

## Recycling at the Commercial Level

In Europe, used Grodan stone wool is returned to the factories to be melted and re-spun into new stone wool. In areas of high concentrations of greenhouses such as Ontario, Canada, certain enterprising companies receive and recycle the wool, plastic and plant material and use it to make various new products including bricks.

### MADE FROM RECYCLED GRODAN

Most Grodan stone wool is made from recycled Grodan. This policy was established because it is the environmentally correct thing to do, and because the process DOES NOT in any way compromise the quality of the final product.

Grodan stone wool is essentially rock-fibers. The beauty of rock is that it can be melted and spun back into fibers repeatedly and still achieve the same high-quality fiber at the end of the process. The high temperature that is used to melt the rock or used Grodan also completely sterilizes the product and removes all organic matter thoroughly each time.



Previously used Grodan stone wool from commercial greenhouse to be recycled into new Grodan stone wool

To explore this topic further, watch "Grodan's Environmental Focus", one of nine segments in the Gro-SMART video series. This can be downloaded FREE from [grodan101.com](http://grodan101.com) or from [youtube.com](http://youtube.com).

## Is Grodan Organic?

Grodan stone wool is a natural product made from basalt rocks and limestone. Grodan is the first substrate producer to receive the European ECO label, which goes beyond evaluating the finished product (like OMRI) but also the environmental practices of the producer.

The Eco-label looks at how the making of a product affects the environment from start-to-finish, from the mining of the rocks to the potential for recycling used stone wool. A product can only achieve the Eco-label when it has proven to have the least possible negative impact on the environment.

## The Safety of Grodan Stone Wool

If you're concerned about the safety of Grodan, there is no need to be. The World Safety Organization (WHO) has classified Grodan stone wool as a bio-soluble product. For details, check out the official Material Safety Data Sheet (MSDS) on [grodan101.com](http://grodan101.com), under environment.

Your local store:



Grodan Web Link  
SCAN THIS CODE  
using cell phone

To locate a Grodan supplier, go to [grodan101.com](http://grodan101.com), and use the search locator.

Collect all six tri-folds to achieve greater success with Grodan:

INTRO Introduction to Hydroponics    TRANSPLANT Rooting and Transplanting  
WATER Watering and pH Conditioning    GROW Growing Huge Plants  
START Starting Seeds and Cuttings    RECYCLE Recycling Used Grodan

Grodan is classified by W.H.O. (World Health Organization) as a bio-soluble product. Complete M.S.D.S. are available on above Website. International cert. ISO 9001 & 4001, and European Eco-Label. Information compiled here is in accordance with the latest knowledge at time of writing; however, Grodan cannot assume liability for the use of its contents.



Grodan donates a percentage of all sales to Hydro for Hunger. To learn how you can also contribute, visit [www.hydroforhunger.com](http://www.hydroforhunger.com).

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# RECYCLE

## Recycling Options



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## Protecting and Preserving the Environment

Today people are more aware than ever before, of the importance of protecting and preserving the earth - and with legitimate reasons. But what many do not know is that growing hydroponically is far better for the environment than traditional growing methods. Want to know the reasons?

- In hydroponics, one grows in a closed system where nutrients are recycled to the plant. In traditional soil growing, nutrients end up in the environment instead, polluting drinking water.
- By using hydroponic re-circulating systems, the grower conserves up to 75% on water usage, compared to traditional growing.
- When using a soil-less hydroponic media, plants grow out of a clean, pathogen-free product, resulting in fewer disease, and the process of growing therefore requires 90% less pesticides.
- In hydroponics, fertilizer is used only in half strength and at lower quantities. A commercial grower in soil can easily reduce his volume of fertilizer usage by 75% by switching from soil to hydroponics.
- Grodan produces a large proportion of Grodan from recycled Grodan. Help the environment by personally recycling your Grodan, too!

## Environmental and Quality Certifications

In addition to the above, Grodan factories receive the international environmental management rating ISO 4001, ISO 9001 and the European ECO label.

Unlike the North American OMRI that strictly looks at the product material, ECO label goes beyond and also evaluates the overall environmental practices of the producer and the entire life-cycle from raw material extraction to end disposal.

Visit [www.eco-label.com](http://www.eco-label.com) for more details.

EU Ecolabel : NL/29/001



## Recycling Methods

### CROP ROTATIONS

This is one of the most popular recycling methods. Local farms benefit from crop rotation, and the same is true for home gardens.

1. Grow a vegetable plant. Chop up the used GRO-SLAB/GRO-BLOCK into smaller 1/4" cubes, let them dry, then remove loose root mass.
2. Compost your old plant and the root mass, and grow flowers in the chopped cubes.
3. When you are tired of the flower, remove the plant and the loose root mass and pot up a foliage or house plant in the used cubes.
4. Once the house plant has expired, remove the plant and the loose root mass and grow a new plant or mix into a garden bed.

*For seeds and cuttings, always use new Grodan starters because used stone wool will have too many roots. So in this instance, it is better to chop them up and use as a potting mix.*

### WOOD-CHIPPER GRANULATE

Turn used stone wool into granulate by running it through a wood chipper. Attach a plastic 'tent' to catch the chipped wool, then use the granulate in several different ways.

- To speed up composting, add some granulate each time you add kitchen food debris. The stone wool aerates the compost and speed up the decomposition process by 20-30%.
- To improve the tilth of regular garden soil, add 30% wool to the top 1.5 feet of soil, and mix it in.
- To improve sandy and clay soils, mixing granulate in with these difficult soils will enable quicker plant growth the next time around. Add the granulate into the hole when planting in your garden. You will be amazed at how much faster it grows.
- Use the granulate as a potting substrate for potted plants.

*Whenever using previously-used stone wool in this manner, don't forget to add fertilizer. Consider using slow-release granules specifically in containers.*

### FLOOD BARRIERS FROM OLD SLABS

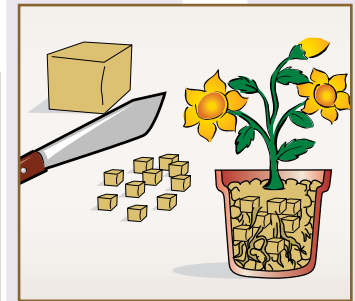
Due to the absorption properties, stone wool works well as a flood barrier.

- First, always remove the plastic and use the previously used GRO-SLABS in place of sand bags.
- Stack in a double staircase shape and seed grass on the slabs, so they look nice outside of the flood season.

### Will Stone Wool Decompose in my Garden?

Stone wool is a bio-soluble product. It will dissolve (disappear) at low pH, but not at the typical pH level in gardens.

Keep in mind that stone wool consists of rock-fibers, so they will in time separate more as you work the soil. However like the rocks in a garden, the fibers will never just disappear, but will become less visible as they break down into minerals.



### BASIC ADVANTAGES

There are two great advantages to mixing stone wool into your garden.

1. It keeps the soil light and easy to work with for 5-9 years.
2. Stone wool will always improve the soil.
  - In clay soil, stone wool adds air.
  - In sandy soil, stone wool helps retain more water.
  - In silt or loamy soil, adding stone wool allows the plant to stay happy with less frequent watering. Stone wool also helps alleviate the hard surface tension when the soil dries out, making it easier to re-wet as needed.

### RAISED GARDEN BED FROM OLD SLABS

- First, always remove the plastic.
- Stack the slabs outside to make a raised bed garden.
- Do not stack more than four slabs high because any more will dry out and possibly fly off.