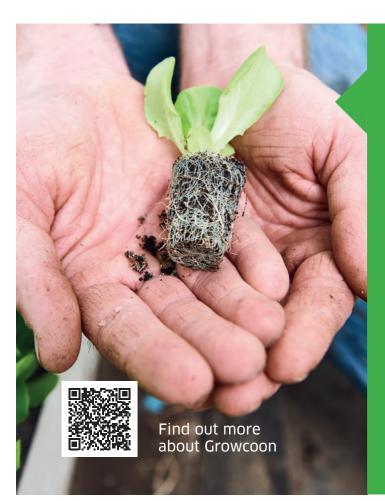
More advanced product solutions

Containermulch

Containermulch is an environmentally friendly top dressing for pots and containers to prevent the growth of algae and weeds. It is made of softwood from sustainably managed forests (PEFC-certified). The wood has been thermally treated to avoid phytosanitary risks.

It is fast drying, permeable to water and breaks up water drops, so the top layer does not become air-tight. This makes it more difficult for algae, mosses and weeds to grow. By using Containermulch, the substrate moisture remains more homogeneous and the plants also look visually appealing for marketing. Containermulch can be processed mechanically with all automatic spreaders and is also very suitable for mulching planting beds.





Growcoon

Growcoon is a biodegradable propagation plug with a stable but flexible open net structure. The Growcoon forms a stable root ball when used in combination with a high-quality seedling substrate. It is the optimal system for all types of propagation methods. It proves to be particularly effective in sowing, rooting of cuttings, grafting and growing-on of young plants from tissue culture as well as in vertical farming and hydroponic systems. It is available in many different standard sizes and suitable for all common tray sizes. In addition, there is a special Growcoon range for hydroponics.



Log & Solve

Log & Solve is a digital tool for growers to collect relevant cultivation data in a central web-based platform. The new Log & Solve dashboard allows better insight in your crop to increase the efficiency of cultivation.

Log & Solve supports growers in their crop management by using analytical data and sensor data. It organises all crop-related information which is then automatically bundled, evaluated and graphically visualised. On this basis, undesirable developments in crops can be identified and averted more quickly.

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The Klasmann-Deilmann Group

Klasmann-Deilmann is the leading group of companies in the international substrate industry with numerous sales and production companies in Europe, Asia and America, as well as a network of sales and production partners on all continents. Our growing media provide a vital basis for the growth of vegetables, fruit, edible mushrooms, herbs, ornamental plants, trees and shrubs. They ensure the success of our partners and customers in commercial horticulture and are an essential part of the value chain in the food industry.

Our product portfolio includes growing media and substrate constituents such as peat, wood fibre, green compost, cocos and perlite amongst others. We also market the Growcoon propagation system and are establishing ourselves as a provider of digital solutions for nurseries with the Log & Solve online platform.



Overview of our business fields

| K SUBSTRATES | RAW MATERIALS | K INNOVATION | K BIOENERGY |
|------------------------------|-----------------------------|---------------------------------|----------------------------|
| | | | |
| SUBSTRATES Advanced | RAW MATERIALS GreenFibre | INNOVATION Growcoon | BIOENERGY Wood Chips |
| SUBSTRATES ProLine | RAW MATERIALS TerrAktiv* | INNOVATION Log & Solve | BIOENERGY Wood Trading |
| SUBSTRATES Florabella | RAW MATERIALS Peat | INNOVATION Peat Bog Restoration | BIOENERGY Wood Services |
| SUBSTRATES Containermulch | RAW MATERIALS Cocos | INNOVATION Academy | |
| | DAW MATERIALS | | |

DISCLAIMER

The information in this brochure is based on our current knowledge and does not claim to be complete or correct. We reserve the right to make changes. We do not assume any guarantee or liability for successful cultivation, as the use of our products must be adapted to the individual site, storage and cultivation conditions of the respective nursery, which is beyond our knowledge and influence. The information in this brochure cannot replace individual advice. They are neither binding nor part of a consulting or information contract.

