

HEALTHY PASTA MEALS

A Scientific Consensus Conference

Organized by
Oldways and International Pasta Organization

October 25-26, 2010

Rio de Janeiro, Brazil

~ Sofitel Hotel~



PROGRAM AND SCHEDULE OF ACTIVITIES

Monday, October 25

8:30 – 12:30

MORNING SESSIONS

Chairman and Moderator: Sara Baer-Sinnott

President, Oldways (Boston, United States)

Welcome

Simón Nobile Olivo, Chairman, International Pasta Organisation

Raffaello Ragolini, Secretary-General, International Pasta Organisation

Claudio Zañão, President, ABIMA and Chair, IV World Pasta Congress

8:30 – 8:50

Introduction and Context for the Scientific Consensus Conference on the Healthy Pasta Meal

Pasta meals are simultaneously ancient and contemporary; thousands of years ago our ancestors ground their dried wheat and mixed it with water to make a wheat paste, and then boiled it to eat with their meals. Today's families and chefs welcome pasta to their tables for its fine tastes and familiar convenience, just as nutrition scientists recognize pasta meals for their place in healthy eating patterns.

This high-level scientific conference will review the state of the nutrition science knowledge, and based on that knowledge, agree on an updated Scientific Consensus Statement about the healthy pasta meal.

Sara Baer-Sinnott

8:50 – 11:40
SCIENTIFIC PRESENTATIONS
THE LATEST RESEARCH AND SCIENTIFIC VIEWPOINTS

8:50 – 9:10

Pasta: A High-Quality Carbohydrate Food

This presentation will focus on low glycemic index diets in improving metabolic control along with recent findings from clinical and epidemiological studies, which suggest that pasta, and other low glycemic index foods may have particular relevance to those chronic Western diseases associated with central obesity and insulin resistance.

Cyril Kendall, PhD

*Professor and Research Scientist, University of Toronto
(Toronto, Canada)*

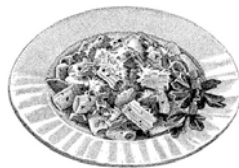
9:10 – 9:30

Obesity Is Not About Carbohydrates

Learn the results of a two-year weight loss trial, with specific strategies for inclusion of pasta in a dietary approach for weight loss.

Kathy McManus, MS, RD

Director of Nutrition, Brigham and Women's Hospital, a teaching affiliate of Harvard Medical School (Boston, United States)



9:30 – 9:50

Low-Carb Diets May Not Be Safe

The healthfulness and other attributes of the Mediterranean Diet are contrasted with the long-term health impact of low-carb diets. Dr. Migliaccio will represent findings from his work and that of his wife and colleague, **Maria Teresa Strumendo, MD**.

Pietro Antonio Migliaccio, MD

President, Societa Italiana di Scienze dell'Alimentazione (Rome, Italy)

9:50 – 10:10

The Importance of the Total Diet, and Pasta's Role in a Healthy Total Diet

Given that the type of diet consumed contributes to the development of prevention of chronic diseases, an overall emphasis on a total diet approach such as the Mediterranean Diet can be beneficial. Specific examples from Chile will also be presented.

Jaime Rozowski, PhD

*Professor of Medicine, Pontifical Catholic University of Chile
(Santiago, Chile)*

10:10 – 10:50
Coffee Break



10:50 – 11:10 **Pasta's Role in Encouraging Consumption of Other Healthy Foods (Pasta Is a Delivery System of Other Healthy Partners On The Plate)**

Balance and variety are the cornerstones of a healthy diet. A discussion of the positive role pasta can play in achieving balance and variety will be presented.

Emilce Ulate, MSc

*Director, School of Nutrition, University of Costa Rica
(San Jose, Costa Rica)*

11:10 – 11:20 **Commentary**

Rosamaria Da Re, PhD

*Professor, Department of Chemical and Food Engineering,
Mauá Technology Institute (São Paulo, Brazil)*

11:20 – 11:40 **Questions, Answers and Discussion**

11:40 – 12:30

ATTENDANCE AT THE IV WORLD PASTA CONGRESS

11:40 – 12:30 **Who is the Shopper?**

Carlos Coto

Kantar Worldpanel (Brazil)

12:30 – 14:00

Lunch

HEALTHY PASTA MEALS A LA BRAZIL



14:00 – 17:45
AFTERNOON SESSIONS

Chairman and Moderator: Sara Baer-Sinnott
President, Oldways (Boston, United States)

14:00 – 15:40
PANEL PRESENTATION AND Q&A
A GLOBAL ROUND-UP OF DIETARY GUIDELINE ADVICE ON PASTA AND CARBOHYDRATES

Scientists from different corners of the world will provide an overview of guidelines for carbohydrate consumption. Specific country examples will be presented, with a focus on food-based diets, including pasta.

Panelists:

- | | |
|--------------------|---|
| 14:00-14:20 | Oscar Herran, PhD
<i>Director, School of Nutrition and Dietetics, Industrial University of Santander (Bucaramanga, Colombia)</i> |
| 14:20-14:40 | Hector Bourges, MD, PhD
<i>Director of Nutrition, Salvador Zubiran National Institute of Medical Sciences and Nutrition (Mexico City, Mexico)</i> |
| 14:40-15:00 | Nuno Borges, PhD
<i>Professor of Pharmacology and Nutrition, University of Porto and University of Minho (Porto, Portugal)</i> |
| 15:00-15:20 | Gulden Pekcan, PhD
<i>Professor of Nutrition and Dietetics, Hacettepe University (Ankara, Turkey)</i> |
| 15:20-15:40 | Questions and Answers |

15:40 – 16:10
Coffee Break



16:10 – 17:40
PRESENTATIONS AND Q&A
SOCIOECONOMICS AND PASTA: THE OTHER PLUS FOR PASTA

- 16:10 – 16:30** **Pasta's Contribution to Reducing Obesity**
This presentation will demonstrate how a balanced diet, with the right quantity of complex carbohydrate foods, including pulses, rice, potatoes and pasta, is a good choice in long-term weight loss and management.

Marta Garaulet Aza, PhD
Professor of Physiology and Nutrition, University of Murcia (Murcia, Spain)
- 16:30 – 16:50** **Pasta's Contribution to Reducing Malnutrition**
Based on a recent study in Argentina, data will be presented about simple pasta meals as an affordable and nutritious food to help reduce malnutrition.

Sergio Britos
Principal Professor, School of Nutrition, University of Buenos Aires (Buenos Aires, Argentina)
- 16:50 – 17:10** **Pasta: Affordable, Healthy Eating Worldwide**
This presentation will review studies on the affordability of healthy eating, and the positive role that pasta plays around the world.

