

**Healthy food.**  
**Plentiful food.**  
**Sustainable food.**

All you need to know to get started.



# The all new growfoam®

**growfoam®** is an all-new foam substrate with an even softer foam structure and a brand new design. Leading to **easier, faster and optimized root development** from day (or DAS) 1. With a competitive performance versus organic material.

**growfoam®** is the only sustainable and future-proof growing solution available to date. 100% bio degradable, peat-free, clean and ready for automation.



root penetration through foam

grow**safer.**  
grow**greener.**  
grow**faster.**





# growfoam® products

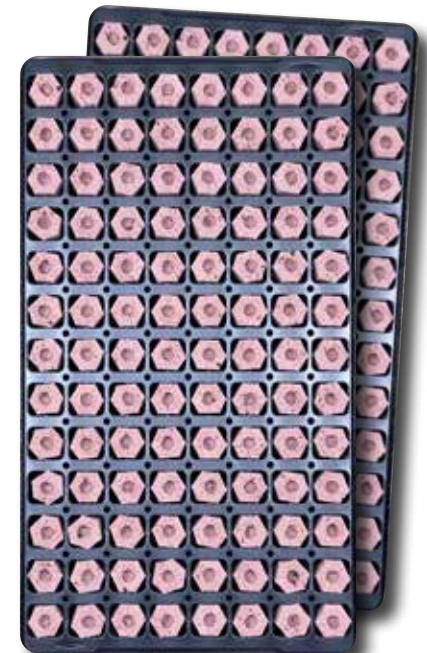
Our growfoam® plugs and soils can be delivered with different designs to fit various crop needs (lettuce, herbs, cuttings, etc.). Perfectly suited for DFT, aeroponics, NFT, deep water culture, gutters and floats.

## Standard sizes and options:

Series	Diameter	Height		Type		
		35	40	O1	O2	O3
2100	21mm	●		●		●
2700	27mm		●	●	●	●
3000	30mm		●	●	●	●
Soil	2-4mm 4-8mm					

## Trays

**104** cells for **30 mm** plugs  
**144** cells for **27 mm** plugs  
**264** cells for **21 mm** plugs

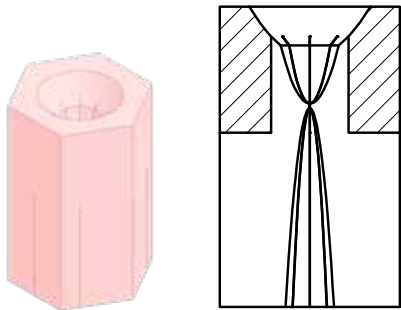




## Bulk bags

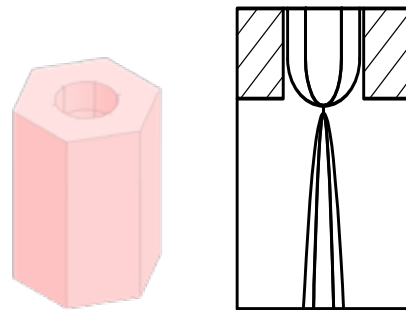
2100/2700/3000 series

### O1 Type



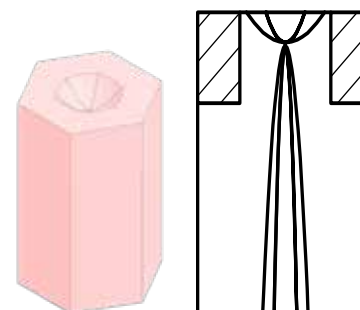
for single pellet crops like  
lettuce

### O2 Type



for trio lettuce and pelleted  
seeds

### O3 Type



for multiseed crops like  
herbs



growfoam® soil





# The growfoam® USP'S

## 1. Clean & Inert

- growfoam® is free of E. Coli, Listeria and other bacteria.

## 2. Clean for systems in farm

- No issues with filters.
- Facilitates 'No need to wash' claim.

## 3. Sustainability

- 100% Biodegradable & carbon neutral production.
- Certified for TÜV Industrial Composting and TÜV Home Composting.

TÜV Soil Degradable certification is expected in Q3 of 2022.



# growsafer. growgreener. growfaster.



Materials	Sterile at start	Clean in use	Ready for automation	Bio degradable	No irritation	Recycling	Neutral CO <sub>2</sub> footprint	Fresh weight performance
growfoam®	●	●	●	●	●	●	●	●
Stonewool	●	●	●			●		●
Non-degradable foam	●	●	●		●			●
Perlite					●	●		●
Glueplug			●		●			●
Peat				●	●			●



# growfoam<sup>®</sup> benefits

- **Carbon neutral** Footprint.
- growfoam<sup>®</sup> is compostable via **industrial** (2020) and **home** (2022) methods.
- **Clean, peat-free & soil-free handling** of vegetable crops by consumers in kitchen area, a.k.a. ease of use in kitchen.
- growfoam<sup>®</sup> guarantees **no soil** in filters - transport systems - plants.
- growfoam<sup>®</sup> ensures **enormous reduction in risk** for pathogen contamination. 'No need to wash' slogan to be used in consumer positioning, alongside evidence-based claims.
- **Cost saving in OPEX (OPerational EXpenditures) & CAPEX (CAPital EXpenditures).**





