

# ANNUAL EDITIONS

## Nutrition

05/06

The collage features three main food product labels:

- Can of Soup:** A label for a can of soup with a foil seal. It includes the text "Low Sodium • No Caffeine", "8 fl oz (240ml)", and "per Container 2.5". The "Nutrition Facts" section shows 0% Daily Value for Sodium and 5% for Total Fat. The ingredients list includes SYRUP, CITRIC ACID, NATURAL FLAVOR, and CITRATE.
- Box of Cereal:** A label for a box of cereal with a red border. It includes the text "Nutrition Facts", "Serving Size", "Servings Per", "Amount Per Se", "Calories 380", "Total Fat 11", "Saturated F", "Cholesterol", "Sodium 1370", "Total Carboh", "Dietary Fiber", "Sugars 7g", "Protein 15g", "Vitamin A 15%", and "Calcium 15%".
- Bag of Chips:** A label for a bag of chips with a red border. It includes the text "Nutrition Facts", "Serving Size 1 oz. (28g/ about 13 chips)", "Servings Per Container about 2", "Amount Per Serving", "Calories 140", "Total Fat 9g", and "Saturated Fat".

A date stamp "05/06" is overlaid on the collage.

# Nutrition

05/06

*Seventeenth Edition*

## EDITOR

**Dorothy Klimis-Zacas**

*University of Maine-Orono*

Dorothy Klimis-Zacas is a Professor of Clinical Nutrition at the University of Maine and cooperating professor of nutrition and dietetics at Harokopio University, Athens, Greece. She teaches undergraduate and graduate classes in nutrition and its relation to health and disease for students of dietetics, nurses, and physicians.

Her current research interests relate to basic investigations in the area of trace mineral nutrition and its role in the development of atherosclerosis and to applied investigations that utilize nutritional interventions to reduce cardiovascular disease risk in adolescents both in the United States and in the Mediterranean region.

A Ph.D. and Fullbright Fellow, Dr. Klimis-Zacas is the author of numerous research articles and the editor of two books, *Manganese in Health and Disease* and the recently published second edition of *Nutritional Concerns for Women*. She is a member of Sigma Delta Epsilon, The American Society of Nutritional Sciences, The International Atherosclerosis Society, the American Dietetic Association, The Society for Nutrition Education, and The American Heart Association.

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Seventeenth Edition

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# Editors/Advisory Board

Members of the Advisory Board are instrumental in the final selection of articles for each edition of ANNUAL EDITIONS. Their review of articles for content, level, currentness, and appropriateness provides critical direction to the editor and staff. We think that you will find their careful consideration well reflected in this volume.

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**Dorothy Klimis-Zacas**  
*University of Maine - Orono*

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# Preface

In publishing ANNUAL EDITIONS we recognize the enormous role played by the magazines, newspapers, and journals of the public press in providing current, first-rate educational information in a broad spectrum of interest areas. Many of these articles are appropriate for students, researchers, and professionals seeking accurate, current material to help bridge the gap between principles and theories and the real world. These articles, however, become more useful for study when those of lasting value are carefully collected, organized, indexed, and reproduced in a low-cost format, which provides easy and permanent access when the material is needed. That is the role played by ANNUAL EDITIONS.

Since nutrition is an evolving science, it necessitates updating *Annual Editions: Nutrition* annually to keep up with the plethora of topics and controversies raised in the field. The main goal of this anthology is to provide the reader with up-to-date information by presenting current topics of information based on scientific evidence. *Annual Editions: Nutrition* also presents controversial topics in a balanced and unbiased manner. Where appropriate, international perspectives are presented. We hope that the reader will develop critical thinking and be empowered to ask questions and to seek answers.

We are presently experiencing an obesity and diabetes epidemic with detrimental effects on the health of not only adults but also of children and teens. Globalization and the role a few mega food companies play in providing consumers with products loaded with fat and sugars along with the increased caloric intake from large portion sizes and a reduction of activity have all contributed to the onset of these degenerative diseases. Also, lately obesity has been observed in third world countries where it coexists with hunger and malnutrition. Actually, the World Health Organization in its recent report on "Diet, Nutrition and the prevention of Chronic Diseases" questions the role and contribution of global companies in the increasing incidence of obesity in developing countries.

The decoding of the genome has heralded the area of Nutrigenomics, which has enabled us to appreciate the interactions between genotype and nutrition and the effect of nutrients on gene expression. Thus the era of custom-made diets rather than "one diet fits all" was ushered to the forefront. This revolution will affect the way we diagnose and treat disease, design dietary interventions to reduce risk, and set nutrient requirements among many others.

"Nutrition experts" and "health advisors" seem to appear everywhere. We are at the parapet of a revolution in information technology and of nutritional research. Information is distributed at a very fast pace, across continents, and without consideration of country borders.

Thus, informing the consumer regularly with reliable and current nutrition information is the duty of the professional.

*Annual Editions: Nutrition 05/06* is to be used as a companion to a standard nutrition text so that it may update, expand, or emphasize certain topics that are covered in the text or present a totally new topic not covered in a standard text.

