

Is nitrogen the new carbon?

September 21 2009

In looking forward to the next Green Revolution, researchers have been carefully examining the role of nitrogen fixation in delivering successful crops around the globe.

For too long, [nitrogen fixation](#) of the soil has involved a dependence upon fertilizers, pesticides, and herbicides that are petroleum-based, thus tying the agricultural industry to the availability and market price of fossil fuels. Many researchers agree that the next generations of technologies should emphasize clean and renewable sources to maintain the sustainability of agricultural development.

A new book, *Nitrogen Fixation in Crop Production*, is a resource for the science, application, and politics of the use of nitrogen-fixing crop plants across the globe and in various environments. From the microscopic to the global scale, the book contains a wide range of approaches to the role of nitrogen fixation. The book is published by the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.

Nitrogen Fixation in Crop Production strongly emphasizes the economics of implementing advanced technologies in the process of nitrogen fixation. The goal of these technologies is the growth of agricultural yields worldwide, creating a system in which regions that typically struggle with their own agricultural sustenance would be able to become more self-sufficient. Nitrogen fixation is widely recognized as a method of achieving these gains, making the book a very timely commodity. For example, the United Nations Millennium Project

emphasizes the nitrogen fixation strategy for its sub-Saharan Africa villages.

"Biological nitrogen fixation is an important economic issue for the global economy, as it represents the potential to reduce manufactured fertilizer nitrogen use in certain cropping systems. The economic and societal benefits of biological nitrogen fixation, especially where soil nitrogen supplies and funds for purchased inputs are limiting, are addressed in this book, as is the potential for mitigation of greenhouse gases," writes American Society of Agronomy President Marcus M. Alley of Virginia Tech in the foreword.

The book was edited by David W. Emerich, University of Missouri and Hari Krishnan, U.S. Department of Agriculture's Agricultural Research Service, Columbia, MO.

Source: American Society of Agronomy

Citation: Is nitrogen the new carbon? (2009, September 21) retrieved 26 April 2024 from <https://phys.org/news/2009-09-nitrogen-carbon.html>

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