

A · N · N · U · A · L E · D · I · T · I · O · N · S

NUTRITION

97/98



The Annual Editions Series

ANNUAL EDITIONS is a series of over 65 volumes designed to provide the reader with convenient, low-cost access to a wide range of current, carefully selected articles from some of the most important magazines, newspapers, and journals published today. ANNUAL EDITIONS are updated on an annual basis through a continuous monitoring of over 300 periodical sources. All ANNUAL EDITIONS have a number of features that are designed to make them particularly useful, including topic guides, annotated tables of contents, unit overviews, and indexes. For the teacher using ANNUAL EDITIONS in the classroom, an Instructor's Resource Guide with test questions is available for each volume.

VOLUMES AVAILABLE

Abnormal Psychology
Adolescent Psychology
Africa
Aging
American Foreign Policy
American Government
American History, Pre-Civil War
American History, Post-Civil War
American Public Policy
Anthropology
Archaeology
Biopsychology
Business Ethics
Child Growth and Development
China
Comparative Politics
Computers in Education
Computers in Society
Criminal Justice
Criminology
Developing World
Deviant Behavior
Drugs, Society, and Behavior
Dying, Death, and Bereavement

Early Childhood Education
Economics
Educating Exceptional Children
Education
Educational Psychology
Environment
Geography
Global Issues
Health
Human Development
Human Resources
Human Sexuality
India and South Asia
International Business
Japan and the Pacific Rim
Latin America
Life Management
Macroeconomics
Management
Marketing
Marriage and Family
Mass Media
Microeconomics

Middle East and the
Islamic World
Multicultural Education
Nutrition
Personal Growth and Behavior
Physical Anthropology
Psychology
Public Administration
Race and Ethnic Relations
Russia, the Eurasian Republics,
and Central/Eastern Europe
Social Problems
Social Psychology
Sociology
State and Local Government
Urban Society
Western Civilization,
Pre-Reformation
Western Civilization,
Post-Reformation
Western Europe
World History, Pre-Modern
World History, Modern
World Politics



Cataloging in Publication Data

Main entry under title: Annual editions: Nutrition. 1997/98.

1. Nutrition—Periodicals. 2. Diet—Periodicals. I. Cook-Fuller, Charlotte C., comp. II.

Title: Nutrition.

ISBN 0-697-37331-2

613.2'.05

91-641611

© 1997 by Dushkin/McGraw-Hill, Guilford, CT 06437, A Division of The McGraw-Hill Companies.

Copyright law prohibits the reproduction, storage, or transmission in any form by any means of any portion of this publication without the express written permission of Dushkin/McGraw-Hill, and of the copyright holder (if different) of the part of the publication to be reproduced. The Guidelines for Classroom Copying endorsed by Congress explicitly state that unauthorized copying may not be used to create, to replace, or to substitute for anthologies, compilations, or collective works.

Annual Editions® is a Registered Trademark of Dushkin/McGraw-Hill,
A Division of The McGraw-Hill Companies.

Ninth Edition

Cover image © 1996 PhotoDisc, Inc.

Printed in the United States of America

Printed on Recycled Paper



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.

EDITORS

Charlotte C. Cook-Fuller
Towson State University

with Stephen Barrett, M.D.
Editor, Nutrition Forum

ADVISORY BOARD

John S. Braubitz
Cayuga Community College

Georgia W. Crews
South Dakota State University

Patricia Erickson
Skyline College

Julie Rae Friedman
SUNY at Farmingdale

Sarah T. Hawkins
Indiana State University

Suzanne Hendrich
Iowa State University

David H. Hyde
University of Maryland, College Park

Dorothy Klimis-Tauantzis
University of Maine, Orono

Manfred Kroger
*Pennsylvania State University,
University Park*

William M. London
Kent State University

Aden C. Magee
University of North Carolina

Mira Mehta
Hood College

Rebecca M. Mullis
Georgia State University

Gretchen Myers-Hill
Michigan State University

M. Zafar Nomani
West Virginia University

Thomas M. Richard
Keene State College

Karen J. Schmitz
Madonna University

Donna R. Seibels
Samford University

Diana M. Spillman
Miami University

Danielle Torisky
James Madison University

Linda E. Wendt
University of Wisconsin, Eau Claire

Staff

Ian A. Nielsen, Publisher

EDITORIAL STAFF

Roberta Monaco, Developmental Editor
Addie Raucci, Administrative Editor
Cheryl Greenleaf, Permissions Editor
Deanna Herrschaft, Permissions Assistant
Diane Barker, Proofreader
Lisa Holmes-Doebrick, Program Coordinator
Joseph Offredi, Photo Coordinator

PRODUCTION STAFF

Brenda S. Filley, Production Manager
Charles Vitelli, Designer
Shawn Callahan, Graphics
Lara M. Johnson, Graphics
Laura Levine, Graphics
Mike Campbell, Graphics
Juliana Arbo, Typesetting Supervisor
Jane Jaegersen, Typesetter
Marie Lazauskas, Word Processor
Larry Killian, Copier Coordinator

To the Reader

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. Under the direction of each volume's *academic editor*, who is an expert in the subject area, and with the guidance of an *Advisory Board*, each year we seek to provide in each ANNUAL EDITION a current, well-balanced, carefully selected collection of the best of the public press for your study and enjoyment. We think that you will find this volume useful, and we hope that you will take a moment to let us know what you think.

You may agree with Pudd'nhead Wilson (a character created by Mark Twain), who said, "The only way to keep your health is to eat what you don't want, drink what you don't like, and do what you'd rather not." Nutritionists would argue that you cannot achieve or maintain good health on a diet of soft drinks and vending machine foods. But you might be surprised to learn that many of your favorite foods can fit into a good diet. In making food choices, remember that variety and moderation are two key words that will assist you in achieving positive health outcomes and avoiding the negative results of excesses or deficiencies.

An array of resources is available to help you make decisions, including popular publications, the news media, scientific journals, and people from many educational backgrounds. Your dilemma is to select reliable sources that will supply factual information based on science rather than exaggerations based on bias. It is important to avoid overreacting to nutrition- and food-related news items or promotional materials, especially if they sound sensational or have shock value. The exaggeration and the myth are what much of the public grasps and, in large measure, reacts to. My challenge to you is to use *Annual Editions: Nutrition 97/98*, preferably with a standard nutrition text, as an invitation to learning. Become a discriminating learner. Compare what you hear and read to the accepted body of knowledge. If this volume provides you with useful information, challenges your thinking, broadens your understanding, or motivates you to take some useful action, it will have fulfilled its purpose.

