# How is a substrate created at **Gramoflor?**

The substrates are produced in the own plants in Northern Germany. Production is controlled by IT and modern calibrated technologies. Mixtures that are saved electronically, an integrated quality assurance system as well as the external supervision by the "Gütegemeinschaft Substrate für Pflanzen e.V." (Quality Assurance Association Growing Media for Plant Cultivation) guarantee the best quality.

A substrate is created by combining various components like white and black peat, wood fibre, compost, perlite and fertilisers. Gramoflor offers up to 25 different raw materials to create the volume and several high-quality fertilisers. This flexibility allows the production of substrates with customer specific requirements. Customers from commercial horticulture will also have a selection of more than 75 proven standard substrates. Even the type of delivery can be chosen, e.g. big bales, 70-l packaging, bulk etc.

Please contact our competent expert consultants to choose the right substrate for your requirements.



# What are the options for using substrates?

There are many possibilities of using substrates in commercial horticulture. For example for cultivating ornamental plants, for nurseries, perennial or vegetable growers and landscaping.

The structure of the substrate can give you an idea of the usage:

- seeding and propagation substrates with a fine structure
- padding and potting substrate has a medium structure in different gradations
- container substrates with a coarse structure

Substrates for the commercial horticulture are also used by hobby gardeners who set high standards.

True to the motto "For responsable growth", Gramoflor is focussing on sustainable peat extraction. This is based on three core questions:

### 1. Where does the peat come from?

Gramoflor's peat extraction sites are in North Germany. From as far back as 1981 peat has been extracted here strictly in line with the "Niedersächsisches Moorschutzprogramm" (mire protection programme of Lower Saxony), and today only areas that have already been drained and degraded are used for peat extraction. Here the term "degraded peat land" is used as opposed to intact mires.

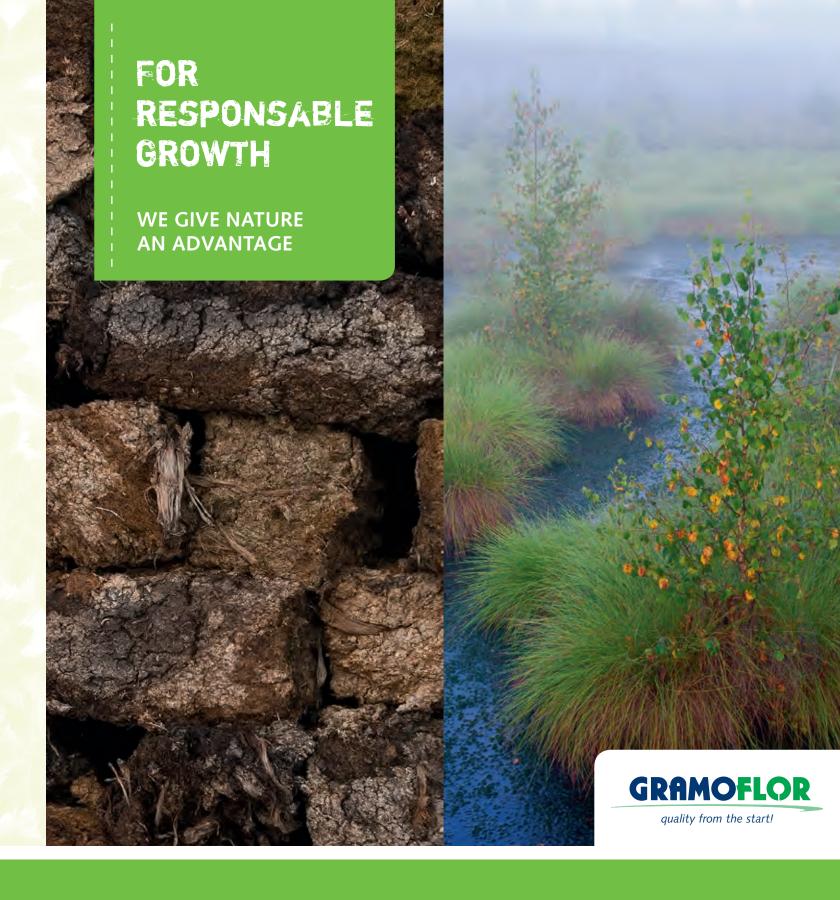
### 2. How is peat extracted?

