

Switch to clean

Optimise growth with
the Grodan 3-phase model





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Grodan stone wool growing media are inert and hygienic, providing your crop with a clean, disease-free start. Furthermore, stone wool retains its structure throughout the cultivation cycle, so your growing system also stays clean: filters remain free from blockages and cleaning between successive crop cycles is easier and faster. This makes extra cultivation cycles during the year an option. The result: less downtime between crops, more reliable production due to lower failure rates, and, more importantly, a clean end product.

We recommend a 3-phase crop growth model. Depending on your growing system, this leaflet sets out the basic indicative details for each phase.

Seeding and Germination 2-3 days

Phase
1

The seeded trays or cubes can be stacked and placed in a cooler at a temperature of 4.5°C. For 1 to 2 days to initiate germination. Once the seeds crack and begin to grow, immediately place them in the greenhouse at temperatures between 15-18°C.

Control points

- Germination temperature: Between 15 and 18°C, depending on variety.
- Temperature of the water during initial wetting needs to be around 17.5°C.
- EC during initial wetting 1.5.
- PH between 5.5 - 6.

Additional: See wetting instructions

Propagation 8 up to 18 days

Phase
2

Moisture content of the product to be >70% in the propagation phase. The water content in this phase has to do with which product dimensions are being used. In the table below are four calculation examples of minimum water content in grams.

Control points

- EC: Overhead irrigation 1.8 EC = maximum
Ebb and flood 2.5 EC = maximum
- PH between 5.5 - 6.
- Keep the seedlings at temperatures between 18 - 21°C during the day in the greenhouse.
- Keep the seedlings at temperature between 13 - 16°C at night in the greenhouse.
- Irrigation water temperature between 15 to 18°C.

Product	Unit dimensions	Approximate substrate volume per piece	Minimum indicative wet weight per piece (>70% WC)
MM blocks	40x40x40 mm	64 ml	45 gr
MM blocks	50x50x50 mm	125 ml	88 gr
AO plugs	36x40 mm	45 ml	32 gr
AO plugs	50x40 mm	93 ml	65 gr

Cultivation and Harvesting 15 up to 21 days

Phase
3

Moisture content of the product to be >60% in the cultivation phase. The water content in this phase has to do with which product dimensions are being used. In the table below are four calculation examples of minimum water content in grams.

Control points

- EC: Overhead irrigation 2 EC = maximum
Ebb and flood 2.5 EC = maximum
- PH between 5.5 - 6.
- Environment temperature between 18 -21°C.
- Irrigation temperature between 15 - 18°C.

Note: Maximum water temperature of irrigation is 22°C, otherwise problems could occur.

Product	Unit dimensions	Approximate substrate volume per piece	Minimum indicative wet weight per piece (>60% WC)
MM blocks	40x40x40 mm	64 ml	38 gr
MM blocks	50x50x50 mm	125 ml	75 gr
AO plugs	36x40 mm	45 ml	27 gr
AO plugs	50x40 mm	93 ml	56 gr

Growing a better future

Grodan is the global leader in supplying innovative, sustainable stone wool growing media solutions for the professional horticulture industry, based on Precision Growing principles. These solutions are applied to the cultivation of vegetables and flowers, such as tomatoes, cucumbers, sweet peppers, egg plants, roses and gerberas.

Research shows that high-tech greenhouses have the biggest positive impact on the UN Sustainable Development Goals compared to all other growing systems and score highest within water and nutrient efficiency. The use of stone wool Precision Growing media in a greenhouse can produce higher yields with significantly less resources than other cultivation methods. The key is precision. The essence of Precision Growing is the use of less soil, less water, less fertiliser, lower CO₂ emissions, and gaining a higher yield. Combined with stone wool growing media, Grodan enables Precision Growing by offering a MultiSensor system, a software platform and personal advice to help maximise crop potential with data-driven cultivation.

Grodan's innovative growing media solutions facilitate the sustainable production of healthy, safe, and fresh food produce. Furthermore, it creates the possibility to use biocontrol and reduce, or even eliminate, the use and risk of chemical plant protection products.

Sustainability plays a prominent role within Grodan, from the manufacture of stone wool substrates to end-of-life solutions. Grodan was founded in 1969 and is active in more than seventy countries worldwide. The head office is located in Roermond, the Netherlands.

“Air is essential for good root growth and as there is sufficient air in the stone wool products the roots are encouraged to enter the water.”

Erkki Nylund, Viherkaste OY

ROCKWOOL BV / Grodan

Industrieweg 15
6065 JG ROERMOND
Postbus 1160
6040 KD ROERMOND
The Netherlands
T +31 (0)475 35 30 20
F +31 (0)475 35 37 16
info@grodan.com
www.grodan.com

The substrates from Grodan are the only stone wool growing media awarded an EU Ecolabel.



EU Ecolabel: NL/048/001