While this entire volume is essentially one of current events and current thinking, the first unit focuses on trends that give a preview of the future and that relate to characteristics of today's food consumer, the food industry, and views of

foods and food components. The next three units are devoted to nutrients, diet and disease, and weight control. All are topics which directly relate to our health, and the dynamic state of knowledge on these subjects requires each of us to be constantly learning and adjusting. Units on food safety and health claims follow—areas in which consumers are especially vulnerable to media and promotional hype and misinformation. The last unit addresses hunger and malnutrition as a social and political issue as well as one requiring scientific knowledge for solution. Originally, this unit was intended as a forum for global concerns, but it has become abundantly clear that hunger is also a national issue.

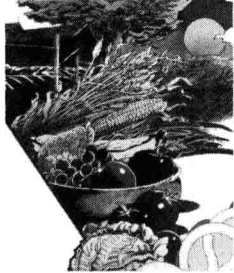
Although the units in this book are distinct, many of the articles have broader significance. The topic guide will help you to find other articles on a given subject. You will also find that many of the articles contain at least some element of controversy, the origin of which may be incomplete knowledge, questionable policy, pseudoscience, or competing needs. Sometimes these are difficult issues to resolve, and frequently any resolution creates further dilemmas. But creatively solving problems is our challenge. We take the world as it is and use it as the foundation for tomorrow's discoveries and solutions.

Annual Editions: Nutrition 97/98 is an anthology, and any anthology can be improved, including this one. You can influence the content of future editions by returning the postage-paid article rating form on the last page of this book with your comments and suggestions.

Charlotte C. Cook-Fuller

Charlotte C. Cook-Fuller
Editor

UNIT 1

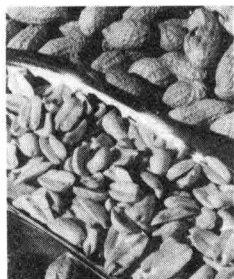


Trends Today and Tomorrow

Eleven articles examine the eating patterns of people today. Some of the topics considered include nutrients in our diet, eating trends, food labeling, self-service outlets, and the impact of biotechnology.

To the Reader	iv
Topic Guide	2
Overview	4
1. Consumer Nutrition and Food Safety Trends 1996, Kathleen E. McMahon, <i>Nutrition Today</i> , January/February 1996. Nine <i>issues of consumer concern</i> are identified and their current status reported in this essay. <i>Taste and time</i> continue to be primary considerations in consumers' choices of what to eat. Sorting through the complexity and conflicts found in easily available information remains a significant obstacle to achieving good nutrition.	6
2. The 1995 Dietary Guidelines: Changes and Implications, <i>Dairy Council Digest</i> , March/April 1996. The <i>Dietary Guidelines</i> , fourth edition, have been released by the U.S. Department of Agriculture and Health and Human Services to provide advice concerning wise food choices for healthy Americans. This new edition is designed to be clearly consistent with the <i>Food Guide Pyramid</i> and the <i>Nutrition Facts panel on labels</i> . Explanations and rationales for each guideline are provided.	11
3. The Food Pyramid: How to Make It Work for You, <i>Consumer Reports on Health</i> , September 1996. While the <i>Food Guide Pyramid</i> has become a familiar tool, its simplicity is misleading. In fact, each consumer's <i>choices within groups</i> are equally important. <i>Guidelines</i> for using the pyramid effectively are the theme here.	16
4. The Not-So-Great Mediterranean Diet Pyramid, Kathleen Meister, <i>Priorities</i> , Volume 7, Number 1, 1995. The <i>Mediterranean Diet Pyramid</i> has been thrust upon the American public in a direct challenge to the U.S. government's <i>Food Guide Pyramid</i> . Kathleen Meister compares their <i>differences and similarities</i> . So far, nutrition scientists are not impressed by some of the recommendations that are being made.	19
5. Phytochemicals: Drugstore in a Salad? <i>Consumer Reports on Health</i> , December 1995. Until recently, foods were known by the nutrients they contained. Now the airwaves are full of news about <i>phytochemicals</i> , which are neither vitamin nor mineral, yet appear to have great significance for <i>protecting</i> the body against <i>disease</i> . While using commercial dietary supplements is not generally recommended, this article lends support to the long-known fact that fruits, vegetables, dried beans, and grains are good for you.	24
6. Taking Soy to Heart, Kristine Napier, <i>Harvard Health Letter</i> , November 1995. From time to time, specific foods have been touted as being significant in reducing the likelihood of <i>heart disease</i> . Such attention has turned now to <i>soy products</i> . It will pay consumers to have a healthy skepticism, as soy's <i>disease-fighting qualities</i> are still being questioned. It is clear that one cannot expect these products to undo a lifestyle of unhealthy eating.	26
7. Taking the Fat Out of Food, Paula Kurtzweil, <i>FDA Consumer</i> , July/August 1996. Increasingly, <i>fat replacers</i> make it possible for consumers to <i>reduce fat intakes</i> while eating traditionally high-fat foods. <i>Olestra</i> has recently joined the list of <i>FDA-approved substitutes</i> . While this new product has clear advantages, consumers should be aware of the disadvantages that have made its approval controversial.	28
8. Fast Food: Fatter than Ever, <i>Consumer Reports on Health</i> , August 1996. It is becoming more difficult for the fat-conscious consumer to eat from <i>fast-food</i> menus. Side salads and lower-fat items are disappearing in favor of servings that are larger and <i>higher in fat</i> . How to make <i>fast-food choices</i> is included in this report.	33

UNIT 2



Nutrients

Ten articles discuss the importance of nutrients and fiber in our diet. Topics include dietary standards, carbohydrates, fiber, vitamins, supplements, and minerals.

