Quick user guide

Grodan vermiculite-free blocks guide

Plantop NG2.0 Block VF

Use the following guide for sowing and germinating the Plantop NG2.0 vermiculite-free block. The indicated steps remain a guideline; adjustments at a detailed level remain necessary to achieve an optimal result.

Grodan®

Part of ROCKWOOL Group

Saturating the product

The initial saturation of Grodan Blocks is crucial to the success of the cultivation process. It forms the foundation for root development and growth of the plant. To guarantee successful use of your Grodan Blocks, it is essential that you follow the wetting instructions below.

Preparing the nutrient solution

To saturate the stone wool blocks, prepare a balanced nutrient solution:

- with an EC level that is suitable for the plant that will be cultivated.
- with a pH level that is suitable for the plant that will be cultivated.
- with a nutrient solution temperature that is suitable for the plant that will be cultivated.

Notice:
Ensure that the pH of the nutrient solution is not lower than 5.2. A lower pH used during initial saturation and at any time in the cultivation process will dissolve the stone wool fibres resulting in a loss of structural integrity.

Saturating the blocks

The preferred method of saturating the blocks is to use a 'wetting line' as shown in the picture below. On the wetting line the blocks travel at a set speed beneath a series of beams each of which applies a precise volume of nutrient solution.

Notice:
The wetting line is the preferred saturation method to consistently achieve the correct WC in Grodan Blocks. The use of other saturation methods such as submerging or ebb & flood is possible, please contact your Grodan Account Manager or Customer Service for more information. When using other saturation methods, make sure to evaluate the method by following the instructions below.

Ideally the wetting line should have an 'open belt conveyor'. This allows the applied nutrient solution to drain fully from the blocks as they pass from beam to

beam. The open belt system prevents air from being trapped inside the block and ensures an even distribution of nutrient solution.

In addition, it is advised, that the wetting line should contain five (5) spray beams. The distance between the beams should be 50 cm. The belt speed should be 5 cm/second with a water pressure of 2.5 bar (measured at the spray beam) and a nutrient solution temperature of 20°C. These variables are interdependent on to one another. As such, a change in one will require a change in all to achieve the desired outcome.

Place the blocks on the conveyor belt ensuring that the plant holes face upwards.

Notice:
Check the beams regularly for (partial) blockages. It is your responsibility to ensure that a balanced nutrient solution was applied at the intended EC and pH level. However, as a simple check it is advised that you check EC and pH levels following initial saturation.

Evaluating the saturation process

To evaluate if the blocks have been correctly saturated, select ten (10) blocks from the wetting line. Weigh each block individually and obtain an average weight. The table on the right provides guidance for common block types on the minimum applied volumes of nutrient solution per block and their expected minimum average weights:

Notice
As a rule of thumb, the minimum weight of a saturated product is 85% of its volume.

Planting in a Grodan Block

Once a Grodan Block is correctly saturated, a seed can be planted / placed in it.

Notice
The instructions in this section only describe the planting activities that are unique to Grodan Blocks. After planting a seed into a block, it will need special care to develop into a mature plant. This care is the responsibility of the propagator.

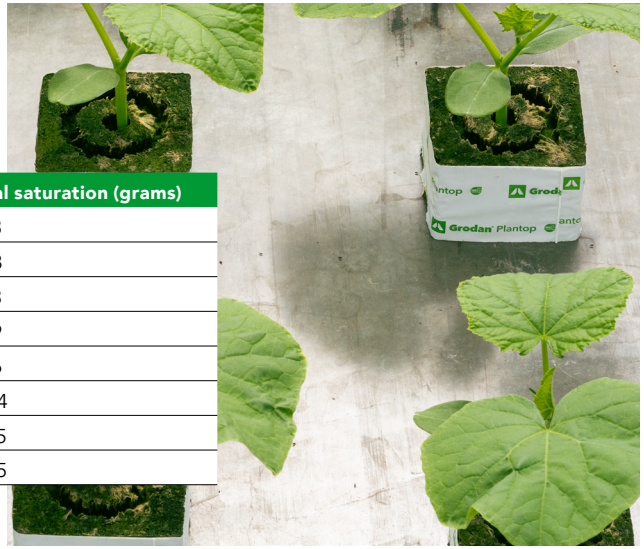
- Manual sowing: the block can easily be sown manually.
- Automatic sowing: because the sowing-hole is slightly narrower than the conventional block, the sowing machine may have to be adjusted more precisely to get a good sowing result. If necessary, ask your machine supplier to optimize the sowing process.
- Seed position: at the bottom of the seed hole for optimal germination results.
- DO NOT cover with vermiculite.

Spraying overhead with water after seeding either on the sowing line or in the germination room can help position the seeds in the bottom of the hole.

Block Type (LxBxH)	Block Volume	Min. Weight after initial saturation (grams)
100*100*65	650 CC	553
100*100*75	750 CC	638
100*100*85	850 CC	723
150*100*65	975 CC	829
150*100*75	1125 CC	956
150*100*85	1275 CC	1084
200*100*65	1300 CC	1105
200*100*75	1500 CC	1275

Germination phase:

- Do not use a (chemical) treatment in the first 9 days after sowing. This can influence the germination rate and initial development speed of the seed.
- The block does not require any extra water compared to the standard block, provided that the block is saturated correctly, and the seed is positioned at the bottom of the seed hole. The conditions will be optimal for the seed to germinate, also with higher temperatures and/or high radiation.
- When the relative humidity is low in the greenhouse (<60%) then an extra irrigation moment is required in the first two days of the germination phase.
- In the cultivation phase, the Plantop NG2.0 Block VF can be treated the same as the standard block with vermiculite.
- The benefit is that the automatic systems and water systems will remain clean.



Designed to grow

Grodan is the global leader in supplying soilless rootzone management solutions for Controlled Environment Agriculture. These solutions are applied to the cultivation of vegetables, medicinal crops and flowers such as tomatoes, cucumbers, sweet peppers, eggplants, roses and gerberas.

At Grodan, we aim to help feed and treat the world's growing population by innovating solutions from our stone wool growing media to enable 'more-with-less' growing. Through the method known as out-of-soil, our stone wool substrates, sensor systems, software and expertise support the reliable, informed growing of healthy, fresh, high quality produce. Our material is 100% recyclable, and supports growing methods that use up to 50% less water, 20% less chemical plant protection products and 75% less land. Sustainability plays a prominent role within Grodan, from manufacturing stone wool substrates to recycling solutions and services.

Grodan has more than 50 years of cultivation experience. We pioneered the development of hydroponic growing methods in the 1960s, and today, our soilless rootzone management solutions are used in large-scale commercial greenhouses and indoor facilities in over 70 countries across the globe. The head office is located in Roermond, the Netherlands.

ROCKWOOL BV / Grodan
Industrieweg 15
6065 JG ROERMOND
Postbus 1160
6040 KD ROERMOND
The Netherlands
T +31 47 53 53 535
info@grodan.com
www.grodan.com

Grodan®