

TERRA PRETA ANCIENT AMAZONIAN TECHNIQUE FOR URBAN FARMING PRESENTED IN THE GERMAN PAVILION

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Germany presents its Pavilion at Expo 2015 as the *Fields of Ideas*, where a variety of innovations oriented to face the challenge of future human nutrition are showcased. The expositions concern various aspects related to food production and consumption in an urban world: soil, water, climate and biodiversity.



TerraBoGa is one of the innovations promoted in the Pavilion. It is a research and project carried out in the Botanical Garden of Freie Universität Berlin, applying an ancient Amazonian agricultural technique *Terra Preta*, with the objective to find a universal solution for sustainable resource use and urban agriculture applicable in all around the world.

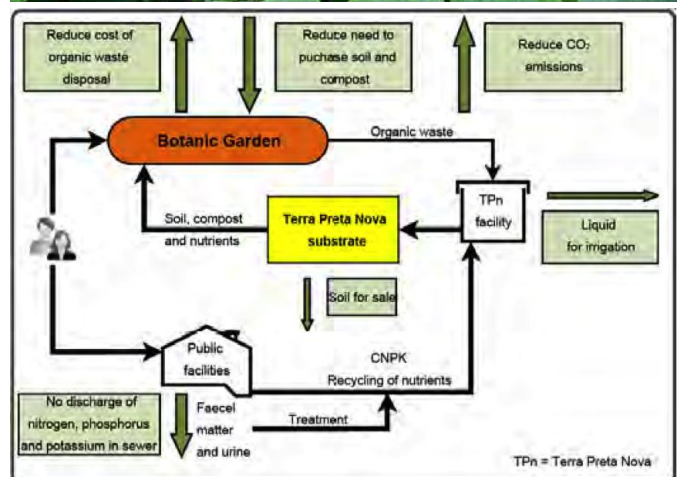


TerraBoGa project uses the old *Terra Preta* technology, which was used by the indigenous peoples in the Amazon region centuries ago to produce very nutrient-rich humus out of sewage and other organic waste. *Terra Preta* (black earth) is a black soil created by humans with a much higher capacity to store water and nutrients than soils that have developed naturally. The high fertility of *Terra Preta* is due to more than 10 percent chemically and biologically inert carbon (charcoal-like material).



There is a major difference between *Terra Preta* technology and conventional composting. *Terra Preta* technology is based on improved composting and on lactic acid fermentation using charcoal, with which, more carbon dioxide (CO₂) is removed from the atmosphere for a longer period of time than in conventional composting. The highly nutrient-rich soil that is produced can be used as a substitute for fertilizer.

TerraBoGa has been launched in September 2010 for an initial three-year period as part of the [Environmental Relief Programme](#) of the Berlin Senate Department for Health, Environment, and Consumer Protection. It has been implemented under the partnership of Freie Universität Berlin (Department of Earth Sciences and the Botanical Garden and the Botanical Museum Berlin-Dahlem), Palaterra GmbH & Co. KG (terra preta technology), Rüdersdorf, and the HATI GmbH (sustainability). The project has been supported by the European Regional Development Fund (ERDF) and Berlin Federal State.



According to a study by the Freie Universität Berlin, the Botanic Garden Berlin produces around 750 m. of green waste, 350 m. of pruning waste, 230 m. of grass cuttings and 150 m. of wood. Much of this organic material is usually unused and is disposed of in a way that is both energy and cost intensive. The sewage from employees and the annual 300,000 visitors is also flushed away in the usual manner as wastewater. In contrast, around 350 m. of compost, aggregates and soil has had to be bought in each year and the project idea was to develop an innovative solution to complete the resource cycle, using the Botanic Garden as an example. With the project, all of the nutrient resources in the Botanic Garden are incorporated to produce extremely fertile potting soil.

The innovative research has a zero emission approach as well as an almost complete waste management cycle. A first rough estimate shows significant potential in the reduction of CO₂ by producing and using *Terra Preta*. The project therefore makes an important contribution towards climate protection, biological waste treatment and budget reduction. In addition, it promotes a more profound understanding and a harmonious alternative between people and nature, especially in the urban context.

With its presence in the German Pavilion at Expo 2015, the Project has the opportunity to be open to a broader audience, thus to be promoted and learned by other suitable locations in order to meet the challenges of sustainable resource use, climate change and urban agriculture.

To know more

<http://terraboga.de>

[Presentation in Freie Universitat Berlin website](#)

[Presentation in Freie Universitat Berlin website](#)

[terraBoGa brochure](#)

[terraBoGa articles](#)

[German Pavilion at Expo 2015](#)

[Terra Preta in wikipedia](#)