9. **Genetic Engineering: Fast Forwarding to Future Foods,** 36
John Henkel, *FDA Consumer*, April 1995.
New to commercial foods, *genetic engineering* promises more and better food products. John Henkel describes the *Food and Drug Administration's* (FDA's) role in ensuring *safety* as well as the methodology used to develop Calgene's Flavr Savr tomato. Issues of public acceptance, safety, and environmental impact are raised.
10. **Genetically Altered States,** *Tufts University Diet & Nutrition Letter*, May 1996. 42
Suspensions of some scientists and consumer groups have been proven true: *genes that initiate allergies* can be passed from one food type to another. One industry involved in the process has dealt with the problem very responsibly. But whether or not the *FDA* will further regulate such genetic engineering activity is now something to watch.
11. **Alcohol: Spirit of Health?** *Consumer Reports on Health*, April 1996. 43
The good news is that *alcohol* may help to protect against *heart disease and diabetes*, but the bad news is that it may also increase *cancer risk*. Which result is more likely depends upon the individual. The *risks and benefits* associated with alcohol use are described in this article.
- Overview** 46
12. **Should You Be Eating More Protein—or Less?** *University of California at Berkeley Wellness Letter*, June 1996. 48
The public generally perceives that more *dietary protein* is better than less. While it may be true that some people, such as athletes and the elderly, need more protein per unit of body weight than others, there are definite probabilities that large amounts of protein can have *detrimetal* effects. Few of us need to add more protein in our diets, as most of us exceed the *recommendations* in normal eating.
13. **What's Wrong with Sugar?** *Consumer Reports on Health*, October 1994. 51
In the popular view, *sugar* causes *hyperactivity, hypoglycemia, diabetes, and weight gain*. On many of these charges, it remains guiltless. This report also discusses low-calorie *alternatives* that are available.
14. **The Facts about Fats,** *Consumer Reports*, June 1995. 54
While the relationships among *dietary fat, weight gain, and cancer* are not clear-cut, there is little argument about the connection between *saturated fat* and *heart disease*. This discussion of the effects of fat on *heart health* and how to "*eat smarter*" should interest everyone.
15. **Food for Thought about Dietary Supplements,** Paul R. Thomas, *Nutrition Today*, March/April 1996. 59
Billions of dollars are spent yearly by Americans on *dietary supplements*. This author, who used them extensively as a teenager, has decided since then that a good dose of *skepticism* about supplement use is healthy. He believes that there is *no scientific support* for *routine supplement use* and provides rationales for his conclusions in this article. It is appropriate for consumers to ask if supplements are harmful, helpful, or simply a waste of money.
16. **Vitamin A: Pregnancy Hazard?** Sheldon H. Cherry, *Health News*, October 31, 1995. 67
Concern over vitamins and *pregnancy* has been much in the news. This article discusses expectant mothers' intake of *vitamin A* as found in animal foods, fortified foods, and supplements, reporting that the risk of cleft palate and other fetal abnormalities increases significantly at only four times the *RDA* amounts.
17. **The Trials of Beta-Carotene: Is the Verdict In?** *Tufts University Diet & Nutrition Letter*, March 1996. 68
Not long ago, glowing claims were made about the *cancer-fighting properties* of *beta-carotene*. Newer evidence raises questions so serious that trial studies have been canceled. Now scientists must try to sort fact from fiction.

UNIT 3



Through the Life Span: Diet and Disease

Seven articles examine our health as it is affected by diet throughout our lives. Some topics include the links between diet and disease, cholesterol, and eating habits.

18. **Vitamin E**, *Mayo Clinic Health Letter*, May 1996. 71
Perhaps the most talked-about vitamin for protection against **coronary heart disease**, vitamin E still has not been proven to be effective in this role. If there is value, it is in amounts that make it a drug, not a nutrient.
 19. **Vitamin C: Is Anyone Right on Dose?** Jane E. Brody, *New York Times*, April 16, 1996. 73
Vitamin C is, perhaps, everybody's favorite supplemental vitamin, but **controversies** about safe and healthy amounts of **vitamin C** have continued over the years. While this new discussion claims support for more than the current RDA amounts, others refute the evidence leading to that conclusion. Higher than currently recommended amounts should still be viewed as highly controversial.
 20. **Special Report: Iron Overkill**, *University of California at Berkeley Wellness Letter*, July 1996. 76
The possibility that high amounts of stored iron may increase **cancer risk** is currently considered to be remote. It is true that some people are at genetic risk of **absorbing too much iron** from their food. Nevertheless, many Americans, such as **women of child-bearing age** and young **children**, are still likely to be getting **too little**.
 21. **Fiber**, *Mayo Clinic Health Letter*, August 1996. 78
Fiber, although not a nutrient, has been found to be **important to good health**. While some claims are proven, others lack absolute proof. Most Americans would benefit from increasing the amounts of this substance that they get from their diets. It is found only in plants.
-
- | | |
|--|----|
| Overview | 80 |
| 22. Nutritional Implications of Ethnic and Cultural Diversity , <i>Dairy Council Digest</i> , September/October 1995. 82
There is ample evidence that morbidity and mortality rates for nutrition-related chronic diseases vary among ethnic groups . While whites have greater risk for osteoporosis , other minorities are more likely to suffer from the effects of obesity , adult-onset diabetes , and hypertension . The interactions of culture and genetics that contribute to these variations are addressed in this article. | |
| 23. Breast-Feeding Best Bet for Babies , Rebecca D. Williams, <i>FDA Consumer</i> , October 1995. 87
Breast-feeding , in most cases, is the preferred choice for babies . With the perfect ratio of nutrients, the milk also provides protection from diseases , and the practice promotes healthy psychological development. Guidelines for breast-feeding success are included. | |
| 24. Kids Just Want to Have Fun , Mary Jo Feeney, <i>Positively Pasta</i> , Winter 1996. 91
Children's food choices are influenced by many factors. While it may not be clear exactly what children's nutritional needs are, there are good general guidelines for parents about how to handle their children and issues related to food, many of them included in this article. | |
| 25. Teens at Risk: Nutrition Issues for the '90s , <i>Dairy Council Digest</i> , May/June 1996. 94
Rapid growth and high nutrient needs go together. For teens , this comes at a time when increasingly independent lifestyles and strong peer influences affect their eating patterns and nutrient intakes . Health and nutrition issues for teens include calcium need , obesity and dieting , eating disorders , athletics , and pregnancy . | |
| 26. Boning Up on Osteoporosis , Carolyn J. Strange, <i>FDA Consumer</i> , September 1996. 99
Osteoporosis is a common disease in the United States, causing over a million fractures yearly. Although postmenopausal white women are most often the victims, older men can be affected as well. Estrogen replacement at menopause is a powerful weapon and should be considered seriously. Besides a calcium-rich diet, other methods are now available to help prevent or minimize the effects of this disease. | |

UNIT 4



Fat and Weight Control

Seven articles examine weight management. Topics include the relationship between dieting and exercise, the effects of various diet plans, and the relationship between being overweight and fit.