Cynthia Harriman
Director of Food and Nutrition Strategies, Oldways (Boston, United States)



- 17:10 – 17:40** **Commentary Questions & Answers**
- 17:40 – 17:45** **Closing Remarks**
Sara Baer-Sinnott
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EVENING
~ WORLD PASTA DAY GALA CELEBRATION ~



Tuesday, October 26
9:00 – 12:30
MORNING SESSIONS
SCIENTIFIC CONSENSUS STATEMENT AND COMMUNICATIONS

Chairman and Moderator: Sara Baer-Sinnott
President, Oldways (Boston, United States)

9:00-10:10 Panel Discussion Communicating Healthy Eating Messages

Specialists in communicating healthy eating messages will discuss the how best to reach consumers with the good news about the healthy pasta meal.

Moderator:
Kyle Potvin
Media Manager, Oldways (Boston, United States)

Panelists:
Vanderli Marchiori
Clinical Nutritionist, Private Practice (São Paulo, Brazil)

Christian Millman
Executive Editor, Taste of Home (Wisconsin, United States)

Nidia Solbeyh Vargas
Nutritionist and Dietitian, Nutriciontotal.org, (Caracas, Venezuela)

**10:10-12:30 Discussion and Final Agreement of the Points of the
Updated Scientific Consensus Statement**
What Are the Key Messages of the Updated Statement?



12:30 – 14:00
Lunch
HEALTHY PASTA MEALS A LA BRAZIL



14:00 – 16:20
Media Interviews and Attendance
at the IV World Pasta Congress

16:20
Presentation of the Scientific Consensus Statement
at the IV World Pasta Congress
Sara Baer-Sinnott
and
Members of the Scientific Consensus Committee

EVENING

~ SAMBA NIGHT ~



Speaker Bios and Abstracts



SARA BAER-SINNOTT

President, Oldways
(*Boston, United States*)



Sara Baer-Sinnott has been an instrumental figure at Oldways since its early days, joining the staff in 1992. After serving for many years as Executive Vice President, she assumed the presidency of Oldways in May 2010, on the untimely death of founder K. Dun Gifford.

She now develops company strategy, oversees all Oldways projects and programs, and works closely with members of the Oldways staff. In her years at Oldways, Sara has been an integral part of Oldways' ground-breaking programs including its Traditional Diet Pyramids; the Whole Grains Council; Healthy Pasta Meals; Managing Sweetness; High Five Children's Cooking Curriculum; Mediterranean Foods Alliance; and many others. She is also co-author of the *The Oldways Table* with Oldways' founder, the late K. Dun Gifford.

Before joining Oldways, Ms. Baer-Sinnott was the Special Projects Editor at Inc. Magazine, and she's also worked for state and federal government agencies. She has a B.A. in Economics from Hobart and William Smith Colleges, and an M.A. in Regional Planning from the University of Massachusetts at Amherst.

INTRODUCTION AND CONTEXT FOR THE SCIENTIFIC CONFERENCE ON THE HEALTHY PASTA MEAL

It has been more than six years since the 2004 Healthy Pasta Meals Conference in Rome successfully challenged the intense promotions for the Atkins Low-Carbohydrate Diet, resulting in the 2004 Healthy Pasta Meal Scientific Consensus Statement. With nutrition experts in most of the world's developed countries now focusing on obesity, and in particular, childhood obesity, it is time to update this Scientific Consensus Statement.

Our goal at the Conference will be to review the most recent research pertaining to health, obesity, nutrition, chronic disease, and carbohydrates, and to create an updated Scientific Consensus Statement on Healthy Pasta Meals that highlights the role of the healthy pasta meal in contributing to better health and nutrition.

NUNO BORGES, PhD

Professor of Pharmacology and Nutrition,
University of Porto and University of Minho
(*Porto, Portugal*)



Nuno Borges is a Nutritionist and Associate Professor of Pharmacology and Nutrition in the Universities of Porto and Minho, Portugal. He is the author or co-author of over 25 full papers in peer-reviewed scientific journals and several abstracts, posters and Congress conference presentations. His main research interests have evolved from basic pharmacology to several aspects of nutrition, including childhood obesity and metabolism.

Guidelines for carbohydrates: the European perspective

Guidelines for macronutrient distribution have been issued in many parts of the world, reflecting not only the available scientific data but also local traditions regarding food patterns.

In Europe, the European Food Safety Agency (EFSA) has recently (March 2010) released dietary guidelines for carbohydrates, fat and protein. Scientific data on this subject will be presented, and allowed EFSA to establish the lower limit of 45% and the upper limit of 60% for the contribution of carbohydrates to the total daily energetic value. These limits will be discussed and focus will be given on some European food patterns (namely, the Mediterranean diet) and the role of pasta in achieving these recommendations.

These values are in line with the ones from other regulatory institutions around the globe. Despite the metabolic fact that carbohydrates are not absolutely necessary to human survival, this major proportion of the daily energetic needs that is attributed to this group of substances clearly demonstrates its importance to human nutrition and health.

HECTOR BOURGES, MD, PhD

Director of Nutrition,
National Institute of Medical Sciences and Nutrition
(*Mexico City, Mexico*)



Hector Bourges is Director of Nutrition at the Salvador Zubirán National Institute for Medical Sciences and Nutrition, and lecturer in Nutrition at the National University of Mexico and Iberoamericana University. He is the author or co-author of over 200 scientific papers, 8 books and 60 book chapters and has obtained several awards, including the National Technology of Food Award.

DIETARY GUIDELINES FOR CARBOHYDRATES IN MEXICO

Mexican nutritional guidelines, which consider the local circumstances, resources and nutritional problems (child Protein-Energy Malnutrition (PEM) is still prevalent in many rural areas, iron deficiency anemia is highly prevalent, and increasing prevalence and precocity of the epidemics of obesity and co-morbidities), result from the Mexican Dietary Reference Values (DRV) 2005 and the NOM-043-SSA2-2005 Regulation of population dietary guidance (DG). The acceptable energy sources distribution range is Protein 12-15%, Fat 25-30%, Carbohydrate 55-63% [starches 45-53%, sucrose \leq 10%]. IDS (or AI) for carbohydrate is 60 grams at 0-6 months (from human milk), 95g at 7-12 months, and thereafter 130g (175g in the last third of pregnancy, and 210g during lactation).

SERGIO BRITOS

Professor, School of Nutrition, Faculty of Medicine,
University of Buenos Aires
(*Buenos Aires, Argentina*)



Sergio Britos is a Nutritionist with a postgraduate degree in agribusiness. He is a professor at the School of Nutrition, Faculty of Medicine at the University of Buenos Aires as well as a professor at the School of Nutrition, Faculty of Bromatology, at the University of Entre Ríos. Mr. Britos is the coordinator of the Unit of Agribusiness and Health at the Food and Agribusiness Program, Faculty of Agronomy, at the University of Buenos Aires. His focus and areas of interests are: food economy; food quality and affordability.