To accomplish this, *Annual Editions: Nutrition 05/06* is composed of seven units that review current knowledge and controversies in the area of nutrition. The first unit describes current trends in the field of nutrition in the United States and the rest of the world, including the new dietary guidelines for the United States and the "New Food Guide Pyramid"—an alternative to the U.S.D.A.'s Food Guide Pyramid. Units two, three, and four include topics that focus on nutrients and their relationship to health and disease, recent research finding on the role nutrients play in degenerative disease, and the worldwide obesity epidemic. Units five and six cover topics on health claims and focus on food safety, including subjects about which consumers are misinformed and are thus vulnerable to quackery. Finally, unit seven focuses on world hunger and malnutrition, including environmental sustainability and biotechnology. A *topic guide* will assist the reader in finding other articles on a given subject and the *World Wide Web* sites will help in further exploring a particular topic.

Your input is most valuable to improving this anthology, which we update yearly. We would appreciate your comments and suggestions as you review the current edition.



Dorothy Klimis-Zacas  
Editor

# Topic Guide

This topic guide suggests how the selections in this book relate to the subjects covered in your course. You may want to use the topics listed on these pages to search the Web more easily.

On the following pages a number of Web sites have been gathered specifically for this book. They are arranged to reflect the units of this *Annual Edition*. You can link to these sites by going to the DUSHKIN ONLINE support site at <http://www.dushkin.com/online/>.

**ALL THE ARTICLES THAT RELATE TO EACH TOPIC ARE LISTED BELOW THE BOLD-FACED TERM.**

## Adolescents

1. The Changing American Diet: A Report Card

## Age related eye disorders

13. Eye Wise: Seeing Into the Future
14. Feast For Your Eyes: Nutrients That May Help Save Your Sight

## Attitudes and knowledge

1. The Changing American Diet: A Report Card
3. Rebuilding the Food Pyramid
5. Getting Personal with Nutrition
6. Food, Spirituality, Mindful Eating
7. Who's Filling Your Grocery Bag?
8. Moving Towards Healthful Sustainable Diets
32. Are Your Supplements Safe?

## Biotechnology

15. Fortifying with Fiber
46. Assessment of Allergenic Potential of Genetically Modified Foods: An Agenda for Future Research

## Cancer

17. Prostate Cancer: More Questions than Answers

## Carbohydrates

3. Rebuilding the Food Pyramid
4. The Low-Carb Frenzy: The Force That is Reshaping the Food Industry and Our Bodies
11. Going Beyond Atkins
12. Good Carbs, Bad Carbs

## Children

19. Meeting Children's Nutritional Needs
23. A Call to Action: Seeking Answers to Childhood Weight Issues

## Controversies

4. The Low-Carb Frenzy: The Force That is Reshaping the Food Industry and Our Bodies
11. Going Beyond Atkins
27. Herbal Lottery
29. How Low Can You Go?: Cutting Calories to Extend Life?

## Coronary heart disease

9. Omega-3 Choices: Fish or Flax?
18. Coffee, Spices, Wine: New Dietary Ammo Against Diabetes?
28. The Latest Scoop on Soy
30. Multiple Choices: The Right Vitamins For You

## Diabetes

11. Going Beyond Atkins
12. Good Carbs, Bad Carbs
18. Coffee, Spices, Wine: New Dietary Ammo Against Diabetes?
30. Multiple Choices: The Right Vitamins For You

## Diet

14. Feast For Your Eyes: Nutrients That May Help Save Your Sight
28. The Latest Scoop on Soy

## Diet and disease

12. Good Carbs, Bad Carbs
13. Eye Wise: Seeing Into the Future
16. Diet and Genes
17. Prostate Cancer: More Questions than Answers
18. Coffee, Spices, Wine: New Dietary Ammo Against Diabetes?
19. Meeting Children's Nutritional Needs
21. How We Grew So Big

## Diet and genes

5. Getting Personal with Nutrition
16. Diet and Genes

## Disease

14. Feast For Your Eyes: Nutrients That May Help Save Your Sight
28. The Latest Scoop on Soy

## Fats and substitutes

9. Omega-3 Choices: Fish or Flax?
10. Revealing Trans Fats
36. Hooked on Fish? There Might Be Some Catches

## Fiber

15. Fortifying with Fiber

## Food

1. The Changing American Diet: A Report Card
6. Food, Spirituality, Mindful Eating
15. Fortifying with Fiber
31. Food-Friendly Bugs Do The Body Good
32. Are Your Supplements Safe?
33. Tainted Food
34. Certified Organic
35. Send in the Clones
36. Hooked on Fish? There Might Be Some Catches

## Food allergies

46. Assessment of Allergenic Potential of Genetically Modified Foods: An Agenda for Future Research

## Food labeling

35. Send in the Clones

## Food safety and technology

33. Tainted Food
34. Certified Organic
35. Send in the Clones
36. Hooked on Fish? There Might Be Some Catches
37. Ensuring the Safety of Dietary Supplements

## Food supply

38. Hunger and Mortality
39. The Scourge of "Hidden Hunger": Global Dimensions of Micronutrient Deficiencies
40. Undernourishment, Poverty and Development
42. Food Security, Overweight, and Agricultural Research—A View From 2003

44. Contribution of Indigenous Knowledge and Practices in Food Technology to the Attainment of Food Security in Africa

## Functional foods

15. Fortifying with Fiber
18. Coffee, Spices, Wine: New Dietary Ammo Against Diabetes?
26. Q & A on Functional Foods
28. The Latest Scoop on Soy