27. **Is Butter Really Better for Me?** Kathleen Meister, *Priorities*, Volume 6, Number 4, 1994. 105
Trans fats have been a hot item in the news media of late, causing consumers to wonder if they should stop eating *margarine*. Kathleen Meister addresses the *controversy* and assists the consumer in deciding how concerned he or she should be. In the final analysis, most authorities agree that reducing all dietary fat is really the message to hear.
 28. **Health Implications of Vegetarian Diets**, Ella Haddad, *Nutrition & the M.D.*, August 1996. 108
Reduced risks of obesity and a variety of *chronic diseases* and conditions are a benefit of strict *vegetarian* diets, but failure to achieve adequate nutrition is a risk. With proper planning, even a strict vegan can conform to good nutrition principles. Health risks of a strictly vegetarian diet for infants and children need special attention, cautions Ella Haddad.
-
- | | |
|---|-----|
| Overview | 114 |
| 29. Obesity: No Miracle Cure Yet , Kristine Napier, <i>Priorities</i> , Volume 8, Number 2, 1996. 116
An <i>obesity gene</i> has been found. So have body chemicals that suppress appetite. Neither embodies an immediate solution for those of us who are <i>overweight</i> . Although these discoveries represent new knowledge, the answer to <i>weight control</i> remains in the balancing of caloric intake with caloric expenditure. Kristine Napier reports that weight loss drugs may help but must be used carefully. | |
| 30. New Study Questions Weight Guidelines , Frances M. Berg, <i>Healthy Weight Journal</i> , March/April 1996. 120
Recommendations for <i>healthy weights</i> have been bouncing around like a yo-yo, indicating the state of conflict in study results and disagreement among experts. A recent Cornell project that analyzed 22 longitudinal studies concludes that the emphasized healthfulness of low <i>body mass indexes (BMI)</i> are erroneous. The controversial 1995 healthy weight ranges and <i>guidelines</i> are included in this overview article. | |
| 31. New Study Finds Higher Weight Protects Elderly , Frances M. Berg, <i>Healthy Weight Journal</i> , January/February 1996. 124
A current study suggests that the <i>aged</i> would benefit from somewhat <i>heavier than normal weights</i> . This research conclusion seems to be independent of race, gender, and disease states. | |
| 32. Dieting and Weight Loss Increase Osteoporosis Risk , Frances M. Berg, <i>Healthy Weight Journal</i> , January/February 1996. 125
It has been known for some time that <i>overweight</i> is <i>protective</i> against <i>osteoporosis</i> . Unfortunately, <i>weight loss</i> itself, despite aerobic exercise and good nutrition, results in bones with <i>reduced mineral content</i> . The reasons are being investigated and may involve estrogen levels. | |
| 33. Losing Weight Safely , Marilyn Larkin, <i>FDA Consumer</i> , January/February 1996. 128
<i>Losing weight effectively</i> means keeping it off. <i>Losing weight safely</i> means setting a reasonable goal, balancing calories and nutrients, and adding <i>exercise</i> . All are good rules for success. Tempting shortcuts do not work or are not safe, reports Marilyn Larkin. | |
| 34. Surgery for Obesity , George Blackburn, <i>Health News</i> , November 21, 1995. 132
Unlike the intestinal bypass tried in former years, <i>gastric bypass</i> may offer benefits of lasting <i>weight reduction</i> for the severely obese. In addition, the little-used procedure has ameliorated weight-related health problems such as hypertension and diabetes in such patients. | |
| 35. The New Paradigm of Trust , Ellyn Satter, <i>Healthy Weight Journal</i> , November/December 1995. 134
<i>Children</i> whose parents trust them to share the responsibility of <i>managing their eating</i> are more likely to regulate their intakes effectively. Excessive <i>parental control</i> is seen as contradictory to achieving energy balance and normal growth. | |

UNIT 5

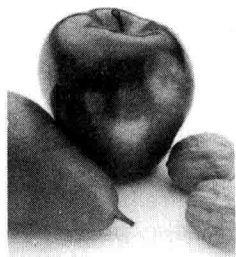


Food Safety

Eight articles discuss the safety of food. Topics include food-borne illness, pesticide residues, naturally occurring toxins, and food preservatives.

Overview	136
36. Foodborne Illness: Role of Home Food Handling Practices, <i>Food Technology</i> , April 1995.	138
Many organisms can contaminate food and result in cases of food-borne illness if improper food handling occurs. The old adage that "forewarned is forearmed" holds true for those who know how to avoid practices that can lead to illness. Information concerning common food-borne diseases caused by bacteria, toxins, viruses, protozoa, and parasites is included in this article.	
37. New Risks in Ground Beef Revealed, <i>Tufts University Diet & Nutrition Letter</i> , June 1996.	148
In recent years the public has become very aware of the dangers of <i>E. coli</i> 0157 poisoning . Now it is clear that, worldwide, more than 50 <i>E. coli</i> types produce dangerous toxins and that a large share of our ground beef may be contaminated. Prevention lies in safe handling. Early treatment depends on recognizing symptoms.	
38. Botulinum Toxin, Luba Vangelova, <i>FDA Consumer</i> , December 1995.	152
While outbreaks are infrequent, occasionally botulism poisoning results from both home and commercially canned foods. Proper food handling by the consumer can prevent most cases. Luba Vangelova also reports that infant botulism is not common and usually is not fatal.	
39. Mad Cow Madness, Julie Corliss, <i>Health News</i> , May 7, 1996.	156
The media have reported frequently about the impact of mad cow disease on health and economics in Europe and the nonrisk for Americans. Whether or not a true linkage between this disease and human illness is finally established, this article highlights an excellent example of the phenomenon of food scares , risks, and reactions.	
40. How Much Are Pesticides Hurting Your Health? <i>Tufts University Diet & Nutrition Letter</i> , April 1996.	158
Concerns about risks from pesticide ingestion are often fueled by the news media. Although such reports are worrisome, this article reveals there is little need for this concern. Rinsing fresh produce in plain water can lower even the small risk.	
41. New Scientific Review Reaffirms Safety of MSG, <i>Food Insight</i> , September/October 1995.	160
MSG, a food additive designated by the Food and Drug Administration (FDA) with Generally Recognized as Safe (GRAS) status, has undergone a routine review. As this article points out, neither naturally occurring nor added MSG can be shown to produce negative health effects in adults or children .	
42. After the Glow, Alan Morton, <i>Restaurant Business</i> , February 10, 1995.	161
Food irradiation's ability to destroy food pathogens is turning some opponents into proponents. Currently, irradiated products on the market are well received by consumers. Many national and international organizations strongly support the use of the technology, as this article describes.	
43. Naturally Occurring Toxins: Part of a Balanced Diet? Tina Prow, <i>Illinois Research</i> , Fall 1993.	164
There are more natural toxins in foods than most of us have ever imagined. Consider, however, that the body has ways of handling toxins and that small amounts may have benefit. According to this article, the old adage that the dose makes the poison is right on target.	

UNIT 6



Health Claims

Eleven articles examine some of the health claims made by today's "specialists." Topics include quacks, fad diets, and nutrition myths and misinformation.

