

# BARA CLAY FEATURES

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your professional cultivation!*





# EASIER IRRIGATION AND IMPROVED WATER RETENTION

*A substrate should absorb water quickly and evenly, in order to optimize the water retention and irrigation time.*

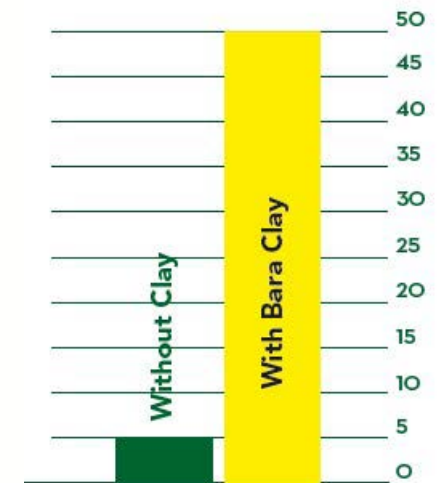
A substrate with high water uptake capacity and water retention is important for the grower.

A substrate should absorb water quickly and evenly, in order to optimize the irrigation time.

A substrate that has a strongly hydrophobic peat surface often has problems with long irrigation times and uneven distribution of moisture.

The high content of illite and smectite minerals in Bara Clay cover the peat surface, making the substrate strongly hydrophilous. This means that substrates mixed with Bara Clay absorb water quickly and evenly.

A substrate with Bara Clay makes a big difference to the water uptake characteristic (WOK), **see the diagram.**



WOK - Water Uptake Characteristic (% after 60 minutes)

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# COMPACT PLANTS

*Bara Clay enables compact plant growth without regulators, reducing available water, promoting efficient uptake, and ensuring rapid rewetting in dry conditions.*

With Bara Clay, it is possible to grow compact plants without growth regulators. By adding Bara Clay to a substrate, the amount of easily available water is reduced. The plant must use more energy to obtain its water.

By adding Bara Clay, the critical watering point can be lowered without running the risk that the substrate will no longer absorb the water. Bara Clay ensures rapid rewetting, even when it is dry.



20kg Bara Clay  
/m<sup>3</sup> substrate.  
No chemicals  
inhibitors used.

40kg Bara Clay  
/m<sup>3</sup> substrate.  
No chemicals  
inhibitors used.

No clay added to  
the substrate.  
Treated five times  
with chemical  
inhibitors.

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# BUFFERING OF FERTILIZERS AND REDUCED LEAKAGE LEAD TO COST SAVINGS

*Thanks to the clay minerals in Bara Clay, the important elements are buffered into the clay and are not washed and leaked out.*

Both positively charged ions and negatively charged ions are buffered. Bara Clay will prevent excessively high electrical conductivity (EC) in the root environment.

The buffered ions in the clay complex remain available for the plant and do not wash out.

Using Bara Clay in the potting soil is an effective method to buffer fertilizers. It also has a low influence on pH.

Adding Bara Clay to the substrate makes it possible to avoid leaking of fertilizers, and the grower also gains flexibility in fertilizer management.

POSITIVE IONS	NEGATIVE IONS
$\text{NH}_4^+$	$\text{NO}_3^-$
$\text{K}^+$	$\text{SO}_4^{2-}$
$\text{Mg}^{2+}$	$\text{PO}_4^{3-}$

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# INCREASE BUFFER TO A PEAT-REDUCED OR PEAT-FREE SUBSTRATE

*Bara Clay maintain water uptake, fertilizer buffer and water holding capacities in a peat-reduced or peat-free substrate.*

Thanks to the characteristics of BARA clay, a peat-reduced or peat-free substrate can maintain good water uptake and water holding capacity, which is otherwise a significant problem when peat is phased out.

The fertilizer buffering capacity of BARA clay also helps compensate and rebuild the total buffer capacity when the substrate is peat-reduced or peat-free.



Peat-free substrate.

Peat-free substrate with  
40kg/m<sup>3</sup> Bara Clay added.

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# GLUING OF PLUGS AND PRESS POTS

*Fine Bara Clay and Powder clay (Oxywet) are used to bind the peat together in substrates to form stable plugs and press pots.*

Bara Clay can be used excellently to bind (glue) peat for making sturdy plugs. In recent years we have built up a lot of experience in gluing all kind of substrates with different types of peat.

The Bara Clay used for this purpose is the composition of clay fractions specifically tailored to the type of peat and other raw materials.

Mainly the Bara clay 0-1 mm and the Powder clay Oxywet is used, either one of them or a mix.

This method is used for plugs, paper plugs and presspots. Bara Clay can be used in paper plug machines. Bara Clay is also a valuable addition to growing with plugs on water.