PASTA, MALNUTRITION AND AFFORDABILITY

In Argentina, recent surveys estimate that one out of three children below 6 years and one out of two adults are overweight, while 10% of children are affected by chronic malnutrition and about 20% have variable forms of nutrient inadequacies, or excess intake of nutrients that must be limited.

In the typical Argentine diet, the cereal category accounts for nearly 4 out of 10 calories, but pasta and particularly its simple form prepared from semolina has a low share of consumption.

Whether as a vehicle of good quality carbohydrates, or commonly deficient nutrients (iron and vitamin B) and vegetables, it is necessary that pasta, especially in its simple form be consumed in greater proportion in the diet of Argentines in general.

In a recent study by our team, we evaluate the quality of pasta and cereals, according to different criteria based on nutrient profiles. The results show that pasta, especially simple, has the best indices of quality, considering two groups of nutrients: those which must be limited and those to be promoted.

Also, pasta is one of the most important foods in terms of its affordability.

ROSAMARIA DA RE, PHD

Professor, Department of Chemical and Food Engineering,
Mauá Technology Institute
(*São Paulo, Brazil*)



Dr. Da Re is the Director of RDR Consulting and a Professor in the Post Graduate Program in the Department of Chemical and Food Engineering at the Mauá Technology Institute. She has over 20 years of experience in product development, quality and manufacturing of food products and supplies for the food industry.

She holds a PhD in Sensory Analysis and a Masters degree in Technology of Cereals , both from Campinas State University, and has a specialization in Administration from the University of São Paulo.

MARTA GARAULET AZA, PhD, DR.PH

Professor of Physiology and Nutrition, Department of
Physiology, University of Murcia (*Murcia, Spain*)



Marta Garaulet Aza, PhD, DrPH, is a Professor of Physiology and Nutrition in the Department of Physiology at the University of Murcia, Spain, where she is the director of the Obesity Research Group. Among her different lines of research she has been interested in the particular effect of the Mediterranean diet on weight loss and as a result she has developed a behavioural treatment based in the diet which has been shown to be effective in the treatment of obesity and other pathologies. Dr. Garaulet's recent research focuses on methods to improve the effectiveness of the dietary treatment of obesity by customizing treatment for the patient, using current techniques in chronobiology and nutri-genetics.

PASTA'S CONTRIBUTION TO REDUCING OBESITY

Theoretically, losing weight through diet should be easy, by producing an energy deficit in which energy intake is less than energy expenditure. However, dietitians know how difficult it is to instill correct eating habits in modern-day society, where it is so easy to obtain tasty, high-calorie food, and where any celebration is an excuse for overeating. The American National Institutes of Health (NIH) concluded the following in its guidelines for treating obesity: a) Reductions in calorie intake are accompanied by weight loss. B) Low-calorie diets have produced weight losses of approximately 10% of initial weight. C) Changes in diet composition based on reductions in fat level produce weight loss. Diets in which fat represents less than 30% total calorie intake help to lose weight.

In order to select the most appropriate diet for behavioral therapy (BT) it is important to remember the principle behind this type of therapy — changing a patient's habits with the aim of long-term change. Therefore, not all diets are useful for BT, even if they have demonstrated their usefulness for reducing bodyweight. Low carbohydrates have been the base of many popular diets, re-emerging in such diets as the Atkins diet and the Zone diet. The principle behind these diets is that too many carbohydrates render serum insulin levels higher, promoting fat storage. However, in the present lecture we will demonstrate how a balanced diet, with a sufficient quantity of complex carbohydrate foods, including pulses, rice, potatoes and pasta, is an adequate choice in weight loss, particularly for the long term.

CYNTHIA HARRIMAN

Director, Food and Nutrition Strategies, Oldways
(*Boston, United States*)



Cynthia Harriman came to Oldways in 2003 to help manage the Whole Grains Council, which has grown from six members to 250 under her stewardship. She managed the creation of standards and graphics for the Whole Grain Stamp, and helped it become a trusted symbol for aiding consumers in 21 countries to find thousands of whole grain products. As Director of Food and Nutrition Strategies for Oldways, she has also been instrumental in crafting compelling nutrition communication messages for all Oldways programs, in planning international conferences, and in reviewing and updating the scientific basis for Oldways' work.

Ms. Harriman is the author of scores of magazine articles and five books, including the well-known *Take Your Kids to Europe* (a family travel guide now in its eighth edition) and *Good Eats*, a cookbook and nutrition guide for college students limited to six ingredients and two pans. She received her degree in French Culture and Language from Brown University.

PASTA: AFFORDABLE, HEALTHY EATING WORLDWIDE

It's widely believed that only those with higher incomes can afford to eat well and maintain a healthy body weight. But are food costs really to blame for the obesity and hunger that, often at the same time, disproportionately affect lower socio-economic groups? This presentation will review selected studies on the affordability of healthy eating – including new research that shows the role played by the *perception* of affordability – and present cost-comparisons that focus on the positive role that pasta plays, worldwide, in providing healthy and balanced meals to those of all economic levels.

OSCAR F. HERRÁN, MSc

Professor of Epidemiology and Nutrition, School of Nutrition,
Industrial University of Santander
(*Bucaramanga, Colombia*)



Oscar F. Herrán is a titular professor at the Universidad Industrial de Santander and is currently the director of its School of Nutrition. He has published about 40 scientific papers on diet quality and food security in Colombia. His work has focused on the correct measurement of dietary intake, alcohol consumption and food security. Recently, he developed and validated simplified questionnaires (FFQ) to adequately study the relationship of diet and cancer, and of diet and cardiovascular disease, in Colombia.

QUALITY OF DIET AND FOOD SECURITY IN COLOMBIA

In Colombia the nutritional transition is shown in modifying the balance of the total caloric value. Unlike what is happening in other societies, Colombia has not seen a decline in consumption of carbohydrates in favor of fat or protein, despite the existence of high levels of poverty. In 2009 a dietary survey was conducted with 1505 subjects, since both increasing age and gender (women) are associated with obesity. The consumption of diets high in carbohydrates (> 65%) was a protective factor for the development of obesity RR 0.45 (CI 95%;0.21 to 0.95). Food insecurity arising from the consumption of energy in individuals is 56.9%, and 59.3% of households.

CYRIL KENDALL, PHD

Research Associate, Department of Nutritional Sciences,
University of Toronto
(*Toronto, Canada*)



Cyril Kendall is a Research Associate in the Department of Nutritional Sciences, Faculty of Medicine, University of Toronto, and the Clinical Nutrition and Risk Factor Modification Center, St. Michael's Hospital and an Adjunct Professor in the Department of Pharmacy, College of Pharmacy and Nutrition at the University of Saskatchewan. His primary research interests are the role of diet in the prevention and treatment of chronic disease (cardiovascular disease, diabetes and obesity) and the development of functional foods and nutraceuticals to control these disease states. He has published more than 100 papers on these topics.