Overview	168
44. How Quackery Sells , William T. Jarvis and Stephen Barrett, <i>Nutrition Forum</i> , March/April 1991.	170
<i>Quacks</i> are masters of the art of influencing people. As supermanipulators, they sell false hope through products that cannot possibly produce the desired magical effects. This article exposes the tricks that they use.	
45. Changing Channels , <i>Food Insight</i> , Spring 1996.	175
Since consumers often get their nutrition information from the media , reliable reporting is very important. Analysis shows, however, that missing context and few details often lead to misinterpretation by the public. As described in this article, "hot topics" are more commonly reported than useful information.	
46. Confessions of a Former Women's Magazine Writer , Marilyn Larkin, <i>Nutrition Forum</i> , May/June 1993.	178
A long-time writer of popular nutrition articles , Marilyn Larkin understands the basic pat formula often used to make products sell. Publishing priorities include: start with provocative headlines but follow with noncontroversial trivia and provide a "nice environment" for advertisers. This leaves little room for straightforward presentations of facts or an honest appraisal of research.	
47. Food for Thought: Can You Trust Your Favorite Magazine to Tell You What to Eat? Diane Woznicki and Ruth Kava, <i>Priorities</i> , Volume 8, Number 2, 1996.	182
Popular magazines are doing a better job of reporting nutrition information , according to a study completed by the American Council on Science and Health. The three found to be most reliable are <i>Consumer Reports</i> , <i>Better Homes and Gardens</i> , and <i>Parents</i> .	
48. Why Do Those #&*?@! "Experts" Keep Changing Their Minds? <i>University of California at Berkeley Wellness Letter</i> , February 1996.	186
What the layman understands from the news often leads him to conclude falsely that experts can't make up their minds about nutrition issues. According to this article, the nature of discovery through research is partly responsible for such confusion, but knowing how to read and interpret research reports will increase one's understanding.	
49. Vitamin Pushers and Food Quacks , Victor Herbert, <i>Nutrition Forum</i> , March/April 1993.	189
Since the discovery of vitamins , we have been both blessed by the knowledge of the true miracles that they produce and plagued by their excessive and dangerous use. In fact, promoting megadose usage of vitamins is both a major industry and outright quackery . Victor Herbert presents some of the selling strategies in this article.	
50. Supplement Bill Passes , Stephen Barrett, <i>Nutrition Forum</i> , January/February 1995.	196
Supplement sellers have succeeded in mounting a forceful, albeit misleading, campaign that resulted in the passage of the Dietary Supplement Health and Education Act (DSHEA) of 1994. The terms of this act, which clearly benefit the supplement industry, are described here.	
51. Supplements Are Unnecessary to Enhance Athletic Performance , Stephen Barrett, <i>Priorities</i> , Volume 6, Number 3, 1994.	198
In an attempt to gain the competitive edge, athletes are often tempted to use various supplements by false promises of physical improvement. But athletes who follow the rules of a balanced diet have no need to search elsewhere for nutrition powerhouses, reports Stephen Barrett in this article.	
52. Nutrition Shortcut in a Can? George Blackburn, <i>Health News</i> , June 4, 1996.	201
New marketing strategies tout liquid meals-in-a-can as beneficial for virtually everyone. While acknowledging that meal replacements are useful in some circumstances, George Blackburn notes that these promotions are generally misleading and that the benefits from real food are greater.	

UNIT 7



Hunger and Global Issues

Five articles discuss the world's food supply. Topics include global malnutrition, communicable diseases, and famine.

53. Herbal Roulette , <i>Consumer Reports</i> , November 1995.	203
Thanks to a supplement industry campaign and congressional action, <i>herbs</i> are now sold in an almost totally <i>unregulated market</i> . For the consumer, this article warns, that means there is no assurance of safety, efficacy, or even that the active ingredients are present. Since some herbs can do harm, this truly is a case of caveat emptor, or "let the buyer beware."	
54. Herbal Warning , Geoffrey Cowley, <i>Newsweek</i> , May 6, 1996.	210
Some say the use of <i>herbals</i> represents a <i>new drug culture</i> . Clearly, herbals contain <i>drug-like ingredients</i> , some of which are harmful—even deadly. Geoffrey Cowley reports on a number of tragic deaths caused by such herbs. With this "tiger by the tail," how do we control it or use it wisely?	
Overview	214
55. Averting a Global Food Crisis , Lester Brown, <i>Technology Review</i> , November/December 1995.	216
Densely populated countries that industrialize, as China is now doing, inevitably lose large amounts of <i>grainland</i> even as their people multiply and gain more purchasing power. Lester Brown predicts that issues of food <i>scarcities</i> and <i>distribution</i> will be raised on an unprecedented scale and suggests solutions, including stabilizing world population.	
56. Nibbling at Famine's Edge , <i>Baltimore Sun</i> , June 13, 1996.	224
<i>North Koreans</i> are <i>hungry</i> , as the result of floods and poor government economic policies. Food is rationed, and relatives in China must cross the border with supplies. There are serious <i>humanitarian and political implications</i> of this crisis, as detailed in this news report.	
57. Federal Food Assistance Programs: A Step to Food Security for Many , Patricia L. Splett, <i>Nutrition Today</i> , March/April 1994.	226
<i>Hunger</i> is a major <i>social issue</i> in the United States. A number of <i>federal food assistance programs</i> targeting children, pregnant women, the homebound, and the elderly either provide food directly or issue stamps and vouchers for use in purchasing food. As Patricia Splett notes, numerous studies support their effectiveness.	
58. Thunder in the Distance , Al Martinez, <i>California Journal</i> , July 1995.	233
As Al Martinez movingly describes, <i>hunger</i> is more than physical deprivation. It is an experience that affects the psyche and the soul. It yields pain that cannot be soothed away. It follows <i>poverty</i> and is often ignored, and more of us are vulnerable than we suppose.	
59. Modern Farming Yields Bountiful Fields of Dreams , Dennis T. Avery, <i>Baltimore Sun</i> , July 25, 1996.	236
Not everybody agrees with those who predict major problems ahead in feeding an ever-increasing population. Dennis Avery reports that some experts cite past accomplishments in improving yields beyond both imagination and prediction. This article offers calculations of <i>maximum crop yields</i> that even American farmers have not yet reached.	
Glossary	238
Index	241
Article Review Form	244
Article Rating Form	245

NUTRITION 97/98

Ninth Edition



Editor

Charlotte C. Cook-Fuller
Towson State University

Charlotte Cook-Fuller has a Ph.D. in community health education and graduate and undergraduate degrees in nutrition. She has worked for several years in public health services and has also been involved with the federally funded WIC (Women, Infants, and Children) program. Now as a professor, she teaches nutrition within both professional and consumer contexts, as well as courses for health education students. She has coauthored a nutrition curriculum for grades K-12 and is currently involved in a multidisciplinary effort to provide strategies to public school teachers for teaching about global issues such as hunger.