## Guidelines

2. Dietary Guidelines for Americans 2005: Executive Summary
3. Rebuilding the Food Pyramid

## Herbals

26. Q & A on Functional Foods
27. Herbal Lottery

## Hunger

38. Hunger and Mortality
39. The Scourge of "Hidden Hunger": Global Dimensions of Micronutrient Deficiencies
40. Undernourishment, Poverty and Development
41. Confronting the Causes of Malnutrition: The Hidden Challenge of Micronutrient Deficiencies
42. Food Security, Overweight, and Agricultural Research—A View From 2003
43. Global Food Companies in the Developing World—Benefactors, Malefactors or Inevitable Change Agent?
44. Contribution of Indigenous Knowledge and Practices in Food Technology to the Attainment of Food Security in Africa
45. Helping Solve Hunger in America

## Malnutrition

40. Undernourishment, Poverty and Development
41. Confronting the Causes of Malnutrition: The Hidden Challenge of Micronutrient Deficiencies

## Minerals

14. Feast For Your Eyes: Nutrients That May Help Save Your Sight
32. Are Your Supplements Safe?
33. Tainted Food
39. The Scourge of "Hidden Hunger": Global Dimensions of Micronutrient Deficiencies
41. Confronting the Causes of Malnutrition: The Hidden Challenge of Micronutrient Deficiencies

## Nutritional trends

1. The Changing American Diet: A Report Card
4. The Low-Carb Frenzy: The Force That is Reshaping the Food Industry and Our Bodies
5. Getting Personal with Nutrition
6. Food, Spirituality, Mindful Eating
8. Moving Towards Healthful Sustainable Diets

## Obesity

21. How We Grew So Big
22. Pandemic Obesity: What is the Solution?
23. A Call to Action: Seeking Answers to Childhood Weight Issues
24. Social Change and Obesity Prevention: Where Do We Begin?
25. Fat: More Than Just a Lump of Lard
42. Food Security, Overweight, and Agricultural Research—A View From 2003

## Osteoporosis

30. Multiple Choices: The Right Vitamins For You

## Physical activity

23. A Call to Action: Seeking Answers to Childhood Weight Issues

## Risk-benefit

46. Assessment of Allergenic Potential of Genetically Modified Foods: An Agenda for Future Research

## Risk and benefit

29. How Low Can You Go?: Cutting Calories to Extend Life?
35. Send in the Clones
42. Food Security, Overweight, and Agricultural Research—A View From 2003
43. Global Food Companies in the Developing World—Benefactors, Malefactors or Inevitable Change Agent?

## Supplements

17. Prostate Cancer: More Questions than Answers
30. Multiple Choices: The Right Vitamins For You
32. Are Your Supplements Safe?
37. Ensuring the Safety of Dietary Supplements

## Vitamins

13. Eye Wise: Seeing Into the Future
14. Feast For Your Eyes: Nutrients That May Help Save Your Sight
30. Multiple Choices: The Right Vitamins For You
31. Food-Friendly Bugs Do The Body Good
32. Are Your Supplements Safe?
37. Ensuring the Safety of Dietary Supplements

## Weight and weight control

2. Dietary Guidelines for Americans 2005: Executive Summary
4. The Low-Carb Frenzy: The Force That is Reshaping the Food Industry and Our Bodies
7. Who's Filling Your Grocery Bag?
11. Going Beyond Atkins
15. Fortifying with Fiber
20. The Role of the School Nutrition Environment for Promoting the Health of Young Adolescents
21. How We Grew So Big
22. Pandemic Obesity: What is the Solution?
24. Social Change and Obesity Prevention: Where Do We Begin?

# World Wide Web Sites

The following World Wide Web sites have been carefully researched and selected to support the articles found in this reader. The easiest way to access these selected sites is to go to our DUSHKIN ONLINE support site at <http://www.dushkin.com/online/>.

## AE: Nutrition 05/06

The following sites were available at the time of publication. Visit our Web site—we update DUSHKIN ONLINE regularly to reflect any changes.

### General Sources

#### American Dietetic Association

<http://www.eatright.org>

This consumer link to nutrition and health includes resources, news, marketplace, search for a dietician, government information, and a gateway to related sites. The site includes a tip of the day and special features.

#### The Blonz Guide to Nutrition

<http://www.blonz.com>

The categories in this valuable site report news in the fields of nutrition, food science, foods, fitness, and health. There is also a selection of search engines and links.

#### CSPI: Center for Science in the Public Interest

<http://www.cspinet.org>

CSPI is a nonprofit education and advocacy organization that is committed to improving the safety and nutritional quality of our food supply. CSPI publishes the *Nutrition Action Healthletter*, which has monthly information about food.

#### Institute of Food Technologists

<http://www.ift.org>

This site of the Society for Food Science and Technology is full of important information and news about every aspect of the food products that come to market.

#### International Food Information Council Foundation (IFIC)

<http://ific.org>

IFIC's purpose is to be the link between science and communications by offering the latest scientific information on food safety, nutrition, and health in a form that is understandable and useful for opinion leaders and consumers to access.

#### U.S. National Institutes of Health (NIH)

<http://www.nih.gov>

Consult this site for links to extensive health information and scientific resources. Comprised of 24 separate institutes, centers, and divisions, the NIH is one of eight health agencies of the Public Health Service, which, in turn, is part of the U.S. Department of Health and Human Services.

### UNIT 1: Nutrition Trends

#### Food Science and Human Nutrition Extension

<http://www.fshn.uiuc.edu/>

This extensive Iowa State University site links to latest news and reports, consumer publications, food safety information, and many other useful nutrition-related sites.