PASTA – A HIGH-QUALITY CARBOHYDRATE FOOD

The recent debate on saturated fat versus carbohydrate for cardiovascular health has helped to refocus attention on the quality of carbohydrate. The glycemic index concept was developed by Jenkins and colleagues, 30 years ago. Early studies demonstrated starchy carbohydrate foods had very different effects on postprandial blood glucose and insulin responses in healthy and diabetic subjects depending on the rate of digestion. Pasta, along with other carbohydrate rich foods found in traditional diets, was found to have a low glycemic index. Dr. Kendall will discuss the current debate regarding the effectiveness of low GI diets in improving metabolic control along with recent findings from clinical and epidemiological studies which suggest that pasta and other low glycemic index foods may have particular relevance to those chronic Western diseases associated with central obesity and insulin resistance.

VANDERLI MARCHIORI
Clinical Nutritionist, Private Practice
(*São Paulo, Brazil*)



Dra. Vanderli Marchiori is a clinical nutritionist with a private practice. She graduated from São Camilo College with continuing education extension in Natural Medicine from Manchester Institute. She is responsible for private patients' care by using nutritional education based on biomolecular and phytotherapeutic principles.

Dra. Marchiori is also a Consultant nutritionist for the magazines *Boa Forma*, *Saúde*, *Claudia* (April issue) and for technical journals, major newspapers, the Gazeta TV show *Prá Você*, the Rede Mulher TV show *Mulheres em Foco* and for the Record Network News on the show *Qualidade de Vida*. Additionally, she does consulting work for educational institutions and enterprises in the areas of food, functional nutrition, phytotherapy, quality of life and technical formulation of functional foods.

She is a Guest Professor at the University Hospital of Belém do Pará and several other universities such as PUC-PR, FAMEBLU, FAMERP, São Judas, for the Graduate Course in Nutrition. Dra. Marchiori is also the founder and Executive Secretary of The Brazilian Society of Sports Nutrition, and is a collaborator for the Board of APAN (Associação Paulista de Nutrition).

KATHY McMANUS MS, RD

Director of Nutrition, Brigham and Women's Hospital,
a teaching affiliate of Harvard Medical School
(*Boston, United States*)



Kathy McManus is the Director of Nutrition and the Director of the Dietetic Internship at the Brigham and Women's Hospital. In addition she serves as the Director of Nutrition and Behavior Modification Programs for the Program for Weight Management at the Brigham. She recently served as a co-investigator on an NIH funded obesity study, the POUNDS LOST Trial. Her research interests include interventions for long-term weight management.

PREVENTION OF OBESITY USING NOVEL DIETARY STRATEGIES: THE POUNDS LOST TRIAL

There has been intense interest regarding what diets are most effective in treating obesity – those that emphasize protein, carbohydrate or fat. Many weight loss trials have been published showing effectiveness in the short term. However, the obesity epidemic continues and long-term weight loss data is limited. Most people continue to struggle with losing weight and maintaining lost weight. Ms McManus will discuss the results of a two year randomized trial of weight loss and share practical strategies of how pasta can be a part of a healthy dietary approach for weight loss.

PIETRO ANTONIO MIGLIACCIO, MD

President, Società Italiana di Scienze dell'Alimentazione
(*Rome, Italy*)



Pietro Antonio Migliaccio, is a medical doctor, a professor of nutrition science, a nutritionist, and a specialist in gastroenterology.

He is the president of “Società Italiana di Scienze dell'Alimentazione” (S.I.S.A). He started his career as researcher in INRAN (Istituto Nazionale Ricerca Alimenti e Nutrizione-Rome); he is the author and co-author of over 300 scientific papers and he is considered one of the most highly-regarded experts of Nutrition Science in Italy.

LOW-CARB DIETS MAY NOT BE SAFE

The Mediterranean diet is associated with a significant improvement in health status, as seen by a significant reduction in overall mortality, mortality from cardiovascular disease, incidence of mortality from cancer and incidence of Parkinson's and Alzheimer's diseases. This is the result of cumulative analysis of all studies performed since 1996.

My presentation shows the main points of the Mediterranean diet, the relationship between nutrients and how the different foods are divided into five groups. Low carbohydrate diets and the role of pasta on normocaloric and hypocaloric diets are examined.

Data from clinical studies have demonstrated that a low carbohydrate diet could be extremely unhealthy leading to several side effects in many organs.

CHRISTIAN MILLMAN
Executive Editor, Taste of Home
(*Wisconsin, United States*)



Christian Millman is the executive editor of the Taste of Home brand. Taste of Home (www.tasteofhome.com) is a multi-platform provider of food, cooking and entertaining content, connecting home cooks with deeply engaging media that express the joy, comfort and community of food made with love. Taste of Home magazines, cookbooks, and other publications celebrate how America *really* eats. With a circulation of 3.2 million, our flagship magazine, *Taste of Home*, is the largest food magazine in the world.

Millman joined Taste of Home in 2009. Previously, he had been a deputy editor at *Better Homes and Gardens* magazine and a writer and editor for various Rodale brands, including *Prevention* and *Men's Health*.

GÜLDEN PEKCAN, PHD

Professor of Nutrition and Dietetics, Hacettepe University
(Ankara, Turkey)



GülDen Pekcan earned her PhD in Nutrition and Food Sciences and is currently a professor and head of the Community Nutrition Division in Hacettepe University Department of Nutrition and Dietetics. She is a member of several national scientific committees (iodine deficiency disorders and iodisation of salt, prevention of iron deficiency anemia, bone health and vitamin D deficiency, National Codex Committee on nutrition and foods for special dietary uses, etc.) and local coordinator of EU F6 project EUROPREVOB and participant of BRAFO project. Her interests are: nutritional assessment, nutritional anthropometry, nutritional problems, and food and nutrition policies.

WHO GLOBAL STRATEGY ON DIET, PHYSICAL ACTIVITY AND HEALTH: NATIONAL MEASURES TAKING EFFECT IN TURKEY

Noncommunicable diseases (NCDs) are by far the leading cause of mortality in the world. NCDs are largely preventable and a small set of modifiable risk factors – unhealthy diet, physical inactivity and tobacco use – are responsible for most of the major NCDs. In response to the growing global epidemic of NCDs, WHO developed the Global Strategy on Diet, Physical Activity and Health (DPAS) in 2004. In 2003, the Joint WHO/FAO Expert Consultation recommended population nutrient intake goals for consideration by national bodies establishing dietary recommendations for prevention. Total energy intake from carbohydrates, fats and proteins should be 55–75% ($\leq 10\%$ as free or added sugar), 15–30% (or $\leq 30\%$ and $\leq 10\%$ of total energy as saturated fatty acids) and 10–15%, respectively. Appropriate intake of fruits and vegetables ($>400\text{g/day}$, excluding tubers), legumes and whole grain cereals is likely to provide $>20\text{ g}$ per day of non-starch polysaccharides (NSP) and $>25\text{ g}$ per day of total dietary fiber. Carbohydrates and fats are the principal energy source in the diets of most people. The nature of carbohydrate is of considerable importance. Fruits, vegetables, legumes and cereals (preferably whole grains) are the most appropriate sources of carbohydrates and are rich in dietary fiber. Many of these foods, especially those that are high in dietary fiber, reduce the risk of NCDs, and help to improve glycaemic control and obesity. In Turkey, a food-based dietary guideline was developed and an “Obesity Prevention and Control Action Plan” was prepared and adopted.