# Key facts: Safe & clean

1. growfoam®: **50.000 x lower risk** of pathogenen infections vs. peat/coir substrates
2. growfoam® is **free of E. Coli & Listeria**
3. Facilitates use of the 'No need to wash' claim

Substrate	Colony count	E-Coli	Clostridium	Listeria
Peat in Growcoon	> 10,000,000	450	40	0
Irradiated growfoam®	<10	<10	<10	0
growfoam® plug	<200	<10	<10	0
Glue Plug	> 10,000,000	<10	10	0

Tested on behalf of growfoam® in 2020.



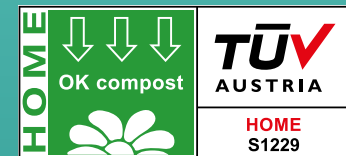
# growfoam® bio

- **Drivers for degradation:** Temperature and availability of bacteria.
- growfoam® is completely converted into  $H_2O$  &  $CO_2$  by fungi & bacteria. **No microplastics & no PFAS.**
- growfoam® is **TUV Industrial & Home Composting Certified** (DIN EN 13432 standard, which is also valid in Germany for green waste disposal). Minimum 90% of the product must degrade within 12 weeks to parts <2 mm.



# degradation

- growfoam® is TÜV certified for **Home & Industrial Composting**. **Soil Degradation** certification is expected Q3 of 2022.
- **Industrial composting:** Minimum 90% of the product must degrade within 12 weeks to parts <2 mm.
- **Home Composting:** Temperature during disintegration: ambient (28°C +/- 2 ). Maximum time allowed: 26 weeks
- **Soil degradation:** 90% degradation. Maximum allowed period: 2 years. Conditions: ambient temperatures, dark room.



# The golden rules:

- **Never compress (squeeze) the plugs.**

- Beware of conical trays.**

- Compression of the foam hinders root penetration

- **Ensure the plugs are properly saturated before sowing.**

- Incorporate a pre-soaking step. Submersion for less than a minute is enough.

- **Provide for your plants**

- Our substrate does not contain or buffer any nutrients, allowing you to fully control nutrient dosing. If you are used to peat or coir based substrates, increase the nutrient levels with every watering to an EC of 2 - 2.5 mS/cm.

- **Supply sufficient water. More is better.**

- **Watering frequency:**

- The higher the watering frequency, the better.

- We advise a minimum of 12 and maximum of 24 events /24h at 40-50% of plug height. The seeds need to be moist.



## Advised plugtype: O1

	Temp.	Lighting	Humidity	Spacing	Watering regime
<b>Germination DAS 0-3</b>	18 °C	Off	>90%	500-1000 plugs/m <sup>2</sup> (tray)	No events needed when high humidity is ensured.
<b>Propagation DAS 3-14</b>	22 °C	18 hours / 24 h	65(d)% 85(n)%	500-1000 plugs/m <sup>2</sup> (tray)	Minimum 12 - maximum 24 events /24h. Up to 40% plug height.
<b>Final stage DAS 14-harvest (usually DAS 45)</b>	22 °C	18 hours / 24 h	65(d)% 85(n)%	24 plugs/m <sup>2</sup> (gutters or floats)	Minimum 12 - maximum 24 events /24h. Up to 40% plug height.

## Pointers:

- Ensure high humidity and constant temperature during germination.
- Take care not to damage the roots during transplanting.
- growfoam® substrates are perfectly suited for automated handling.
- Suggested light intensity: 200 µmol/m<sup>2</sup>/s.





# Basil.



**Advised plugtype: O3**

	Temp.	Lighting	Humidity	Spacing	Watering regime
<b>Germination DAS O-2</b>	26 °C	18 hours / 24 h	>90%	500-1000 plugs/m <sup>2</sup>	No events needed when high humidity is ensured.
<b>Propagation DAS 2-14</b>	26 °C	18 hours / 24 h	75(d)% 85(n)%	500-1000 plugs/m <sup>2</sup>	Minimum 12 - maximum 24 events /24h. Up to 50% plug height.
<b>Final stage DAS 14-28</b>	26 °C	18 hours / 24 h	75(d)% 85(n)%	50 plugs/m <sup>2</sup> (gutters or floats)	Minimum 12 - maximum 24 events /24h. Up to 50% plug height.

## Pointers:

- Ensure high humidity and constant temperature during germination.
- Take care not to damage the roots during transplanting.
- growfoam® substrates are perfectly suited for automated handling.
- Suggested light intensity: 200 µmol/m<sup>2</sup>/s.

# Rucola.



**Substrate advice: Soil 2-4 mm for Rucola-Rocket.**

	Temp.	Lighting	Humidity	Spacing	Watering regime
<b>Germination DAS O-2</b>	22 °C	18 hours / 24 h	>90%	1400-2000 plants/m <sup>2</sup>	18-24 watering events/24h. Ensure complete drainage between watering events.
<b>Propagation DAS 2-21</b>	22 °C	18 hours / 24 h	65(d)% 85(n)%	1400-2000 plants/m <sup>2</sup>	18-24 watering events/24h. Ensure complete drainage between watering events.