Editorial Consultant

Stephen Barrett, M.D.
Editor, *Nutrition Forum*

A Annual Editions E
A Library of Information from the Public Press

Dushkin/McGraw-Hill
Sluice Dock, Guilford, Connecticut 06437

Visit us on the Internet—<http://www.dushkin.com>

Topic Guide

This topic guide suggests how the selections in this book relate to topics of traditional concern to students and professionals involved with the study of nutrition. It is useful for locating articles that relate to each other for reading and research. The guide is arranged alphabetically according to topic. Articles may, of course, treat topics that do not appear in the topic guide. In turn, entries in the topic guide do not necessarily constitute a comprehensive listing of all the contents of each selection.

TOPIC AREA	TREATED IN	TOPIC AREA	TREATED IN
Additives	41. New Scientific Review Reaffirms Safety of MSG	Dieting	25. Teens at Risk 32. Dieting and Weight Loss Increase Osteoporosis Risk 33. Losing Weight Safely
Alcohol	11. Alcohol: Spirit of Health?	Diet/Disease	5. Phytochemicals 6. Taking Soy to Heart 27. Is Butter Really Better for Me?
Antioxidants	5. Phytochemicals 17. Trials of Beta-Carotene 18. Vitamin E	Eating Disorders	25. Teens at Risk
Athletes	25. Teens at Risk 51. Supplements Are Unnecessary to Enhance Athletic Performance	Elderly	26. Boning Up on Osteoporosis 31. New Study Finds Higher Weight Protects Elderly 32. Dieting and Weight Loss Increase Osteoporosis Risk 57. Federal Food Assistance Programs
Attitudes/ Knowledge	1. Consumer Nutrition and Food Safety Trends 1996 9. Genetic Engineering 24. Kids Just Want to Have Fun 25. Teens at Risk	Fats/Substitutes	7. Taking the Fat Out of Food 8. Fast Food: Fatter than Ever 14. Facts about Fats 27. Is Butter Really Better for Me?
Biotechnology	9. Genetic Engineering 10. Genetically Altered States	Fiber	21. Fiber 41. New Scientific Review Reaffirms Safety of MSG 53. Herbal Roulette
Cancer	5. Phytochemicals 11. Alcohol: Spirit of Health? 14. Facts about Fats 17. Trials of Beta-Carotene	Food and Drug Administration (FDA)	7. Taking the Fat Out of Food 9. Genetic Engineering 10. Genetically Altered States
Children	24. Kids Just Want to Have Fun 28. Vegetarian Diets 35. New Paradigm of Trust 57. Federal Food Assistance Programs	Food-borne Illness	36. Foodborne Illness: Role of Home Food Handling Practices 37. New Risks in Ground Beef Revealed 38. Botulinum Toxin 39. Mad Cow Madness 42. After the Glow
Controversies	7. Taking the Fat Out of Food 9. Genetic Engineering 19. Vitamin C 27. Is Butter Really Better for Me? 30. New Study Questions Weight Guidelines 42. After the Glow 53. Herbal Roulette 55. Averting a Global Food Crisis 59. Modern Farming Yields Bountiful Fields of Dreams	Food Safety	9. Genetic Engineering 10. Genetically Altered States 37. New Risks in Ground Beef Revealed 38. Botulinum Toxin 39. Mad Cow Madness 40. How Much Are Pesticides Hurting Your Health? 41. New Scientific Review Reaffirms Safety of MSG 42. After the Glow 43. Naturally Occurring Toxins
Coronary/Heart Disease	5. Phytochemicals 6. Taking Soy to Heart 11. Alcohol: Spirit of Health? 14. Facts about Fats 18. Vitamin E 27. Is Butter Really Better for Me?	Food Supply	55. Averting a Global Food Crisis 56. Nibbling at Famine's Edge 59. Modern Farming Yields Bountiful Fields of Dreams
Cultural Influence	22. Nutritional Implications of Ethnic and Cultural Diversity		

TOPIC AREA	TREATED IN	TOPIC AREA	TREATED IN
Guidelines/ Recommendations	2. 1995 Dietary Guidelines 3. Food Pyramid 4. Not-So-Great Mediterranean Diet Pyramid 5. Phytochemicals 8. Fast Food: Fatter than Ever 12. Should You Be Eating More Protein— or Less? 16. Vitamin A 20. Special Report: Iron Overkill 21. Fiber 24. Kids Just Want to Have Fun 26. Boning Up on Osteoporosis 28. Vegetarian Diets 30. New Study Questions Weight Guidelines 31. New Study Finds Higher Weight Protects Elderly 36. Foodborne Illness: Role of Home Food Handling Practices 37. New Risks in Ground Beef Revealed 38. Botulinum Toxin	Recommended Daily Allowances (RDA) Risk/Benefit	16. Vitamin A 19. Vitamin C 7. Taking the Fat Out of Food 9. Genetic Engineering 10. Genetically Altered States 11. Alcohol: Spirit of Health? 15. Food for Thought about Dietary Supplements 16. Vitamin A 17. Trials of Beta-Carotene 18. Vitamin E 19. Vitamin C 27. Is Butter Really Better for Me? 28. Vegetarian Diets 31. New Study Finds Higher Weight Protects Elderly 34. Surgery for Obesity 41. New Scientific Review Reaffirms Safety of MSG 42. After the Glow 43. Naturally Occurring Toxins 49. Vitamin Pushers and Food Quacks 53. Herbal Roulette
Herbals	53. Herbal Roulette 54. Herbal Warning		
Hunger/ Malnutrition	55. Averting a Global Food Crisis 56. Nibbling at Famine's Edge 57. Federal Food Assistance Programs 58. Thunder in the Distance	Sugar/Sugar Substitutes	13. What's Wrong with Sugar?
Labeling	33. Losing Weight Safely 50. Supplement Bill Passes	Supplements	15. Food for Thought about Dietary Supplements 16. Vitamin A 17. Trials of Beta-Carotene 18. Vitamin E 19. Vitamin C 49. Vitamin Pushers and Food Quacks 50. Supplement Bill Passes 51. Supplements Are Unnecessary to Enhance Athletic Performance 52. Nutrition Shortcut in a Can? 53. Herbal Roulette 54. Herbal Warning
Minerals	20. Special Report: Iron Overkill 25. Teens at Risk 26. Boning Up on Osteoporosis		
Myths/ Misinformation	13. What's Wrong with Sugar? 15. Food for Thought about Dietary Supplements 44. How Quackery Sells 47. Food for Thought 48. Why Do Those #&*?@! "Experts" Keep Changing Their Minds? 49. Vitamin Pushers and Food Quacks 51. Supplements Are Unnecessary to Enhance Athletic Performance	Teenagers	25. Teens at Risk
		Vegetarians	28. Vegetarian Diets
Obesity	25. Teens at Risk 29. Obesity: No Miracle Cure Yet	Vitamins	15. Food for Thought about Dietary Supplements 16. Vitamin A 17. Trials of Beta-Carotene 18. Vitamin E 19. Vitamin C 49. Vitamin Pushers and Food Quacks
Pesticides	40. How Much Are Pesticides Hurting Your Health?		
Phytochemicals	5. Phytochemicals		
Policy Decisions	2. 1995 Dietary Guidelines 50. Supplement Bill Passes	Weight/Weight Control	14. Facts about Fats 29. Obesity: No Miracle Cure Yet 30. New Study Questions Weight Guidelines 31. New Study Finds Higher Weight Protects Elderly 32. Dieting and Weight Loss Increase Osteoporosis Risk 33. Losing Weight Safely 34. Surgery for Obesity 35. New Paradigm of Trust
Pregnancy	16. Vitamin A 25. Teens at Risk		
Protein	12. Should You Be Eating More Protein— or Less? 28. Vegetarian Diets 51. Supplements Are Unnecessary to Enhance Athletic Performance		