KYLE POTVIN
Media Manager, Oldways
(*Boston, United States*)



Kyle works closely with Oldways to create and communicate important health messages designed to help change the way people eat. She has spent much of her 20 years in the PR industry promoting food and nutrition. Over the years she has worked with familiar brands such as Domino's Pizza, National Starch Food Innovation, Jersey Mike's Subs, Bertolli Olive Oil, Russell Stover Candies, H.J. Heinz and more. Her articles on PR and communications have appeared in Brandweek, PR Tactics, About.com, O'Dwyer's PR Services Report and Women's Business Boston, among others. She is the co-author of Kitchen Science (Houghton Mifflin Company). A graduate of the University of Connecticut, Ms. Potvin received a B.A. in English and French. Her undergraduate education includes a year at the Université de Haute Normandie in Rouen, France.

JAIME ROZOWSKI, PhD

Professor of Nutrition, School of Medicine,
Catholic University of Chile
(*Santiago, Chile*)



Jaime Rozowski is the Director of the Graduate Program in Nutrition in the Department of Nutrition, Diabetes and Metabolism, as well as the Director of the Nutrition Intervention Unit at the University. His research interests include the role of nutrition in the prevention of chronic diseases, and the prevention of obesity in children. Before joining the Catholic University in 1993 he was a faculty member of the Institute of Human Nutrition at Columbia University in New York.

THE IMPORTANCE OF THE TOTAL DIET, AND PASTA'S ROLE IN A HEALTHY TOTAL DIET

The type of diet consumed by populations contributes to the development or prevention of chronic diseases. The Chilean diet has suffered a change in the last decades shown by an increased consumption of fats, high caloric foods and salt. Our interest in the Mediterranean Diet originated from a study of lifestyle, including nutrition, of a group of adults in Providencia, a county of Santiago. We observed that this group consumed a diet very similar to the Mediterranean Diet and that their indicators of cardiovascular health were significantly better than Chileans consuming a western-type diet. We then conducted a study in which these indicators were followed in a group of adults where the food offered at work was changed according to the Mediterranean Diet. In my presentation I will discuss these studies and the changes that the Chilean diet has shown in the last decades.

EMILCE ULATE, MSc.

Professor of Nutrition, School of Nutrition,
University of Costa Rica
(*San Jose, Costa Rica*)



Emilce Ulate is the Director of the School of Nutrition at the University of Costa Rica. She has been working the last 15 years to promote a healthy lifestyle. She has developed a group counseling methodology to lose weight and control blood glucose for diabetic people. Her research interest is nutrition, especially diet therapy for obesity, diabetes and hypertension.

PASTA'S ROLE IN ENCOURAGING CONSUMPTION OF OTHER HEALTHY FOODS (A DELIVERY SYSTEM FOR OTHER HEALTHY PARTNERS ON THE PLATE)

A healthy diet has two special characteristics; it has a balanced distribution of macronutrients (carbohydrates 50-60%, proteins 15-20% and fat 20-30% of total energy) and it includes an important variety of foods, especially grains, cereals, pastas, legumes, vegetables, fruits, skim dairy products, nuts and healthy oils. Low carbohydrate diets have some negative effects due to the need of the nervous system and the red blood cells for glucose as their sole energetic source. For this reason, insufficient carbohydrates in the diet drive the organism to catabolize lean tissues in order to get glucose. This lean tissue burning process diminishes the quantity of muscles, including heart muscle mass. A dieter who loses 7 pounds in two days on a low carb diet may not realize that only 1 or 2 of those pounds represent loss of fat, while the other 5 to 6 pounds are the result of loss of lean tissue, water and minerals. Once the dieter returns to a balanced diet, the body avidly regains energy and nutrients in the shape of fat bouncing back to a weight equal or higher than the original. Fad diets usually are more hazardous to health than obesity itself. Pastas are a very good alternative to eat right. They are an important source of slow release carbohydrates, vitamins and minerals. In addition, the traditional way to prepare pastas adds other healthy foods to the diet like vegetables (tomato, garlic, carrots, spinach, etc.), meats, cheese and different types of oils, which provide a good source of micronutrients and antioxidants.

NIDIA SOLBEYH VARGAS

Nutritionist and Dietitian, NutricionTotal.org
(*Caracas, Venezuela*)



Nidia S. Vargas is a Nutritionist / Dietitian who graduated from the Universidad Central de Venezuela (UCV). She earned her post-graduate degree as a Specialist in Clinical Nutrition from the Universidad Simón Bolívar of Venezuela and is a member of the National Association of Nutritionists and Dietitians of Venezuela (CNDV). She is part of the professional team at the nutrition education portal www.NutricionTotal.org, which benefits from her extensive experience in the clinical nutrition management of obese and malnourished patients.

Scientific References



IV World Pasta Congress

Scientific References

Our world is a planet of plenty, capable of growing abundant food for all of its 6.8 billion people. Yet, largely due to problems of food distribution – too much for some people, too little for others – hunger, malnutrition, and obesity (and sometimes a combination of these simultaneously) affect an increasing percentage of the world's population. Pasta can be part of the solution to these problems.

Pasta is affordable. In almost every country in the world, pasta is widely available at prices affordable up and down the socio-economic ladder. Pasta's value as a nutrient-dense, low-cost food makes it an important tool in the fight against hunger.

Pasta is healthy. At a time when diabetes and obesity are rising around the world, pasta can play a rôle in blood sugar control (since it's low in glycemic impact) and in weight control (since a cup has only about 200 calories). Pasta also rates high in food safety – it's clean and shelf-stable, without any extra additives or preservatives. And an added bonus: eaten after it's cooled (as in a pasta salad) pasta offers a higher level of natural resistant starch, to help weight control, glycemic management and digestive health.

Pasta encourages balanced meals. Pasta is virtually never eaten alone. Whether it's enjoyed with broth and vegetables as a soup, or with vegetables, healthy oils and lean proteins as a pasta meal, pasta encourages consumption of healthy foods from different food groups that complement the nutrition of its grains.