## Pointers:

- Moisten the soil before filling the float to facilitate automated handling
- Always saturate (thoroughly moisten) the soil before or directly after seeding
- Germination can occur on the float directly, ensure high humidity and guard against temperature fluctuations to maximize success
- growfoam soil is perfectly suited for automated harvesting
- When selecting a float, ensure the substrate is in contact with the water during watering events. E.g. float "Idro" by "Plastic Box s.r.l."
- Suggested light intensity: 200 µmol/m<sup>2</sup>/s.

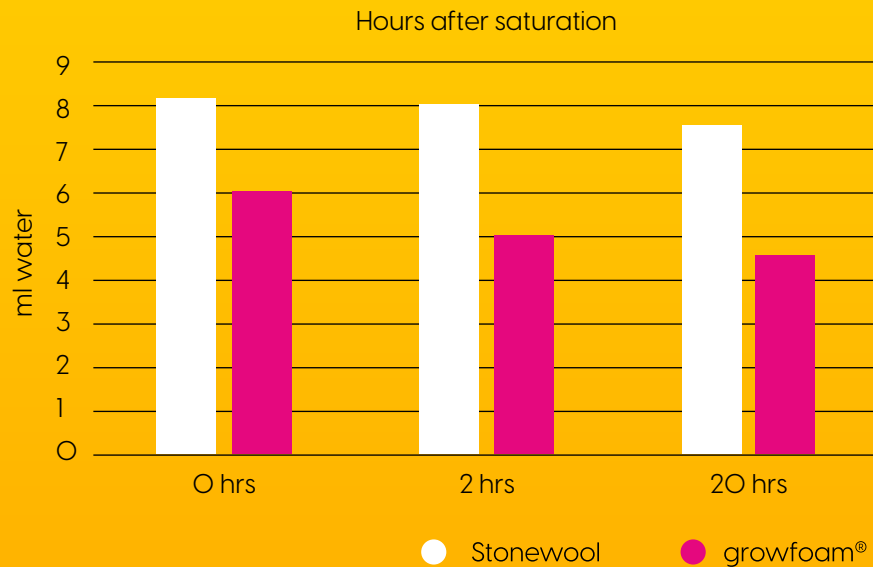




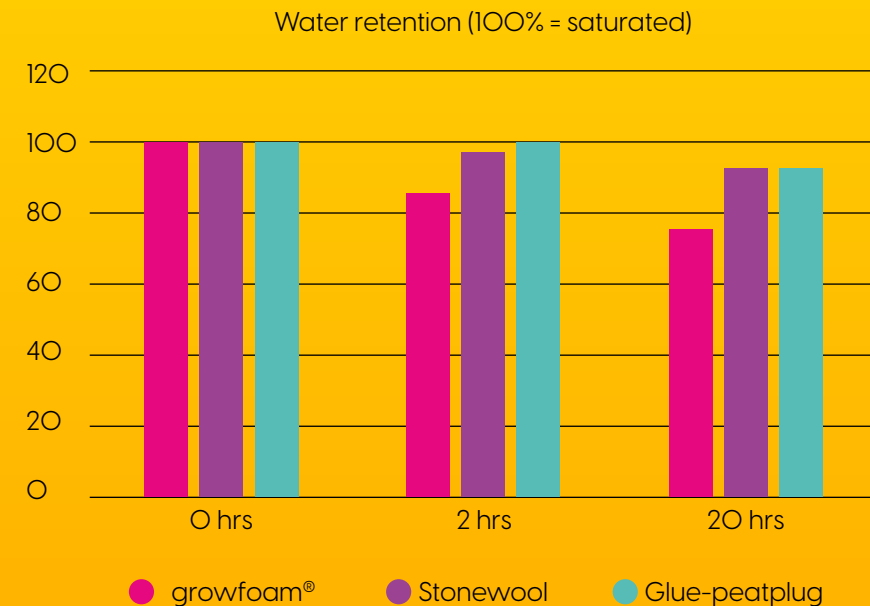


# Water retention of a growfoam<sup>®</sup> plug.

This graph below shows the water uptake capacity of growfoam<sup>®</sup> 2135 plug when fully saturated vs a 3 cm rockwool plug. Right (pink) bar is growfoam<sup>®</sup>.



This graph below shows the water retention in hours of growfoam<sup>®</sup> 2135 plug when fully saturated vs a 3 cm rockwool plug and a Glue plug



**While growfoam<sup>®</sup> requires more frequent watering, the graphs show that overwatering is not a concern for growfoam<sup>®</sup> plugs. As the plugs remain fully saturated for only a few hours, allowing room for oxygen to reach the roots.**



# Partners for greener and better.

**We believe in partnerships.**

**That's why we're reaching out to growers around the globe to share our knowledge about growing techniques and how to optimize growth with a truly sustainable substrate.**



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