#### Food Surveys Research Group

<http://www.barc.usda.gov/bhnrc/foodsurvey/home.htm>

Visit this site of the Beltsville Human Nutrition Research Center Food Surveys research group first, and then click on USDA to keep up with nutritional news and information.

### UNIT 2: Nutrients

#### Dole 5 A Day: Nutrition, Fruits & Vegetables

<http://www.dole5aday.com>

The Dole Food Company, a founding member of the "National 5 A Day for Better Health Program," offers this site to entice children into taking an interest in proper nutrition.

#### Food and Nutrition Information Center

<http://www.nal.usda.gov/fnic/>

Use this site to find dietary and nutrition information provided by various USDA agencies and to find links to food and nutrition resources on the Internet.

#### Nutrient Data Laboratory

<http://www.nal.usda.gov/fnic/foodcomp/>

Information about the USDA Nutrient Database can be found on this site. Search here for answers to FAQs, a glossary of terms, facts about food composition, and useful links.

#### NutritionalSupplements.com

<http://www.nutritionalsupplements.com>

This source provides unbiased information about nutritional supplements and prescription drugs, submitted by consumers with no vested interest in the products.

#### U.S. National Library of Medicine

<http://www.nlm.nih.gov>

This site permits you to search databases and electronic information sources such as MEDLINE, learn about research projects, and keep up on nutrition-related news.

#### Fish Contamination Resource

[www.epa.gov/waterscience/fishadvice/advice.html](http://www.epa.gov/waterscience/fishadvice/advice.html)

This Environmental Protection Agency website gives the latest information on fish contamination issues.

### UNIT 3: Diet and Disease Through the Life Span

#### American Cancer Society

<http://www.cancer.org>

Open this site and its various links to learn the concerns and lifestyle advice of the American Cancer Society. It provides information on alternative therapies, tobacco, other Web resources, and more.

#### American Heart Association (AHA)

<http://www.americanheart.org>

The AHA offers this site to provide the most comprehensive information on heart disease and stroke as well as late-breaking news. The site presents facts on warning signs, a reference guide, and explanations of diseases and treatments.

#### The Food Allergy and Anaphylaxis Network

<http://www.foodallergy.org>

The Food Allergy Network site, which welcomes consumers, health professionals, and reporters, includes product alerts and updates, information about food allergies, daily tips, and links to other sites.



## Heinz Infant & Toddler Nutrition

<http://www.heinzbaby.com>

An educational section full of nutritional information and meal-planning guides for parents and caregivers as well as articles and reviews by leading pediatricians and nutritionists can be found on this page.

## LaLeche League International

<http://www.lalecheleague.org>

Important information to mothers who are contemplating breast feeding can be accessed at this Web site. Links to other sites are also possible.

## UNIT 4: Obesity and Weight Control

### American Anorexia Bulimia Association/National Eating Disorders Association (AABA)

<http://www.nationaleatingdisorders.org/>

The AABA is a nonprofit organization of concerned people dedicated to the prevention and treatment of eating disorders. It offers many services, including help lines, referral networks, school outreach, support groups, and prevention programs.

### American Society of Exercise Physiologists (ASEP)

<http://www.asep.org/>

The goal of the ASEP is to promote health and physical fitness. This extensive site provides links to publications related to exercise and career opportunities in exercise physiology.

### Calorie Control Council

<http://www.caloriecontrol.org>

The Calorie Control Council's Web site offers information on cutting calories, achieving and maintaining healthy weight, and low-calorie, reduced-fat foods and beverages.

### Eating Disorders: Body Image Betrayal

<http://www.bibri.com/home/index.htm>

This extensive collection of links leads to information on compulsive eating, bulimia, anorexia, and other disorders.

### Shape Up America!

<http://www.shapeup.org>

At the Shape Up America! Web site you will find the latest information about safe weight management, healthy eating, and physical fitness. Links include Support Center, Cyberkitchen, Media Center, Fitness Center, and BMI Center.

## UNIT 5: Health Claims

### Federal Trade Commission (FTC): Diet, Health & Fitness

<http://www.ftc.gov/bcp/menu-health.htm>

This site of the FTC on the Web offers consumer education rules and acts that include a wide range of subjects, from buying exercise equipment to virtual health "treatments."

### Food and Drug Administration (FDA)

<http://www.fda.gov/default.htm>

The FDA presents this site that addresses products they regulate, current news and hot topics, safety alerts, product approvals, reference data, and general information and directions.

### National Council Against Health Fraud (NCAHF)

<http://www.ncahf.org>

The NCAHF does business as the National Council for Reliable Health Information. At its Web page it offers links to other related sites, including Dr. Terry Polevoy's "Healthwatcher Net."

## QuackWatch

<http://www.quackwatch.com>

Quackwatch Inc., a nonprofit corporation, provides this guide to examine health fraud. Data for intelligent decision making on health topics are also presented.

## UNIT 6: Food Safety/Technology

### American Council on Science and Health (ACSH)

<http://www.acsh.org/food/>

The ACSH addresses issues that are related to food safety here. In addition, issues on nutrition and fitness, alcohol, diseases, environmental health, medical care, lifestyle, and tobacco may be accessed on this site.

### Centers for Disease Control and Prevention (CDC)

<http://www.cdc.gov>

The CDC offers this home page, from which you can obtain information about travelers' health, data related to disease control and prevention, and general nutritional and health information, publications, and more.

