

A note on nutrition related technologies.

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Nutrition is about eating a healthy and balanced diet. Food and drink provide the energy and nutrients you need to be healthy. Understanding these nutrition terms may make it easier for you to make better food choices.

Technologies

Characterization of genes

The human genome has been mapped, and the area of DNA pathology responsible for sickle cell anaemia, -thalassemia, Tay Sachs disease, galactosemia, and over 30 other inherited diseases has been identified. Nearly one-third of the approximately 200 inborn metabolic errors impair nutrient digestion, absorption, transport, metabolism, or excretion, and are therefore at least theoretically susceptible to diet therapy.

Genetic engineering

These insights can be implemented in efforts to modify the offending DNA structure as a logical outgrowth of gene characterization. This might eventually lead to the correction of the above-mentioned metabolic inborn errors. However, the technique of engineering genetic change is now being used to produce new forms of food items.

Food and ingredient synthesis

As emerging technologies expand the possibilities for changing conventional foods and creating new foods, a new generation of food safety, quality, and labelling issues has arisen. For example, the US Food and Drug Administration is increasingly confronted with new issues posed by new products such as the protein-based fat substitute Simplesse or a nonabsorbable, chemically synthesised sucrose polyester fat substitute that may have cholesterol-lowering properties, as well as modified products such as canola oil with higher oleic acid and lower saturated fatty acid content and olive oil with higher oleic acid and less saturated fatty acid content.

Food composition assays

Despite the fact that food composition analysis is one of the oldest food-related technologies, we still have a lot of
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composition of a large portion of our food supply, particularly when it comes to the different ways foods are prepared and served. A significant improvement in our ability to administer such tests will have a significant impact on how we manage our public health.

Body composition techniques

A fundamental problem in nutrition is the ultimate physiologic impact of the nutrients we eat. New techniques for making such assessments, such as total body electrical conductivity, neutron activation analysis, and magnetic resonance imaging, could pave the way for significant advancements in this area.

Microcomputerized bioassays

The creation of digital techniques with widespread applicability to the conduct of our national health and nutrition surveys is a related technology with significant potential to improve our understanding of the physiologic effects of dietary habits, as well as individual variance in the nature of those effects. Automated personal diet profiles: The current approach to dietary recommendations is based on balance. "What is balance?" and "When are we going to achieve it?" are the questions. Current methods for evaluating personal diet profiles have significant flaws, but with the increased availability of microcomputers and improvements in the quality of available tools for evaluating regular diets, we can expect improvements in the near future.

Automated analysis of food usage

The National Nutrition Monitoring System's inability to track food consumption trends accurately is a weak point. We just don't know how much of any given commodity manufactured in the United States or imported from elsewhere is consumed in any given year or over time. Understanding the format in which it is delivered is an entirely different task.

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