

# Switch to clean

Clean growing system, clean  
lettuce, and reliable results

Brochure







**Stone wool  
growing media**  
**The clean choice,  
with reliable  
results**





**In recent years there has been a worldwide increase in the consumption of lettuce and leafy greens. Naturally this has led to an increase in production. Since there are many growing systems used for lettuce cultivation, finding the right growing media might be challenging.**

Grodan stone wool growing media are inert and hygienic, compared to more traditional options such as peat, oasis, or coconut mixtures. This ensures that Grodan growing media provide your crop with a clean, disease-free start and all the nutrients and water applied are directly available for the growing crop. Furthermore, because stone wool retains its structure throughout the cultivation cycle, your growing system also stays clean: filters remain free from blockages, and cleaning between crops is easier and faster. The result: less downtime between crops, more reliable production due to a lower failure rate, and, more importantly, a clean end product.

With Grodan growing media you can count on fast, uniform germination and subsequent growth, ensuring reliable results between successive cultivation cycles. Discover Grodan and switch to clean.



# How lettuce and you benefit from stone wool growing media

Stone wool growing media offer a lot of benefits for lettuce cultivation, especially compared to more traditional growing media. Depending on your growing system, Grodan growing media provide various benefits.

## **Clean**

Clean start: stone wool is manufactured at 1500°C, which eliminates any risk of contamination by pathogens and weeds. Also, the growing system stays clean, as stone wool keeps its structure in contrast to other currently used growing media. Filters remain clean and free from blockages and cleaning between crops is easier and faster. Finally, a clean end product is the result of using Grodan, because of 2 reasons. There will be no growing media remainders on the lettuce leaves. And as stone wool is inorganic, crops grown on it are less susceptible to diseases, so it is more suited to “residue free” growing.

## **Uniformity**

In each phase of the cultivation process, Grodan stone wool products provide reliable results. Uniformity is one of the unique properties of stone wool. This is due to Grodan’s closely controlled manufacturing processes, which produce an exceptionally uniform and consistent growing medium. So as a grower, you are assured of a uniform crop.

## **Convenience**

Grodan stone wool growing media also provide a lot of convenience, as they are ready to use, easy and suitable to be stored for long periods, and have clear instructions for use.

## **Strong structure**

Stone wool growing media have a stronger structure, compared to some of the currently used growing media. This makes them ideally suited to use in highly-automated production systems as they are easily handled by the machine.

## **Optimal Total Cost of Ownership**

It’s very important to have a clean system to prevent diseases, which may result in lower yields. Stone wool growing media decrease growing system cleaning and allow for faster cleaning between crops, reducing downtime and allowing extra cultivation cycles during the year. The result: optimal Total Cost of Ownership.

## **Recyclable**

Stone wool growing media are perfectly recyclable. Depending on the region, Grodan recycles growing media, improving the sustainable aspects of the total lifecycle of the product.