### FDA Center for Food Safety and Applied Nutrition

<http://vm.cfsan.fda.gov>

It is possible to access everything from this Web site that you might want to know about food safety and what government agencies are doing to ensure it.

### Food Safety Project (FSP)

<http://www.extension.iastate.edu/foodsafety/>

This site from the Cooperative Extension Service at North Carolina State University has a database designed to promote food safety education via the Internet.

### National Food Safety Programs

<http://vm.cfsan.fda.gov/~dms/fs-toc.html>

Data from the Food and Drug Administration, U.S. Department of Agriculture, Environmental Protection Agency, and Centers for Disease Control and Prevention expanding on the government policies and initiatives regarding food safety are presented on this site.

### USDA Food Safety and Inspection Service (FSIS)

<http://www.fsis.usda.gov>

The FSIS, part of the U.S. Department of Agriculture, is the government agency "responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged."

## UNIT 7: World Hunger and Malnutrition

### Population Reference Bureau

<http://www.prb.org>

A key source for global population information, this is a good place to pursue data on nutrition problems worldwide.

### World Health Organization (WHO)

<http://www.who.int/en/>

This home page of the World Health Organization will provide you with links to a wealth of statistical and analytical information about health and nutrition around the world.

### WWW Virtual Library: Demography & Population Studies

<http://demography.anu.edu.au/VirtualLibrary/>

A multitude of important links to information about global poverty and hunger can be found here.

We highly recommend that you review our Web site for expanded information and our other product lines. We are continually updating and adding links to our Web site in order to offer you the most usable and useful information that will support and expand the value of your Annual Editions. You can reach us at: <http://www.dushkin.com/annualeditions/>.

# UNIT 1

# Nutrition Trends

## Unit Selections

1. **The Changing American Diet: A Report Card**, Bonnie Liebman
2. **Dietary Guidelines for Americans 2005: Executive Summary**, U.S. Department of Health and Human Services, U.S. Department
3. **Rebuilding the Food Pyramid**, Walter C. Willett and Meir J. Stampfer
4. **The Low-Carb Frenzy: The Force That is Reshaping the Food Industry and Our Bodies**, Daniel Kadlec
5. **Getting Personal with Nutrition**, Food Insight
6. **Food, Spirituality, Mindful Eating**, Mary Kay Sawyer-Morse
7. **Who's Filling Your Grocery Bag?**, James E. Tillotson
8. **Moving Towards Healthful Sustainable Diets**, Barbara Storper

## Key Points to Consider

- Based on new scientific evidence, how should the Food Guide Pyramid be modified?
- Name some changes that have occurred in the American diet since the 1970s
- How is the individual going to ensure that he/she is eating a healthful and sustainable diet?
- Which are the factors that lead us to overeat?



**Links: [www.dushkin.com/online/](http://www.dushkin.com/online/)**

These sites are annotated in the World Wide Web pages.

### Food Science and Human Nutrition Extension

<http://www.fshn.uiuc.edu/>

### Food Surveys Research Group

<http://www.barc.usda.gov/bhnrc/foodsurvey/home.htm>

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## UNIT 1 Nutrition Trends

### Unit Overview

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1. **The Changing American Diet: A Report Card**, Bonnie Liebman, *Nutrition Action Health Letter*, December 2002

A survey by the U.S. Department of Agriculture as to what Americans are eating and the trends of our food consumption over time is presented. Looking at trends since the 1970's our consumption for soda, cheeses, oils, white- and whole-wheat flour, chicken and vegetables has markedly increased while our total whole milk and beef consumption has declined.

2

2. **Dietary Guidelines for Americans 2005: Executive Summary**, U.S. Department of Health and Human Services, 2005

The 2005 dietary guidelines provide science-based advice to promote health and reduce risk for major chronic diseases. Physical activity and weight management are focal points of the recommendations. Weight management can be achieved by increasing consumption of fruits and vegetables that provide high levels of vitamins A, C, potassium, magnesium, and fiber—nutrients that are lacking in the American diet.

4

3. **Rebuilding the Food Pyramid**, Walter C. Willett and Meir J. Stampfer, *Scientific American*, January 2003

The authors of the "New Food Guide Pyramid" compare and contrast the **U.S.D.A.'s Food Guide pyramid** with different glycemic indices with the "New Food Guide Pyramid" that encourages consumption of whole grain foods, healthy fats, deemphasizes meats and dairy, and distinguishes among types of carbohydrates. Furthermore, they propose that the pyramid should be "rebuilt" based strictly on scientific information in an environment away from economic and political pressures.

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4. **The Low-Carb Frenzy: The Force That is Reshaping the Food Industry and Our Bodies**, Daniel Kadlec, *Time*, May 3, 2004

About 26 million Americans are on the low-carb diet and the food industry has drastically increased low-carbohydrate products to meet the demand. Is a low-carb diet a passing fad or is it here to stay? This and other questions are addressed here.

14

5. **Getting Personal with Nutrition**, *Food Insight*, November–December 2003

Nutrigenomics is based on the premise that nutrition influences health and that food may also affect gene expression. This article discusses the readiness and acceptability of Americans for personalized nutrition. An explanation of the ethical issues that accompany nutrigenomics is presented.

19

6. **Food, Spirituality, Mindful Eating**, Mary Kay Sawyer-Morse, *Today's Dietitian*, March 2004

Dr. Sawyer-Morse presents a unique way of connecting with our inner selves and the food we eat. Even though food seems to play a prevalent role in the media and our culture, we are more disconnected from food than ever. Exploring the spiritual aspects of food and guiding the reader through steps to mindful eating are part of this article.