This section of the program book includes references that will give context to the scientific discussions of the conference including:

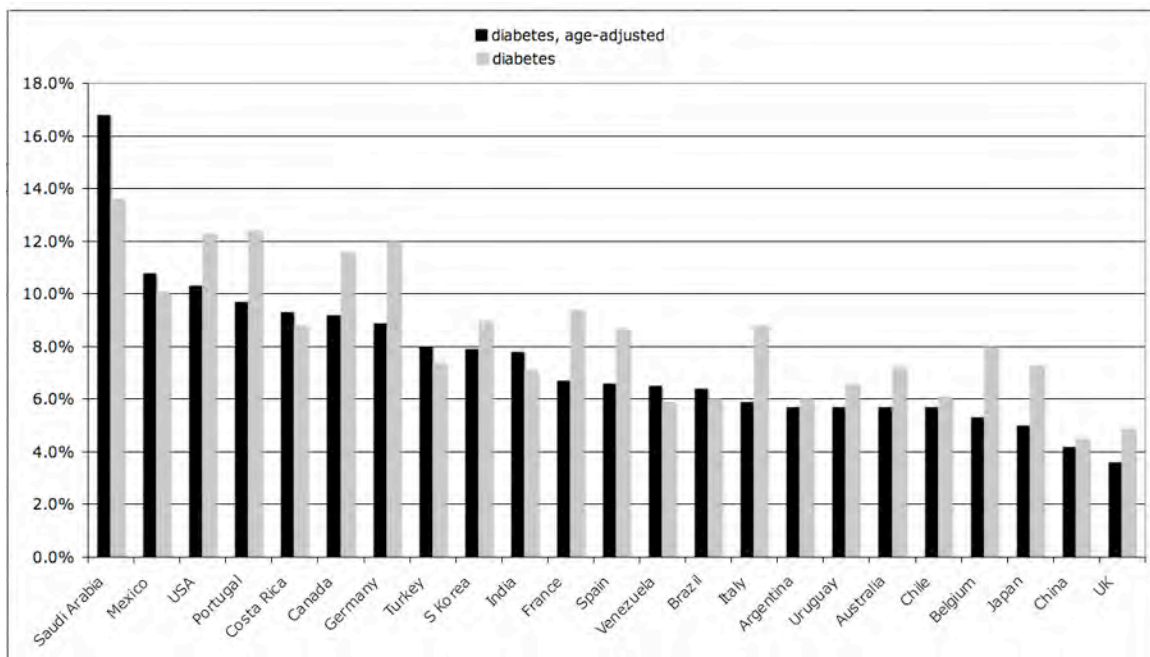
- Data on the incidence of diabetes, in key countries.
- Data on the incidence of overweight and obesity, in key countries.
- Examples of the nutrients in a range of balanced, healthy pasta meals.
- Information about the surprisingly low glycemic index of pasta
- Illustrations of the affordability of pasta.
- Recent research that supports key scientific points of the Consensus Meeting.

Diabetes is Growing Around the World

Diabetes is a growing problem in almost every nation in the world. The figures below show the percent of adults estimated to be diabetic in each country (the lighter bars), along with an age-adjusted rate that takes into consideration whether a country's population is largely young or larger older – and that, therefore, allows more meaningful comparisons from country to country.

A few examples illustrate the difference between the two bars on the chart.

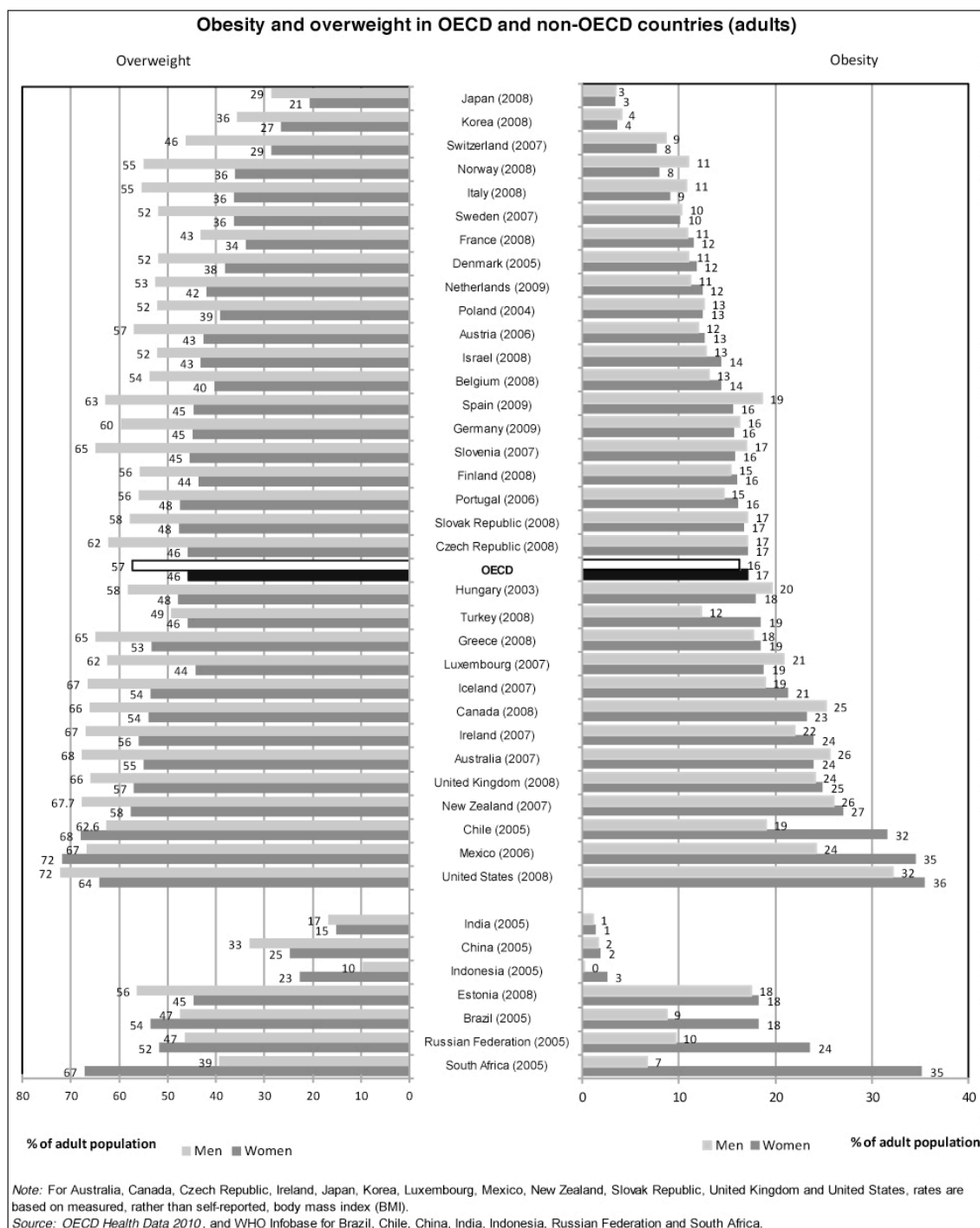
- In Japan, where 22.7% of the population is 65 or older, the “raw” rate of diabetes is 7.3%. Because the presence of a disproportionate number of older people makes it likelier that any particular adult will have diabetes, this rate is “age-adjusted” down to 5.0%.
- In Saudia Arabia, by contrast, only 2.5% of the population is 65 or older. All things being equal, this country would have a lower diabetes rate as its citizens are, on average, much younger. This means that Saudi Arabia's already-high “raw” diabetes rate of 13.6% of the adult population is “age-adjusted” even higher, to 16.8%.



