

# Carbon Nanomaterials for Agri-Food and Environmental Applications

Carbon nanomaterials (CNMs) are a class of materials that have attracted significant attention in recent years due to their unique properties and potential applications in various fields, including agriculture, food science, and environmental science. CNMs are typically composed of carbon atoms that are arranged in a specific way, giving them unique electrical, thermal, and mechanical properties. These properties make CNMs ideal for a wide range of applications, including plant growth enhancement, food preservation, and environmental remediation.



## Carbon Nanomaterials for Agri-food and Environmental Applications (Micro and Nano Technologies) by Ann Angel

★★★★☆ 4.7 out of 5

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## Synthesis and Characterization of Carbon Nanomaterials

CNMs can be synthesized through a variety of methods, including chemical vapor deposition (CVD), arc discharge, and laser ablation. The choice of

synthesis method depends on the desired properties of the CNMs. Once synthesized, CNMs can be characterized using a variety of techniques, including scanning electron microscopy (SEM), transmission electron microscopy (TEM), and X-ray diffraction (XRD).

### **Applications in Agri-Food**

CNMs have a wide range of potential applications in the agri-food sector. For example, CNMs can be used to enhance plant growth by increasing nutrient uptake and water retention. They can also be used to improve the shelf life of food products by preventing spoilage. In addition, CNMs can be used to develop novel food packaging materials that are both lightweight and strong.

### **Applications in Environmental Science**

CNMs have also shown promise for a variety of environmental applications. For example, CNMs can be used to remove pollutants from water and soil. They can also be used to develop sensors for detecting environmental pollutants. In addition, CNMs can be used to develop energy-efficient materials for solar cells and batteries.

CNMs are a promising class of materials with a wide range of potential applications in agri-food and environmental science. Their unique properties make them ideal for a variety of applications, including plant growth enhancement, food preservation, environmental remediation, and energy storage. As research into CNMs continues, we can expect to see even more innovative and exciting applications for these materials in the future.

### **References**

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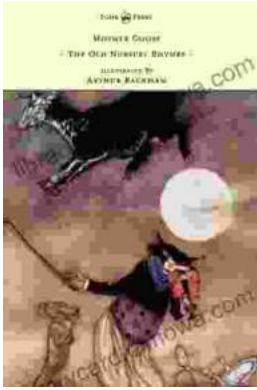


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