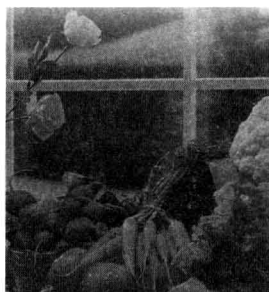
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7. **Who's Filling Your Grocery Bag?**, James E. Tillotson, *Nutrition Today*, September–October 2004  
A few large food companies fill our grocery bags with high-salt, -sugar, and -fat, snack foods; command a big percent of our food dollars; and have a growing influence on food purchases and our waistlines. Dr. Tillotson believes that although personal behavior plays a big role in the obesity epidemic, mega-snack companies and environmental factors contribute to the problem.

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8. **Moving Towards Healthful Sustainable Diets**, Barbara Storper, *Nutrition Today*, March/April 2003  
This article focuses on the challenges of nutritionists to educate consumers toward **healthful diets** that will benefit the environment and support the local economy and agriculture. Ways and resources are offered for consumers to choose **minimally processed foods** and to buy locally and in season.

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## UNIT 2 Nutrients

### Unit Overview

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9. **Omega-3 Choices: Fish or Flax?**, Alison J. Rigby, *Today's Dietitian*, January 2004

This article provides a timely update on the health benefits of omega-3 fatty acids and suggests ways to incorporate them in our diet. Recommendations to prevent methyl mercury toxicity from supplement use and fish consumption are presented.

34

10. **Revealing Trans Fats**, *FDA Consumer*, September/October 2003

The last word on **trans-fats** and its effects on health is presented by the Food and Drug Administration. Beginning January 2006, the FDA's trans-fat labeling becomes mandatory. Guidance as to reading food labels to detect trans-fat and making **healthier fat substitution** is offered.

37

11. **Going Beyond Atkins**, Walter C. Willet and Patrick J. Skerrett, *Newsweek*, January 19, 2004

In this article, Dr. Willet sets the record straight about carbohydrates and discusses the role of "good" and "bad" carbohydrates as part of a healthy diet. Guidance on choosing the best carbs is also given.

40

12. **Good Carbs, Bad Carbs**, Rita Scheffrin, *Today's Dietitian*, April 2003

People are confused about what constitutes a good vs. a bad carbohydrate. A detailed explanation of the glycemic index and the glycemic load is given here with guidelines for their use to minimize sharp rises in blood glucose and thus prevent diabetes.

43

13. **Eye Wise: Seeing Into the Future**, Bonnie Liebman, *Nutrition Action HealthLetter*, November 2004

Cataracts and macular degeneration are two age-related diseases that can affect your vision. Recent research reveals that antioxidant vitamins C, E, and B-carotene; zinc and foods that contain lutein; zeaxanthin and omega-3 fish oils may have a protective effect on the above diseases.

48

14. **Feast For Your Eyes: Nutrients That May Help Save Your Sight**, *Food Insight*, September/October 2002

**Cataracts** and **macular degeneration** are two age-related diseases that can seriously affect your vision. Recent research studies reveal that **antioxidant vitamins** such as B-carotene, vitamin C, zinc and yellow-colored carotenoids such as lutein and zeaxanthin may have a protective effect on the above eye disease.

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15. **Fortifying with Fiber**, Linda Milo Ohr, *FoodTechnology*, February 2004

The average American consumes half of the recommended amount of fiber per day. Inadequate fiber consumption and carbohydrate-conscious consumers have aided in the increase of fiber-fortified foods. A description of the ingredients the food industry uses to increase food's dietary-fiber content are listed. Health research and FDA-claims approvals are also presented here.

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## UNIT 3

### Diet and Disease Through the Life Span

#### Unit Overview

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16. **Diet and Genes**, Anne Underwood and Jerry Adler, *Newsweek*, January 17, 2005

The interaction between genes and diet determines disease expression. The new science of nutrigenomics ushers in the age of personalized nutrition where dietary recommendations for the population as a whole may be coming to an end. In the near future health professionals will be able to look at the genetic profiles of their patients, identify specific diseases for which they are at risk, and customize nutrition plans accordingly.

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17. **Prostate Cancer: More Questions than Answers**, Bonnie Liebman, *Nutrition Action HealthLetter*, July–August 2004

Even though rates from prostate cancer have decreased since the early nineties, the disease still affects one in six men. Research findings are presented here on food and food supplements that might prevent or retard prostate cancer.

66

18. **Coffee, Spices, Wine: New Dietary Ammo Against Diabetes?**, Janet Raloff, *Science News*, May 1, 2004

The number of people with non-insulin dependent diabetes has increased by 50 percent compared to the last decade. Scientists are presently studying the role of coffee, tea, cinnamon, and wine to slow down the onset of the disease and reduce its deleterious effects on the kidneys and blood vessels.

70

19. **Meeting Children's Nutritional Needs**, Linda Milo Ohr, *FoodTechnology*, April 2004

Fruits, vegetables, dairy foods, calcium, vitamin D, and fiber are some foods and nutrients that are lacking from children's diets. The food industry is responding to the rise in childhood obesity by offering healthier options and improving nutrition education for parents and children. Some food companies are partnering with the American Dietetic Association and the American Academy of Family Physicians to develop educational outreach programs for children.