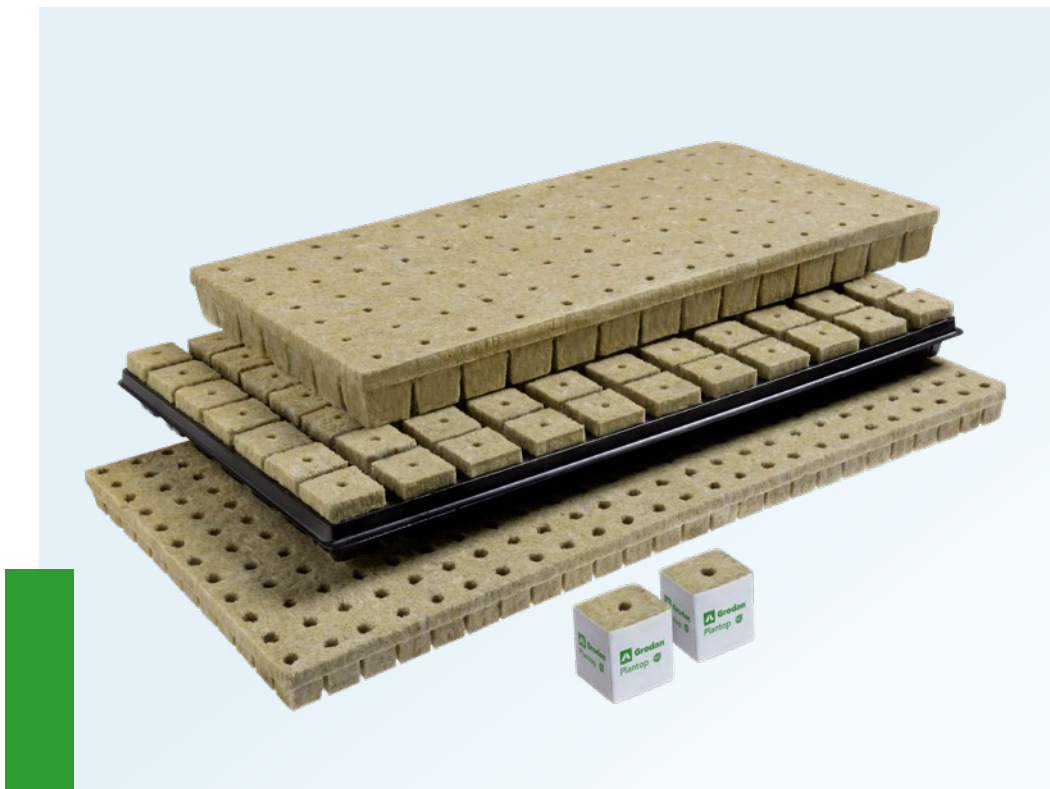
## Where can Grodan stone wool growing media be used?

From Deep Water Culture (DWC) to Nutrient Film Technique (NFT) growing systems; Grodan stone wool growing media can, in principle, be used in combination with almost every system. The one thing that it depends on, is whether the size fits. Your local Grodan account manager can advise you about the best solution for your growing system and is happy to assist you further.





# Our products



Product	Unit dimensions	Piece dimensions (Diameter/Depth)	Pieces per unit
AO plugs	Sheet 500x250 mm	AO 25/40 mm	200 / sheet
		AO 36/40 mm	98 / sheet
		AO 36/55 mm	98 / sheet
		AO 36/65 mm	98 / sheet
		AO 50/40 mm	50 / sheet
SBS plugs	Plastic tray 530x318 mm	SBS 25/40 mm	150 / tray
		SBS 36/40 mm	77 / tray
Taco plugs	Sheet 582x280 mm	Taco 23/28 mm	300 / sheet
	Sheet 504x252 mm	Taco 25/40 mm	200 / sheet
Lettuce boards	Board 1150x1000x37 mm	1150x1000x37 mm	32 / pallet
MM blocks	Strip 600*40 mm	MM 40*40*40 mm	2250 / carton
	Strip 600*50 mm	MM 50*50*50 mm	1152 / carton
		MM 50*50*40 mm	1440 / carton

# We support your growth

Two technical workflows (detailed PDFs are available) help ensure that you get the most out of your Grodan product.

## 3-phase model

We recommend a 3-phase crop growth model: seeding and germination, propagation, cultivation plus harvesting. We provide you with detailed information about how to work with our stone wool growing media in each phase.

## Wetting instructions

The initial wetting of Grodan products is crucial to the success of the growing process. It forms the foundation for the root development and growth of lettuce plants. To guarantee successful use of Grodan products, detailed wetting instructions are provided.



“The use of stone wool makes manual watering ideal. In addition, cultivation in the sheets is labour efficient as the Grodan plugs no longer need to be separated into trays and go directly from the sheet onto the water. In propagation, we therefore have a much higher plant density, which is much more efficient in our propagation set up.”

Arthur Marck, Marck Hydroponics

## 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 use of less soil, less water, less fertiliser, lower CO<sub>2</sub> 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

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



EU Ecolabel: NL/048/001