Trends Today and Tomorrow

It is change, continuing change, inevitable change, that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be.

—Isaac Asimov

The average consumer is a phantom, constantly reshaping and reemerging under the influences of the food industry, the media, activist organizations, and whatever health messages are currently most persuasive. Years ago, for the sake of heart health, we were persuaded to switch from butter and lard to vegetable oil and margarine. Later, we obediently avoided tropical oils. Now we are told to beware of the trans fatty acids produced in the manufacture of solid margarines. Indeed, for the last half-century, Americans have been bombarded by health and nutrition messages and admonitions at an increasingly rapid rate, many of which have been misleading and contradictory. It is no wonder that consumers have become more and more confused and have grown disenchanted with conventional sources of advice. In a recent poll, half of the respondents reported being unhappy with conflicting information, and 81 percent said they would rather get information *after* nutrition and health professionals have reached consensus. As more and more people access the Internet, this problem may be exacerbated rather than alleviated.

All of this does not mean that Americans are unconcerned or disinterested in their dietary habits. The first article identifies several trends and issues of interest and concern to consumers, more than a third of whom indicate they are doing all they can to achieve a healthy diet. Americans say their priority issues for today are weight, dietary fat, and children's nutrition. That fat is of concern can be verified by the reduction of daily fat calories as a portion of meals from 40 percent in the 1970s to 34 percent in 1994. Paradoxically, total caloric intakes have increased during the same time period, causing many of us to gain eight pounds or more. Consumers also report that taste and time are high-priority issues. McDonald's McLean Deluxe burger, considered unpalatable by the public, has finally disappeared from the market, and it is reported that this chain will stop selling salads as well. In another development that contradicts good eating habits, many restaurants and fast-food chains report a move toward larger serving sizes. That we now spend 44 percent of our food budgets outside the home, double the

percentage since 1955, speaks to our willingness to go along with, even to promote, these trends.

New, lower-fat products are constantly entering the market. Fat replacers, which make many of these new items possible, are a hot news topic today, especially the recent controversial addition of Olestra, discussed in "Taking the Fat Out of Food." Even as snack chips made with Olestra are being market-tested in three states, the Center for Science in the Public Interest (CSPI) has accelerated its negative campaign. Limited approval from the FDA requires Procter & Gamble to monitor Olestra's effects and undergo a review within the next 30 months. Meanwhile, an announcement of a newer product called Z-Trim has already been made. If we want our lower fat in other ways, we might check out the low-calorie, low-fat ostrich meat now being ranch-raised in several western states or the two new lower-fat Girl Scout cookies. A low-cholesterol egg yolk product, already being used in food products, may soon reach the shelves as a stand-alone egg product as well.

Today's consumer is sophisticated and desirous of information about diets and food. Responses have come from government agencies and the food industry as well as professionals and voluntary associations. The revised Recommended Dietary Allowance (RDAs) are not yet published, but the 1995 Dietary Guidelines are now available and are discussed in the second article in this unit. Issued jointly by the U.S. Departments of Agriculture and Health and Human Services, their purpose is to provide advice to healthy Americans about the relationship between food choices and health. This edition has been changed to reflect a clear linkage to the Food Pyramid and the Nutrition Facts Label and emphasizes the advantages of fruits, vegetables, and grain products. A review of these guidelines is mandatory every five years, and publication of a new edition follows a lengthy process of literature review; solicitation of written comments from health professionals, trade organizations, and the public; and public hearings.

Perhaps an issue of greater significance than fat replacements is the controversy over whether to use butter or margarine, since the physiological effects of the trans fatty acids produced in hydrogenation may also be unhealthy. Does that mean, then, that the saturated fat in butter is less dangerous to health than margarine? The key issue is the *amount* of fat.

UNIT 1

Another trend worthy of note is the increased interest in food chemicals other than nutrients. Called phytochemicals, they represent an expanded knowledge of the chemical composition of normal foods and their potential for promoting good health and preventing diseases such as cancer and heart disease. More and more frequently we read about the possible advantages of isoflavones, saponins, flavinoids, phytoestrogens, and many others. The promises are great but are mostly unproven, making the balance between developing this new market and maintaining public health and safety a challenge. The best current wisdom dictates eating a wide variety of foods with emphasis on fruits, vegetables, and whole grains rather than on supplements or manufactured foods. Two articles on phytochemicals and soy products discuss these issues.

In "Genetic Engineering: Fast Forwarding to Future Goals," John Henkel relates the use of genetic engineering or biotechnology to produce modified, but familiar, foods. Reports indicate that the first genetically altered food, the Flavr Savr tomato, a vine-ripened fruit that has a prolonged shelf life, is well accepted. Other possibilities may be even more exciting in the future: disease- or insect-resistant crops, potatoes that absorb less fat, plants that resist freezing. Some see gene splicing as simply shortening the time required by older, more cumbersome plant

breeding programs. Others have worries about safety and ethical issues and public acceptance. The article "Genetically Altered States" reports that one of the concerns, the possibility of transferring a gene that will initiate allergies, has occurred. Fortunately, the industry involved responded in a proactive and highly responsible fashion.

Finally, an article on alcohol discusses the evidence regarding its benefits in protecting against heart disease and other conditions. As always, this is a case of "some will win and some will lose." Small deviations in the amount of alcohol consumed can spell the difference between benefit and risk.

In other news, a maroon-colored carrot, called Beta Sweet, is reported ready to enter the market by the end of this year. Originally bred to match the football colors at Texas A&M University, it was found to have six times the beta carotene of other carrots. Barbie dolls are promoting milk drinking by clutching a milk carton and wearing cow-print clothes. Coca-Cola is to have a newly contoured can, something else for those of us who must have change. And, of course, the big news includes the price wars being waged by the top three cereal companies, a response to a sluggish market. Thus we end another year.