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20. **The Role of the School Nutrition Environment for Promoting the Health of Young Adolescents**, May Kay Mayer, John Marshak, and Martha T. Conklin, *Middle School Journal*, May 2004

Despite the rising obesity epidemic among children and adolescents, schools have not placed student health and nutrition on high priority. Schools are in a unique position to ensure appropriate nutrient intake, healthful diets, and nutrition education to students. Some of the reasons and solutions for these problems are explored.

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## UNIT 4

### Obesity and Weight Control

#### Unit Overview

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#### 21. **How We Grew So Big**, Michael Lemonick, *Time*, June 7, 2004

The U.S. obesity epidemic is presented and its causes are described in this article. Comparisons among our earliest ancestors and the transition from primitive to present-day diets are made. The reasons why our ancestors did not become obese are discussed. Actions policymakers, such as schools and communities, are taking to reduce the obesity crisis are mentioned.

85

#### 22. **Pandemic Obesity: What is the Solution?**, James E. Tillotson, *Nutrition Today*, January/February 2004

Billions of dollars in advertising of fast food, beer, soft drinks, cereals, and bakery products that have a powerful influence on the American diet are discussed. The power of advertising by a few mega-food companies is a powerful factor in food choices for Americans. The reasons why Americans fraternize these establishments are revealed and the role of the nutrition professional to finding solutions is offered.

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#### 23. **A Call to Action: Seeking Answers to Childhood Weight Issues**, Carol M. Meerschaert, *Today's Dietitian*, April 2004

A reason for childhood-weight issues may be the large decrease in physical activity since the inception of new technologies. Research on the benefits of exercise on test achievement scores and fitness levels and the obstacles schools face to increasing physical education is explained.

92

#### 24. **Social Change and Obesity Prevention: Where Do We Begin?**, John C. Peters, *Nutrition Today*, May–June 2004

The causes of obesity are multiple and include environmental factors, which range from ready accessibility of food to large food portion sizes to aggressive advertising to being sedentary. These "obesogenic" features of our environment interact with genes and result in the obesity epidemic. Strategies such as building better coping skills and mobilizing both public and private sectors into action are critical to reverse the epidemic.

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#### 25. **Fat: More Than Just a Lump of Lard**, Bonnie Liebman, *Nutrition Action HealthLetter*, October 2004

With the discovery of leptin, by Dr. Jeffrey Friedman, our understanding that fat may be another endocrine organ that influences our ability to lose or gain weight is starting to be explored. The role of leptin, adiponectin, ghrelin, and inflammatory proteins in obesity and other degenerative diseases is presented and the importance of fat distribution is discussed.

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## UNIT 5

### Health Claims

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#### 26. **Q & A on Functional Foods**, *International Food Information Council Foundation*, November 2002

**How foods become functional**, what their health benefits are, how we can add them into our diet, questions about their regulation by the government, and approval of health claims by the FDA are discussed in this report.

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#### 27. **Herbal Lottery**, Janet Raloff, *Science News*, June 7, 2003

What is on a herbal supplement's label may not be what is in the bottle. This is an interesting inquiry into many of the commonly consumed **herbal products and manufacturer's problems with quality control**. The different factors that affect the amount and activity of the herbal components that end up in the bottle are revealed.

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28. **The Latest Scoop on Soy**, Linda Milo Ohr, *Food Technology*, August 2003  
Recent evidence on ***soy and its effects on cardiovascular disease***, bone health, breast and prostate cancer, menopausal symptoms, diabetic control and cognition is presented. With advances in food technology, new soy ingredients are being developed that could revolutionize the soy product market. 112
29. **How Low Can You Go?: Cutting Calories to Extend Life?**, Kate Jackson, *Today's Dietitian*, July 2004  
Animal research supports the claim that reducing caloric intake increases lifespan, delays disease onset, and minimizes the signs of aging. The Calorie Restriction Society of California is "testing" that observation on its 1,200 members and scientists at the National Institute of Health are planning to test this theory on humans. Arguments for and against this controversial topic are considered. 116
30. **Multiple Choices: The Right Vitamins For You**, Nancy Bruning and Shari Lieberman, *Body and Soul*, November/December 2003  
Using the statement from a 2002 article in the *Journal of the American Medical Association* that "all adults should take one multivitamin daily" as their springboard, the authors guide you through questionnaires to find your predisposition for different degenerative diseases and to help you choose a supplement regimen that is custom made for you—to help you ward off disease. 119
31. **Food-Friendly Bugs Do The Body Good**, *Food Insight*, March/April 2003  
The ***importance of intestinal bacteria*** to our health is highlighted here. The different types of probiotics and prebiotics, their health effects and their food sources as well as what groups of people should avoid them is presented. 123
32. **Are Your Supplements Safe?**, *Nutrition Action HealthLetter*, November 2003  
Which supplements are safe? Which aren't? What are their interactions with medications or other herbs? Important information is presented and case-studies of people that had ***health problems from taking herbs*** are given. 125



