

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ  
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# **СТАРТ В НАУКУ**

## **МАТЕРИАЛЫ**

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## THE SECRET OF EL DORADO

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Soil and land resources play a significant role in human life. It supplies people with everything they need for life. It is vital for food production, provides essential nutrients, water, oxygen, and support to the plants, gives habitat to a huge community of diverse organisms, and contributes to mitigating climate change. For these reasons, it is extremely important to preserve and protect healthy soil.

Human activities and industrial progress dramatically affect land resources causing environmental problems, soil loss, destruction, and degradation. To avoid a disastrous outcome, we need to protect the soil that we already have and use preserving methods to increase its fertility. One of these methods, which scientists have studied, is based on the skills of our ancestors.

Terra preta is artificially created land, based on charcoal which has a high yield. They were created by the Indians, living in the Amazon territories. Terra preta soils are the objects of archaeological research and, unlike other artificially created soils, do not require the use of vast natural resources. Designing and recreating these soils has the potential to become a strategy for sustainable agriculture with a good harvest in tropical regions. Terra preta soils perfectly adsorb, retain moisture, have an increased content of N, P, K, and various trace elements. They also bind atmospheric carbon dioxide which is absorbed by the bacteria that inhabit the micropores of wood charcoal. These bacteria not only increase the high crop-producing power of artificial soil but also improve the root system of cultivated plants.

This method can be used to solve various environmental and economic problems: soil degradation, global warming, as well as the economic problems of countries with impoverished lands unsuitable for agriculture. In a short time, Terra preta is able to restore land productivity and absorb a large amount of carbon dioxide which is the cause of global warming.

In this way, Terra preta is a good technique to solve environmental and other problems which were mentioned above, but it is far from the only one. People should actively implement such technologies and look for new solutions to continue to live together with nature.

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