Using the original "upper and subfield process" developed by Gramoflor, it is possible to already start renaturation during peat extraction. This method, along with the spreading of peat moss on the subfields, gives the vegetation typical of the mire an advantage in terms of time and provides the best conditions for the living mires and biotopes.

### 3. What happens after peat extraction?

It is our goal that living mires and biotopes can develop when peat extraction has been completed. In order to guarantee this for future generations, the "Stiftung Lebensraum Moor" (foundation mire habitat) was established in 2012. After the peat extraction is finished, the foundation will support the preservation of the renaturated

We know that the raw material "peat" is no everlasting resource. Therefore it is used as saving as possible for the production of substrates and potting soils. Alternative basic materials like compost or the wood fibre LIGNOFIBRE® supplement the peat ideally. By using many different components, Gramoflor succeeds in producing individual substrates that are customised to specific requirements. Today's modern culture methods in commercial horticulture enable particularly effective substrate use, so that, for example, from one cubic meter up to 350,000 vegetable plants can be produced.







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Peat extraction and renaturation are running side by side

# Peat extraction and renaturation are running side by side

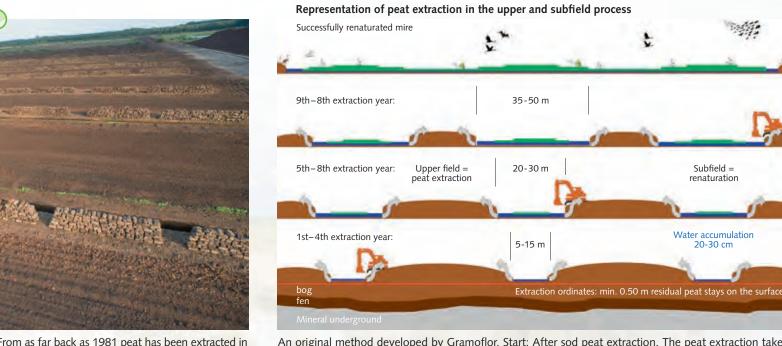
Gramoflor's approach – A pictorial representation

# Where does peat come from? North German peat ■ bog ■ fen O Gramoflor sites Degraded peat land: previously used for agriculture Where is the bog here? Soil & Substra Plant Areas already

Example: Gramoflor production plant, peat extraction and renaturation areas in Vörden

## How is peat extracted?

After the sod peat digging method, peat extraction begins in the upper field and subfield



From as far back as 1981 peat has been extracted in line with "Niedersächsisches Moorschutzprogramm" (mire protection programme of Lower Saxony).

Here, using the sod peat digging method. An original method developed by Gramoflor. Start: After sod peat extraction. The peat extraction takes place in the upper field, while in the subfield the renaturation is already happening.





Peat moss (Pioneer species: Cuspidatum and Fallax) is spread in the subfield Upper and subfield after 5-6 years Peat extraction and renaturation already run side by side



During the planning of peat extraction in the upper field and subfield process, provisions are made from the start for the development of living mires. This method gives the vegetation typical to the mire an advantage in terms of time and provides the best conditions for the development of living mires and biotopes that are rich in species.

## What happens after the peat is extracted?



Mire renaturated by Gramoflor Extraction finished 15 ago



Return of flora and fauna typical to the mire





Successful renaturation

# Future prospects for the renaturated areas

2012: Founding of the "Stiftung Lebensraum Moor" (foundation mire habitat)

a non-profit civil law foundation for the protection of nature, set up by Gramoflor GmbH & Co. KG

- care of growing mires even after the peat company has finished operations
- development of living mires, guaranteed for generations

- the protection of mires and nature
  research and development
  ecological education