Cultural change clearly is occurring in our lifetimes. An orange was a treat in the toe of my mother's Christmas stocking. As a child I had fresh oranges and orange juice in cans. For my daughters, frozen orange juice was commonplace. My grandchildren enjoy drinking it from sealed cartons and fortified with calcium, although all of the previous options remain. Which of the new food experiences being planned for us will we like, and which will retreat into oblivion? Perhaps all we can say with certainty is that there will be change.

Looking Ahead: Challenge Questions

What current consumer trends and trends in the food industry will and will not support healthier lifestyles?

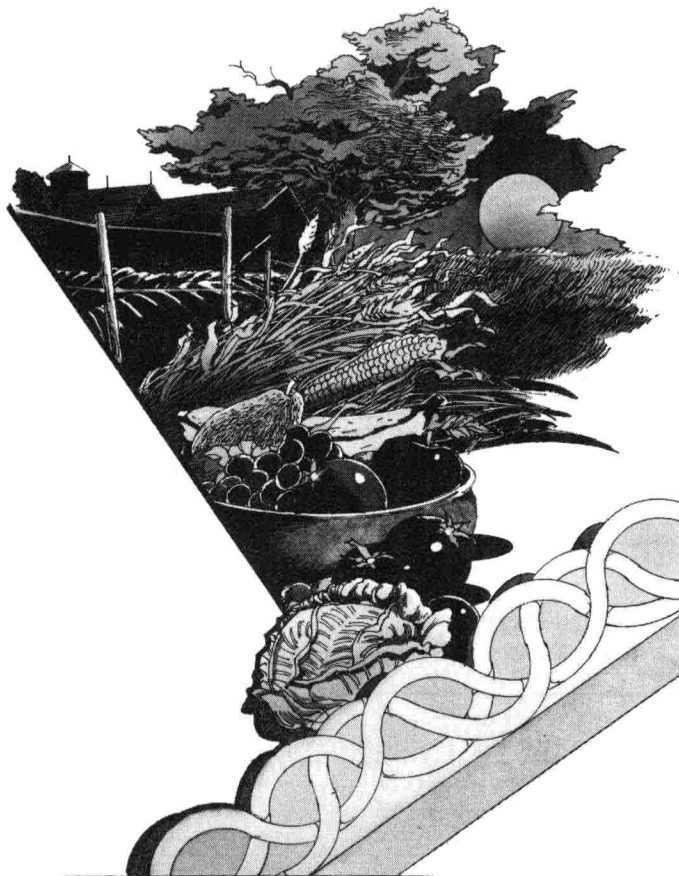
Based on Figure 1 in the article "Consumer Nutrition and Food Safety Trends 1996," identify specific organizations that fit each category. Which ones do you believe to be operating responsibly to assist the consumer?

Discuss the implications of promoting genetically engineered foods as they relate to health and ethical issues.

Compare the 1995 Dietary Guidelines to an earlier version. In what ways does the newest edition better represent good dietary practice? What further suggestions do you have for alteration?

What would be a knowledgeable consumer response to all of the information about phytochemicals and the availability of highly fortified foods?

Does change always equal progress? Why or why not? Give examples from the nutrition field.



Consumer Nutrition and Food Safety Trends 1996

An Update

Nine consumer nutrition and food safety trends, identified in 1995, have been revisited and updated to reflect the status of current consumer influencer activities. Major forces that influence the consumer nutrition environment have been closely scrutinized. Significant activities that have occurred in the last half of 1995 are put into perspective to anticipate what lies ahead for consumers in 1996.

KATHLEEN E. MCMAHON, Ph.D., R.D.

Kathleen E. McMahon, Ph.D., R.D., is Vice President, Nutrition and Scientific Communications, at Edelman Public Relations Worldwide. She has more than 10 years of consumer nutrition issues management and communications experience in the food industry. In addition, Dr. McMahon, a member of the American Institute of Nutrition, served on the Board of Directors of the Society for Nutrition Education from 1990 to 1993. Correspondence can be directed to Dr. McMahon at Edelman Public Relations, 200 East Randolph Drive, 63rd Floor, Chicago, IL 60601.

An approach to predicting and monitoring major consumer nutrition trends, based upon the activities of major consumer influencer groups, was extensively outlined previously.¹ This 1996 update analyzes recent key consumer influencer activities from the end of 1995 to gain insight into the nutrition and food safety issues consumers will face in 1996.

WHERE CONSUMERS ARE HEADING IN 1996

According to The American Dietetic Association (ADA) 1995 Nu-

trition Trends Survey,² only 35% of Americans are doing all they can to achieve a healthy diet, down from 44% in 1991 and 39% in 1993. Consumers' perceived obstacles continue to be taste, time, and confusion. Consumers report that the biggest source of their nutrition information is television (42%), fol-

lowed by magazines (39%) and newspapers (19%). However, 49% of consumers found the increasing level of news reports somewhat or very confusing. They found much of it negative and difficult to apply to their diets and lifestyle. This represents a challenge for each of the influencer groups to realize and

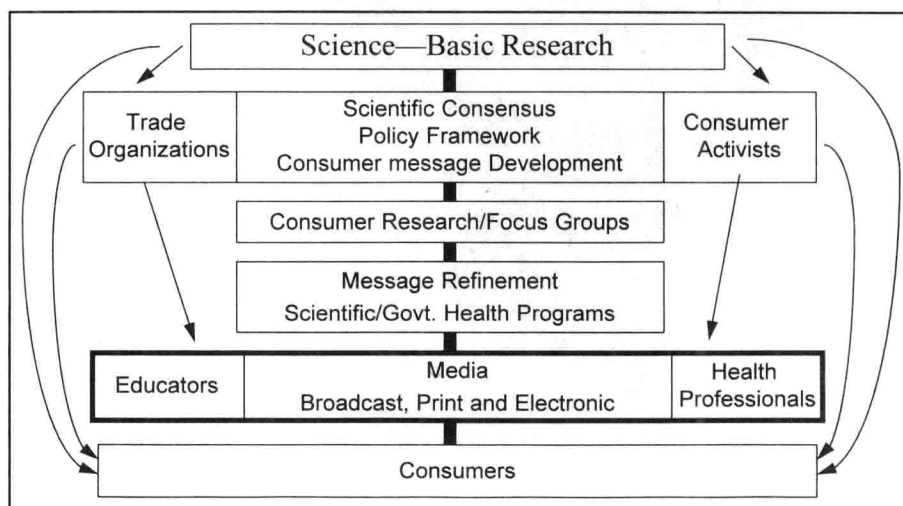


Figure 1. Communication flow from key influencers to consumers.