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# A WELL-BALANCED CLAY

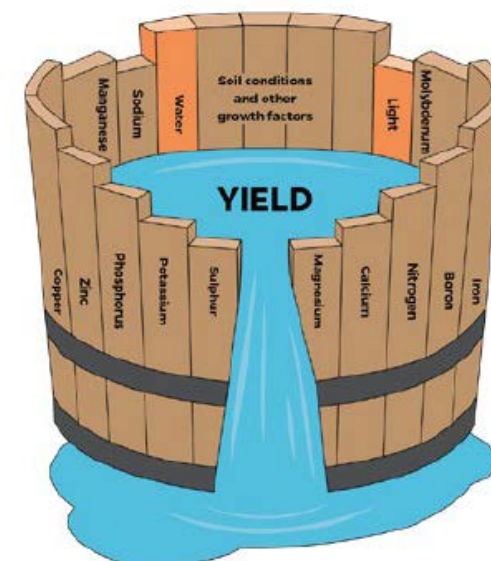
*Bara Clay contains a high content of clay minerals (particles smaller than 2 micrometers), combined with a high and good balance between cations and anions.*

It is known that a high CEC is important. What the CEC value doesn't tell us, however, is what ions and at what proportions the various cations and anions are fixated into the clay complex.

The CEC of Bara Clay is mainly formed by  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$  and  $\text{K}^{+}$  in the right proportions. Professional growers know that ions such as  $\text{K}^{+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^{+}$ ,  $\text{NO}_3^{-}$ ,  $\text{SO}_4^{2-}$  and  $\text{PO}_4^{3-}$  are necessary for the plants.

It is important that these ions are specifically those taken up by the clay in the substrate and given back to the plant root when needed. It is therefore essential to be certain that the clay mineral is mainly occupied by  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{K}^{+}$ , in the right proportions and not by other ions, e.g.  $\text{Na}^{+}$ .

Bara Clay contains a high content of clay minerals, combined with a high and good balance between cations and anions. This is the important value for a high-quality horticultural clay.



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# BARA CLAY AS A SOURCE OF SPORES AND MICROELEMENTS

*Bara Clay is a naturally clean clay that is rich in trace elements and microelements that can be absorbed by the plant.*

Unhealthy plants attract diseases and pests, and therefore disease pressure is constantly increasing and yields are lower.

By using fertilizer we only give back 10-15 minerals, while we harvest 60 minerals from the soil. As a result, our soils lack various minerals.

Trace elements (e.g. iron, manganese, nickel, zinc, molybdenum, boron) are only needed in very small quantities in the plant, but are nevertheless essential for its growth.

If one is missing, they will no longer function properly. In addition, plants need microelements such as selenium, silicon and strontium.

Bara Clay is a naturally clean clay that is rich in trace elements and micro-elements that can be absorbed by the plant.



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# BIOLOGICAL ACTIVITY ON THE BARA CLAY

*A healthy soil contains billions of microorganisms from thousands of species.*

A healthy soil contains billions of bacteria from thousands of species. They regulate numerous essential processes.

A healthy soil is indispensable for the development of strong, healthy plants which are less susceptible to diseases, pests and stress, and allows them to grow optimally.

Two factors are important for a healthy soil: mycorrhizas and useful soil bacteria.

Peat substrates are usually sterile, often without mycorrhizas and useful soil bacteria. We therefore have to build a micro-life in substrates. This is possible, for example, by adding Bara Clay.

Bara Clay naturally contains useful soil bacteria, e.g. nitrogen-fixing bacteria such as the free-living *Azotobacter* bacteria. These bacteria absorb nitrogen (N<sub>2</sub>) from the air and capture it in the soil. Plants cannot absorb nitrogen from the air themselves.

In addition, Bara Clay contains phosphate-releasing bacteria. Phosphate-releasing bacteria increase the availability of phosphate for the plant.

Bara Clay is an excellent catalyst to initiate the biological process.

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# REAL CLAY MINERALS

*Bara Clay has a unique composition of mostly 3-layer clay minerals such as illite and smectite.*

When you buy Bara Clay, you are buying real clay minerals! The clay content (particles smaller than 2 micrometers) of Bara Clay granules is very high. The percentage of sand particles is very low.

Bara Clay has a unique composition of mostly 3-layer clay minerals such as illite and smectite.

*These 3-layer clay minerals produce a high internal surface with a high buffer capacity.*

*Due to field drying, covered storage and heat treatment, the moisture percentage on delivery is only 2-3%. The low moisture percentage and the high content of clay minerals provide value for money.*



## TEST YOUR CLAY'S QUALITY

Take a corn-sized portion of Bara Clay and a similar portion of another clay. Add a little water, then roll each between your finger and thumb - you will immediately feel the difference.

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# RHP & FiBL CERTIFIED CLAY

*Bara Clay has been RHP certified since 1998.*

Bara Clay has been RHP certified since 1998. Bara Clay is heated to 80°C. It is safe, dry and easy to handle, easy to distribute in the peat. Bara Clay is also certified by FiBL, the Research Institute of Organic Agriculture.

This means Bara Clay can be used in organic cultivation in the Netherlands with SKAL certification.



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Bara Clay 0-1



Bara Clay 0-2,8



Bara Clay 2-6



Bara Clay  
Calcium Plus



Bara Clay  
Oxywet Powder

Would you like to try  
Bara Clay and experience the  
difference it can make in your  
professional cultivation?

CONTACT US FOR  
A SAMPLE