

# Carbohydrate Technology and Engineering: Advances for the Food Industry



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## Carbohydrate Technology and Engineering: Advances for the Food Industry

Date:	March 21, 2013
Price:	US\$ 225.00
ID:	C43ECD8C211EN

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- Starch-lipid composites
- Thermoreversible gels from grain
- Heart-healthy foods from modified carbohydrate

These are among the many developments emerging from research labs worldwide, where food scientists, chemists and others continually attempt to improve current carbohydrate engineering and processing technologies. Why is research into carbohydrate science so important? Carbohydrates are the main source of energy for most people in the world. There is no absolute requirement for dietary carbohydrates, although the brain, red blood cells, lungs, nerves and cells in the kidneys use glucose as a preferred source of energy. Carbohydrates are the cheapest way to supply energy to the human body.

Carbohydrates can serve as bulking agents, emulsifiers, stabilizers and sweeteners. A number of dietary carbohydrates have the ability to fulfill roles as prebiotics or fat replacers. Based on their ability to enhance the nutritional profile of foods, carbohydrates can be nondigestible oligosaccharides, resistant starches and carbohydrate-based fat replacers. In much of Africa, Asia and the Middle East, about 70% to 80% of calories are supplied by carbohydrates, while the intake of calories from sugar sources is higher in more developed areas.

It is the structure of carbohydrates that aids in determining their performance in a variety of applications. The length of the backbone, or chain, the type of units in the chain and the position of linkages in the chain impact the properties of carbohydrates. These differences in structure make it possible for gums and starches to find use as fat replacers, gelling and texture agents, and as carriers of flavor. Carbohydrates, specifically starches and hydrocolloids, are two fat mimetics used in food.

Food Technology Intelligence, Inc., publisher of the international newsletter Emerging Food R&D Report, has just revised its in-depth report: Carbohydrate Technology and Engineering: Advances for the Food Industry. This report analyzes advances in food-related carbohydrate research. For the most part, these innovations are still under development, but they have commercial potential in the near term. Or development has been completed, and researchers are looking to license the technology or collaborate in other ways with industry to commercialize the technologies. The report also covers recently commercialized technologies that still may offer joint venture or other collaborative opportunities for food companies.

Now you have an opportunity to learn about carbohydrate research being advanced at universities, companies and government research labs worldwide. This information will help you gain ground against competitors when it comes to optimizing carbohydrate science that you can incorporate into new products and line extensions. This report reviews significant technical developments in the field, discussing potential applications for each technology and its status of development. You'll also learn how to take advantage of these technologies, either through licensing or other collaborations.

Carbohydrate Technology and Engineering: Advances for the Food Industry will help you track new technologies and contact key researchers who could help you meet your research goals. Order it today!

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