Source: *International Diabetes Federation Diabetes Atlas*
www.diabetesatlas.org/content/prevalence-estimates-diabetes-mellitus-dm-2010

Overweight and Obesity: Rising Rapidly

The chart below shows overweight for adult men (lighter bars) and women (darker bars) on the left, with obesity on the right. Please note that the bars on the overweight side include both overweight and obese adults. For example, 72% of men in the United States are overweight, *including* 32% of adult men who are obese.



Healthy Pasta Meals

There's a healthy way and an unhealthy way to eat most foods—even the best ones. Overdose on carrots, for instance, and your skin takes on an orange tinge. It's all about balance.

Traditional pasta meals are a healthy balance of protein, fat and carbohydrates. A traditional pasta meal starts with good durum-wheat pasta as a base, and comes to the plate with healthy partners like olive oil, tomatoes, onions, spinach, fish, beans, garlic, and a tablespoon or two of good cheese.

Today's updated pasta meal may use pasta made from different grains, and combined with different choices of vegetables and lean proteins, while the principle of balance of nutrients, textures, colors and flavors remains the same.

But too often, at home and in foodservice outlets, these basic tenets of a healthy pasta meal are forgotten. Pasta is sometimes served in enormous portions. Vegetables, beans and fish are replaced by heavy sauces made of saturated and trans fats, cellulose gel, and added sugars.

The following two pages illustrate this vividly. The first page shows nutritional analyses of six traditional pasta meals, while the second analyzes two processed commercial pasta meals and one meal from a fast-food chain.

It's important to note that these analyses use a serving size of two cups, rather than unrealistically small standard servings set in some government guidelines. We believe this is a better reflection of what people really eat—in fact, too many people eat portions even larger than two cups!

Our analyses point to an inescapable conclusion: Stick to the old ways of eating pasta meals, and you'll be rewarded by good health and good taste.



Six Traditional Pasta Meals

Below are the Nutrition Facts for six traditional pasta recipes, cooked from scratch and served in traditional portion sizes. As these nutritional analyses show, almost all pasta meals are good sources of calcium and iron. Add vegetables, for Vitamins A and C... fish, meat or eggs for protein... beans for fiber... and a pasta meal fills many of your body's needs while it delights your taste buds.

Pasta Pomodoro (pasta with tomato sauce)	
Nutrition Facts	
serving size 2 cups (231 g or 8.1 oz.)	
Amount Per Serving	
Calories 479	Calories from Fat 134
% Daily Value	
Total Fat 15g	24%
Saturated Fat 3g	16%
Cholesterol 7mg	2%
Sodium 263mg	11%
Total Carbohydrate 70g	23%
Dietary Fiber 4g	15%
Sugars 5g	
Protein 15g	
Vitamin A 19%	Vitamin C 27%
Calcium 13%	Iron 21%

Pasta Pomodoro ingredients:

Spaghetti, tomatoes, onion, parmesan cheese, olive oil, parsley, garlic, salt, pepper.

Spaghetti con Aglio e Olio (pasta with oil & garlic)	
Nutrition Facts	
serving size 2 cups (170 g or 6 oz.)	
Amount Per Serving	
Calories 740	Calories from Fat 270
% Daily Value	
Total Fat 31g	47%
Saturated Fat 6g	29%
Cholesterol 11mg	4%
Sodium 371mg	15%
Total Carbohydrate 94g	31%
Dietary Fiber 3g	13%
Sugars 2g	
Protein 21g	
Vitamin A 9%	Vitamin C 12%
Calcium 17%	Iron 30%

Pasta Aglio e Olio ingredients:

Spaghetti, parmesan cheese, olive oil, parsley, garlic, salt, pepper.

Pasta e Fagioli (pasta with beans)	
Nutrition Facts	
serving size 2 cups (355 g or 12.5 oz.)	
Amount Per Serving	
Calories 677	Calories from Fat 261
% Daily Value	
Total Fat 30g	46%
Saturated Fat 5g	27%
Cholesterol 8mg	3%
Sodium 349mg	15%
Total Carbohydrate 81g	27%
Dietary Fiber 14g	55%
Sugars 3g	
Protein 23g	
Vitamin A 1%	Vitamin C 6%
Calcium 23%	Iron 27%

Pasta e Fagioli ingredients:

Great Northern beans, spaghetti, onions, parmesan cheese, olive oil, rosemary, salt, pepper.

Pasta con Vongole (pasta with clams)	
Nutrition Facts	
serving size 2 cups (239 g or 8.4 oz.)	
Amount Per Serving	
Calories 642	Calories from Fat 222
% Daily Value	
Total Fat 25g	39%
Saturated Fat 5g	23%
Cholesterol 64mg	21%
Sodium 474mg	20%
Total Carbohydrate 66g	22%
Dietary Fiber 2g	15%
Sugars 2g	
Protein 35g	
Vitamin A 17%	Vitamin C 39%
Calcium 21%	Iron 148%

Pasta Vongole ingredients:

Spaghetti, clams, olive oil, parmesan cheese, parsley, garlic, salt, pepper.

Spaghetti alla Carbonara (pasta with bacon & eggs)	
Nutrition Facts	
serving size 2 cups (191 g or 6.7 oz.)	
Amount Per Serving	
Calories 666	Calories from Fat 227
% Daily Value	
Total Fat 25g	39%
Saturated Fat 9g	46%
Cholesterol 183mg	61%
Sodium 740mg	31%
Total Carbohydrate 79g	26%
Dietary Fiber 3g	10%
Sugars 2g	
Protein 28g	
Vitamin A 5%	Vitamin C 0%
Calcium 21%	Iron 28%

Pasta Carbonara ingredients:

Spaghetti, eggs, bacon, parmesan cheese, garlic, salt, pepper.

