Palaterra®
The Green Deal

Towards a better future

Top soil.

Since 2005, a team of specialists led by Joachim Böttcher has been researching Terra Preta do Indio, a manmade dark soil from the Amazon delta. Due to extensive, application-oriented research, the ancient formula could be retraced and then transferred into a modern, mass-production scale. The result is a premium soil – culture media, soil conditioner and organic fertilizer all in one – which is in almost all aspects not only equal to original Terra Preta, but even surpassing it.

In fall 2009, Joachim Böttcher and juwi founded the international sales company Palaterra GmbH & Co. KG, whose goals are the advancement and comprehensive extension of Terra Preta technology. Not only does this technology guarantee sustainable agri - and horticultural productivity, it is also based on formerly redundant materials which can now add significantly to the local value.

The first facility for a large-scale production of Terra Preta was inaugurated in September 2010 at Hengstbacherhof, Germany. This unique venture, the world's one and only organic cycle plant, sets a benchmark towards an integrated material flow management.

The key to a better future

Many indigenous peoples shared the knowledge of an intelligent cultivation that even enhanced the soil's fertility. An impressive proof is a man - made black soil from the Amazon delta: Terra Preta do Indio. Made thousands of years ago out of crop leftovers and other organic waste produced in human settlements, it has been preserved up to this day. This prehistoric recycling allowed to feed a sizeable population on the produce of an otherwise barren rain forest soil.

The knowledge of Terra Preta do Indio, however, died with the old Amazonian tribes. Only at the end of the 20th century did archeologists rediscover this "black gold". Its unique fertility is still intact to this day. Scientists have affirmed Terra Preta's potential: it refertilizes degraded soil and could be the key to such pressing environmental problems as the ever increasing water shortage and climate change.

A global ecological design

The production of Palaterra® is based on a global ecological design. Instead of preying on natural resources and producing pollutants, the common denominators of industrial production, the production of high-quality Palaterra® culture media is decentralized, synergetically optimized and technically simplified.

Filed for patent, the biotechnical procedure allows for the manufacturing of black soil whose genetic fingerprint and characteristics match those of Terra Preta do Indio. Previously problematic organic waste no longer has to be disposed of, but becomes part of a sustainable recycling economy as high-quality, economically sound black earth: Palaterra®.

Once the biogas plant is built in Morbach, the facility will use its digestates for a sensible recycling. So far redundant biomass could also be integrated into the overall concept of the "Morbach Energy Landscape", thereby sparing the state of Rhineland-Palatina considerable expenses.

The facility offers a unique combination of treatment of digestates and production of high-quality substrate. But the main focus is on the perfect utilization, recycling and upgrading of all ingredients (organic material, nutrients, water). While solid ingredients, including nutrients, are mostly processed to humus substrate, the fluids, after filtering, can be used for irrigating biofuel crops. In Germany, a limited number of these larger facilities are planned, as well as smaller commercial branches.

oxisol earth,
Photografer: Dr. Bruno Glaser

Terra Preta Amazonas,
Photografer: Dr. Bruno Glaser

Nominated for

greentelligence

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What is Palaterra®?

We solved the puzzle: by extensive, application-oriented research, the formula for Terra Preta do Indio could be retraced; the manufacturing technique has been patented. We are now able to produce a black soil which is not only genetically identical to Terra Preta do Indio, but even surpassing it in its positive attributes.

Palaterra® – the new Terra Preta

Palaterra® 1 is an eutrophic humus substratum, in which all nutrients are firmly bound, effectively preventing loss from washing out. Biochemical mechanisms allow for nutrients to be provided exactly tailored to the needs of the plants, granting optimal supply. This is achieved by means of excellent physiochemical properties on the one hand, as well as via exceedingly well-balanced populations of micro-organisms and soil fungi on the other, which complement one another in their effect.

As soil additive, *Palaterra®2* has excellent soil-forming properties such as, e.g., effective and active build - up of permanent humus. For instance, if soil used for horticultural or agricultural purposes is enriched with the new additive, the positive properties can be transferred to the treated soil. Thus treated, the soil maintains its efficacy, its ability to keep nutrients and the cultivation of humus, for many years.

Further positive effects of the new *Palaterra®* culture media and *Palaterra®* soil additives are a high water storage capacity and good aeration, properties which decisively codetermine the quality and productivity of culture media and soils.

Our organic fertilizer, *Palaterra® 3*, completes the long-term effects of *Palaterra®1* and *Palaterra®2*. *Palaterra® 3* can rebuild nutritients in potted and in agricultural soil that has been washed out by many years' use. It can also be used as fertilizer without prior use of *Palaterra®1* and *Palaterra®2*.

Top soil. For our environment

With its wide variety of applications, Palaterra® is an excellent product for effective use of natural resources and for a positive ecological balance in cultivating land (reduction of linear erosion of nutritients/minerals, improvement of soil conditions and boosting of a healthy growth etc.). Even better, Palaterra® has the potential for an effective restoration of degraded soil. Our black soil is the key ingredient for a steady humus production, and will increase retention of nutritients and water. It reduces soil erosion and even promotes the recultivation of arid, desert land.

Palaterra® will provide permanent relief for a variety of problems stemming from climate and soil conditions. It will help to spread the movement of sustainable agriculture and be an easy means for complex issues such as climate protection, productivity of land and natural resources, efficiency and biodiversity, local added value and waste recycling.

Palaterra®: Top soil for the earth

Palaterra® humus substrate and soil conditioner are suitable for commercial agriculture and horticulture as well as private gardening.

Palaterra® provides comprehensive improvement of soil for agriculture, forestry and horticulture.

Palaterra® increases areal productivity whilst protecting the resources (higher production output of food and biomass = fighting hunger and producing energy).

Palaterra® is the perfect basis for an ecological production of food (reduction or substitution of the use of mineral fertiliser, sound growth, strong plants = less use of chemicals!).

Palaterra® prevents the dehydration of whole areas (reduction of desertification and soil degradation).

Palaterra® provides comprehensive erosion control (prevention of material loss in the area).

Palaterra® prevents flooding by means of its high water storage capacity.

Palaterra® allows the build-up of small hydrological cycles and improves local water households (soil as a water reservoir = resourceful treatment of water and climate)

Palaterra® protects the climate by means of binding CO_2 into soils (globally, 9.5 gigatons of carbon per year are possible!) reducing methane and nitrous oxide in agriculture and by providing efficient, resource-saving and sustainable land use systems.

Palaterra® protects marshes by providing a high-qualitiy alternative to peat, which is also produced in decentralized plants.

Palaterra® offers a sensible recycling of organic biomass and waste, which are often hard to dispose.

Palaterra® reduces expenditures in public waste disposal.

Palaterra® helps to create regional value creation chains and economic circuits.