

# Brave new world for food and health coming, nutrition scientists predict

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Nutrition is still based on healthy foods but is reaching beyond to tackle complex health problems. Credit: Thinkstock

The year 2020 is a mere five years away but will be a turning point defining a new era of nutrition for both consumers and scientists, say nutritionists who met this year at the University of California, Davis.

The heart of nutrition will still be about healthful, vitamin-rich foods in

moderate proportions, but will go far beyond to tackle some of the most complex and daunting challenges in human health.

"The advances that will be well underway when 2020 arrives will help people live healthier, longer and more productive lives," said Robert Hackman, a research nutritionist at UC Davis and lead author of the group's forecast of the [10 top trends in nutrition science](#), which appeared recently as a commentary in the *Journal of the American College of Nutrition*.

"We are moving toward an era when personalized nutrition and medical strategies will be common, and new approaches to nutritional health will help address diseases such as obesity and cancer, as well as the underlying causes of inflammation and aging," Hackman said.

The nutrition scientists met for the 10th anniversary of the Kosuna Distinguished Lecture in Nutrition and symposium, supported by the Amino Up Chemical Co. Ltd. of Sapporo, Japan.

Their projections reflect the complexities and contradictions of the modern global community, which struggles to feed and nourish a population projected to top 8 billion by 2020, while also battling obesity and related diseases like diabetes in both developed and developing nations.

Food security—a consistent supply of safe, healthful food and water produced in a sustainable manner—will be a top priority. To accomplish that, there will be increasing interest in genetically modified fruits, vegetables and grains, the nutritionists predict. However, although improvements such as increased levels of beta-carotene have been achieved in both rice and bananas, and genetically engineered crops such as corn and soybeans are widely used in the food supply, the use of GMO foods remains a controversial topic.

Another intriguing frontier for nutrition will be the microbiome. An estimated 100 trillion microorganisms—more than 10 times the number of human cells—call the human body their home, many thriving in the gut. Disruptions in the balance between populations of these microorganisms and the body they inhabit have already been implicated in contributing to obesity and Type 2 diabetes. By 2020, the nutritionists expect to have a much clearer picture of how such microbial imbalances can also increase a person's risk for cancer, gastrointestinal disorders, neurodegenerative diseases and, possibly, the aging process.

The nutritionists also expect to be intensely examining the role that nutrients and plant-based food chemicals play in [gene expression](#), or function, in the [human body](#). There is strong evidence, for example, that poor nutrition may cause some changes in gene expression in the womb, causing conditions such as stunting, which can also be passed on to future generations.

Energy metabolism, cancer, inflammatory diseases and aging will be major focuses of research. In addition, advances in the bioengineering of new diagnostic and monitoring devices will likely enable individuals to better monitor their health and customize their own diets accordingly.

Rounding out the 10 trends in nutrition will be increased emphasis on [nutrition](#) education and interdisciplinary research that translates into practical health applications.

**More information:** "Forecasting Nutrition Research in 2020." *Journal of the American College of Nutrition* Volume 33, Issue 4, 2014. [DOI: 10.1080/07315724.2014.943113](https://doi.org/10.1080/07315724.2014.943113)

Provided by UC Davis

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