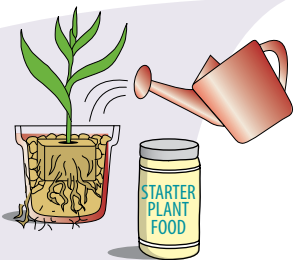


Which hydroponic method should I use?

First visit your local hydro store or garden center. Examine various systems and discuss options with a professional. Choose a system based on what type of gardener you are. Do you prefer a system that is easy, lazy, or advanced?

THE EASY WAY

All that's needed is a good draining container and a watering can. Fill the pot with soaked Grodan GROW-CUBES or absorbent granulate. Pot up a plant. Water using a watering can, and don't forget to add in liquid nutrients every time to fertigate the plants. Alternatively, one can use slow-release fertilizer pellets instead.

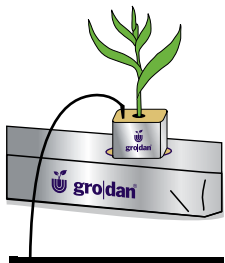


THE LAZY WAY

- Buy or build a self-watering planter that has a reservoir with a re-circulating pump. You can set one up on a timer and leave your house plant for weeks.
- Set up an Ebb and Flow system where a reservoir and pump flood a table with nutrient solution. Most people use larger GRO-BLOCKS on flood tables. The flow of solution is set up on a timer. Check the solution in the reservoir periodically for correct pH and nutrient level.

THE ADVANCED WAY

- Set up a drip irrigation system just like commercial growers. The plant food is delivered directly to the plant with the use of a reservoir, pump, drip stakes and tubing. This is the best way to grow the biggest plants in Grodan. Use GRO-BLOCKS on top of GRO-SLABS.
- Make an NFT system (Nutrient Film Technique) where the plant food flows gently over the roots.



These are just a few suggestions to help get you started. But remember, nothing can take the place of real life experience, so don't be afraid to experiment. Visit grodan101.com to learn about more options and to decide which is best for you. For ready-made systems, find a shop nearest you by using our store locator section on grodan101.com. This way, you can jump start your Grodan garden right away!

The Gro-SMART video series

This FREE, 9-part video series (plus bonus section) will put you on the fast track to learning what you need to know about using Grodan and understanding the fundamentals of hydroponics. Each segment shows practical, step-by-step instructions to suit a wide range of viewers from beginners to experts. The Gro-SMART series also provides a fantastic refresher course for those who have been using Grodan for years. To find, watch or download, search "Gro-SMART with Grodan" on either youtube.com or grodan101.com.



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INTRO

Introduction to Hydroponics

WATER
+ NUTRIENTS
+ LIGHT
+ GRODAN
=====
HUGE PLANTS



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GRODAN101.COM

Why Learn About Hydroponics?

Did you know that many of the common vegetables and plants purchased today are grown hydroponically? Hot house tomatoes and seedless cucumbers in the produce section, cut flowers at the florist and potted plants from garden centers are being grown using hydroponic methods. The good news is that this technology is no longer restricted to commercial greenhouses - it is now available and extremely popular for hobbyists to use as well. This set of Grodan tri-folds will explain how to grow a fabulous hydroponic garden using Grodan stone wool.



What is Hydroponics?

Most people think it means a plant growing in water, but this is only one of many methods. The broader term means growing plants in a soil-less media where all the food that the plant needs comes from nutrients mixed into the water. So when watering, the plant also receives food. This is called fertigation (fertilizer + irrigation). One of the most common ways to grow hydroponically is to plant into a medium that is inert, meaning something that does not react chemically to the added nutrients. One of the most popular inert substrates available today is Grodan stone wool.

What are the Benefits?

There are several reasons people choose to grow plants using hydroponics versus traditional soil methods.

- Achieve higher yields and bigger plants than in soil.
- Faster plant growth than in soil or peat - up to 50% faster!
- More efficient use of water and plant food, especially when using a re-circulating system.
- Less pests, especially indoors, so less pesticides (poisons) needed.
- One can grow plants any time of year - even in winter - indoors.
- Can be as easy or as technologically advanced as you want it to be.
- Loads of fun showing off your futuristic garden to your neighbors.

What is Grodan Rockwool?

If your first thought after touching Grodan is insulation, you are right. Rockwool (the generic term) is used as insulation in most of Europe because it is environmentally friendly and safe. In 1969, the Grodan company developed rockwool into horticultural stone wool for the specific purpose of growing plants. We have been perfecting the process ever since to provide the highest quality of stone wool today. Plants cannot grow in rockwool insulation.



To manufacture Grodan stone wool, natural basalt rocks and chalk are melted at 3000° F (1600° C). The lava is then blown into spinning chambers where a binder is added to make the fibers water absorbent. The fibers are then compacted, cured and transported on a conveyor belt for final processing.



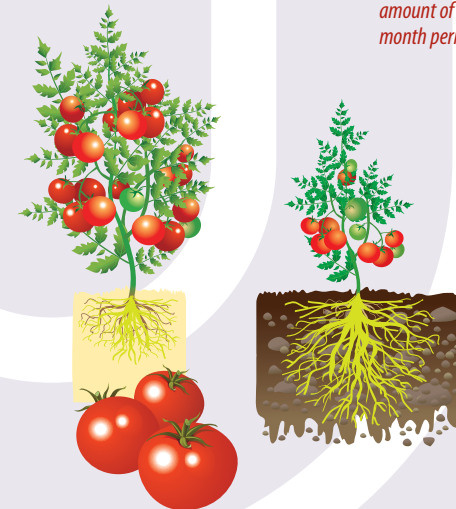
Grodan is the first substrate producer to receive the European ECO label, which goes beyond evaluating the finished product but also evaluates the overall environmental practices of the producer and the entire life-cycle from raw material extraction to end disposal.

Why Grodan?

- Compared to any other rockwool manufacturer, Grodan provides a greater variety and more sizes of stone wool products from which to choose.
- We are the only stone wool manufacturer that provides direct support to home gardeners through simple brochures, a user-friendly Website, and free downloadable "how to" videos to watch at your convenience.
- Consistent uniformity within and between products, unlike soil and peat mixes which can vary considerably between batches.
- Inert, disease-free, cleaner and lighter in weight than soil.
- It will not compact over time, so roots can breathe throughout the life of the plant.
- Plants have better chance of recovering from the "wilting" stage because when water is added, it is instantly available to the plant - unlike soil or peat.
- In hydro, roots are fed directly whereas in soil the plant must search for food. This means less roots are needed than in soil, so you can grow bigger plants in smaller containers.



Both petunias in peat mix (on left) and Grodan GROW-CUBES (on right) were given the same amount of plant food over a two month period.



In Grodan, less roots but larger plant. In Soil, more roots but smaller plant.