## UNIT 6 Food Safety/Technology

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33. **Tainted Food**, Danylo Hawaleshka, *Maclean's*, January 26, 2004  
The risks involved anytime you consume a food from antibiotics, hormones, and pesticides in meat, milk, fruits, and vegetables to the new concerns of mercury, dioxin, and PCB's in farmed fish are boosting the appetite of the public for organic food. Tips to planning a "safe" diet are offered. 133
34. **Certified Organic**, Geoffrey Cowley, *Newsweek*, September 30, 2002  
Finally the U.S.D.A. has set the criteria for ***what food may be called "organic"*** and ***food makers that qualify*** can declare their products "certified organic." The advantages to the environment, health, and the economy of creating a sustainable food supply are highlighted here. Data on the increased sales of different "organic" food groups is presented. 136
35. **Send in the Clones**, Kate Jackson, *Today's Dietitian*, June 2004  
A new concern that has surfaced is the recent announcement of the FDA that animal clones "appear to be safe" for consumption because its Veterinary Medicine Advisory Committee finds no difference between mature cloned animals and their counterparts in nature. So the FDA sees no reason for product labeling. Pro and con opinions on animal clone consumption, safety, and labeling are advanced. 138

36. **Hooked on Fish? There Might Be Some Catches**, *Harvard Health-Letter*, January 2003  
The health benefits of omega-3 fats in fish on the cardiovascular system is unquestionable. But mercury contamination of fish is making scientists and the public uneasy about dietary recommendations of increasing fish intake. Nutritional issues about **farm raised vs. wild fish**, fish feed, and **mercury contamination** are discussed. Omega-3 fat and mercury content of select fish is tabulated. 141
37. **Ensuring the Safety of Dietary Supplements**, Michelle Meadows, *FDA Consumer*, July/August 2004  
Michelle Meadows describes the history behind the FDA's regulatory and monitoring function. She also describes the changes that the agency needed to institute since the exponential growth of the dietary supplement industry in the last decade. The FDA's new Good Manufacturing Practices (GMPs) for dietary supplement regulations will set standards for handling and manufacturing dietary supplements—ensuring their high quality for consumers. 144



## UNIT 7

### World Hunger and Malnutrition

#### Unit Overview

38. **Hunger and Mortality**, *The State of Food Insecurity in the World 2002*,  
The 2002 report of the Food and Agriculture Organization of the United Nations updates the reader on the **mortality rates and life expectancy in developing countries** as well as explaining why common diseases are often fatal to malnourished children. 146
39. **The Scourge of “Hidden Hunger”: Global Dimensions of Micronutrient Deficiencies**, Gina Kennedy, Guy Nantel, and Prakash Shetty, *Food Nutrition and Agriculture*, 2003  
Micronutrient deficiencies, often called “hidden hunger,” affect two billion people worldwide. Iron, vitamin A, and iodine deficiencies are the most common. Community-based strategies to help combat deficiencies such as biofortification, fortification, and dietary diversification are discussed. 149
40. **Undernourishment, Poverty and Development**, *The State of Food Insecurity in the World 2002*,  
The Millennium Development Goals (MDGs), an outcome of the World Food Summit (WFS), set targets to reduce by half, the proportion of people that live on less than one U.S. dollar per day. The key goal and objectives are presented in this article. 152
41. **Confronting the Causes of Malnutrition: The Hidden Challenge of Micronutrient Deficiencies**, *The State of Food Insecurity in the World 2002*,  
**Micronutrient deficiencies**, often called “hidden hunger”, affect two billion people worldwide. Vitamin A, iron, and iodine deficiencies are the most common. Suggestions for how to combat these deficiencies are offered. 159
42. **Food Security, Overweight, and Agricultural Research—A View From 2003**, E. Kennedy, *Journal of Food Science*, 2004  
The recent paradox that some of the world's poorest countries are facing—along with food insecurity and undernutrition—is obesity and overweight. The WHO has created the Mega Country Health Promotion Network to identify public health strategies that involve public-private partnerships to aid in reducing obesity. 162

43. <b>Global Food Companies in the Developing World—Benefactors, Malefactors or Inevitable Change Agent?</b> , James E. Tillotson, <i>Nutrition Today</i> , May–June 2004 In their report on “Diet, Nutrition, and the Prevention of Chronic Disease,” the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) of the United Nations questioned the role and contribution of global food companies in the increasing incidence of obesity in developing countries. The author presents his views on the positive and negative role multinational food companies play for developing countries.	168
44. <b>Contribution of Indigenous Knowledge and Practices in Food Technology to the Attainment of Food Security in Africa</b> , Ruth Oniang'o, Joseph Allotey, and Serah J. Malaba, <i>Journal of Food Science</i> , 2004 To ensure food security in Africa, the authors outline the vast potential of indigenous knowledge (IK) and practices to realize sustainability. The advantages of exploiting sustainable and community-based indigenous practices and systematically documenting the potential of IK as environmentally friendly before considering external source interventions are argued.	172
45. <b>Helping Solve Hunger in America</b> , Robert Forney, <i>FoodTechnology</i> , May 2003 Americans do not realize that 33 million of them—especially children—are food insecure. The efforts of Hunger Relief charities and other programs are described and ways to enable the food industry to alleviate hunger in America are highlighted.	178
46. <b>Assessment of Allergenic Potential of Genetically Modified Foods: An Agenda for Future Research</b> , MaryJane K. Selgrade, Ian Kimber, Lynn Goldman, and Dori R. Germolec, <i>Environmental Health Perspectives</i> , June 2003 The <i>potential for genetically modified (GM) foods to cause allergies</i> is real. Scientists from the U.S. Environmental Protection Agency summarize results from a workshop and discuss immediate research needs, such as hazard identification, improving human skin tests, and identifying the potential dangers of humans being exposed to GM foods.	180
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