Pasta Primavera (pasta with vegetables)	
Nutrition Facts	
serving size 2 cups (200 g or 7.1 oz.)	
Amount Per Serving	
Calories 544	Calories from Fat 162
% Daily Value	
Total Fat 18g	28%
Saturated Fat 4g	19%
Cholesterol 9mg	3%
Sodium 262mg	11%
Total Carbohydrate 77g	26%
Dietary Fiber 3g	14%
Sugars 4g	
Protein 17g	
Vitamin A 20%	Vitamin C 51%
Calcium 14%	Iron 23%

Pasta Primavera ingredients:

Spaghetti, tomatoes, sweet red peppers, onions, zucchini, spinach, parmesan cheese, olive oil, garlic, salt, pepper.

Three Commercial Pasta Meals

Packaged commercial pasta meals and their fast-food counterparts generally have higher sodium content and fewer phytonutrients. The boxed macaroni and cheese, for instance, gets its Vitamin A from milk and margarine rather than vegetables. And even with the addition of meatballs, the protein in the canned meal is meager. The serving size at the fast food chain is a full pound-and-a-quarter of food—more than twice the size of a traditional pasta meal.

All of us who support pasta should encourage commercial pasta to be more widely available in the same types of healthy pasta meals usually cooked from scratch. And indeed, many leading companies are now meeting this need.

A note on serving sizes:

Most traditional recipes result in serving sizes of about 2 cups. (A recipe that “serves 4” would make about 8 cups volume.) We have used this serving size on both the previous page and this page, to make fair comparisons based on realistic quantities. This page has one exception: We assumed the entire order for the fast food entree. We do not know its volume in cups, and feel that most people would eat the whole order.

Spaghetti and Meatballs (canned entree)			
Nutrition Facts			
serving size 2 cups (514 g or 18.1 oz.)			
Amount Per Serving			
Calories	540	Calories from Fat	200
% Daily Value			
Total Fat	22g		34%
Saturated Fat	10g		50%
Cholesterol	50mg		16%
Sodium	2100mg		88%
Total Carbohydrate	68g		22%
Dietary Fiber	4g		16%
Sugars	16g		
Protein	18g		
Vitamin A	20%	Vitamin C	0%
Calcium	4%	Iron	20%

Canned Pasta ingredients:

Tomatoes (water, tomato puree), cooked enriched spaghetti (semolina wheat flour, wheat gluten, glyceryl monostearate, niacin, iron, thiamine mononitrate (Vitamin B1), riboflavin (Vitamin B2) and folic acid), water, beef, high fructose corn syrup, contains less than 2% of cracker meal (wheat flour, niacin, iron, thiamine mononitrate (Vitamin B1), riboflavin (Vitamin B2) and folic acid), salt, modified food starch, soy protein concentrate, onions, citric acid, monosodium glutamate, hydrolyzed corn, soy and wheat protein, caramel coloring, flavorings, enzyme-modified cheese [cheddar cheese (pasteurized milk, cultures, salt, enzymes)] and soybean oil.

Macaroni and Cheese (made from a box)			
Nutrition Facts			
serving size 2 cups prepared with margarine & 2% milk			
Amount Per Serving			
Calories	820	Calories from Fat	320
% Daily Value			
Total Fat	37g		56%
Saturated Fat	9g		46%
Cholesterol	10mg		6%
Sodium	1520mg		64%
Total Carbohydrate	98g		32%
Dietary Fiber	4g		16%
Sugars	18g		
Protein	22g		
Vitamin A	40%	Vitamin C	0%
Calcium	30%	Iron	30%

Boxed Pasta ingredients:

Enriched macaroni product (wheat flour, niacin, ferrous sulfate [iron], thiamine mononitrate [vitamin B1], riboflavin [vitamin B2], folic acid); cheese sauce (whey, granular and cheddar cheese [milk, cheese culture, salt, enzymes], whey protein concentrate, salt, food starch-modified, sodium tripolyphosphate, cream, citric acid, sodium phosphate, cellulose gel, cellulose gum, beta carotene [color].

Spaghetti with Sauce (fast food chain)			
Nutrition Facts			
serving size 1 order (567 g or 20 oz.)			
Amount Per Serving			
Calories	820	Calories from Fat	252
% Daily Value			
Total Fat	28g		41%
Saturated Fat	N/A		0%
Cholesterol	0mg		0%
Sodium	890mg		37%
Total Carbohydrate	120g		38%
Dietary Fiber	10g		40%
Sugars	N/A		
Protein	20g		
Vitamin A	NA	Vitamin C	NA
Calcium	NA	Iron	NA

Fast Food Pasta ingredients:

Not available.

Pasta's Surprisingly Low Glycemic Index

In 1981 David Jenkins and colleagues proposed the glycemic index as a tool to rank foods according to how rapidly their carbohydrate contents are converted to glucose. His work, and that of other pioneers including Jennie Brand-Miller, taught us that some foods act like logs in the fireplace of our bodies, churning out slow and steady energy—while others act more like paper, creating a quick flash of energy that soon leaves the fire cold.

Glycemic index is a useful tool that furthered our understanding of the importance of eating a variety of carbohydrates, especially low-glycemic-index ones that give us steady, long-lasting energy.

The glycemic index of a food depends on many different factors.

- Acid lowers glycemic index, so yogurt has a lower GI than milk.
- Fat lowers GI, so a doughnut has a lower GI than a baguette.
- Smaller particle size increases GI, so wheatberries have a lower GI than wheat flakes.

Various cooking and processing procedures also affect GI. In general, if a food has been broken down by cooking or processing, there's less work our bodies need to do to turn the carbs in that food to blood sugar (glucose) – just as, when logs have been split or chopped into kindling, they burn more quickly.

The glycemic index generally divides foods into three groups:

High.....	GI of 70 or more
Medium	GI of 56 to 69
Low.....	GI of 55 or less

Pasta stands out among the grain foods for its low glycemic index, keeping company in the “low” group with most fruits, vegetables, and legumes . Why is this? According to the University of Sydney:

Pasta has a low GI because of the physical entrapment of ungelatinised starch granules in a sponge-like network of protein (gluten) molecules in the pasta dough. Pasta is unique in this regard. As a result, pastas of any shape and size have a fairly low GI (30 to 60). Asian noodles such as hokkein, udon and rice vermicelli also have low to intermediate GI values.

Pasta should be cooked al dente ('firm to the bite'). And this is the best way to eat pasta - it's not meant to be soft. It should be slightly firm and offer some resistance when you are chewing it. Overcooking boosts the GI. Although most manufacturers specify a cooking time on the packet, don't take their word for it. Start testing about 2-3 minutes before the indicated cooking time is up. But watch that glucose load. While al dente pasta is a low GI choice, eating too much will have a marked effect on your blood glucose. A cup of al dente pasta combined with plenty of mixed vegetables and herbs can turn into three cups of a pasta-based meal and fits easily into any adult's daily diet.

The pasta meal fits in perfectly with the low-glycemic-index diets increasingly documented as beneficial in scientific studies!

Affordability of Pasta Meals

The healthiest diet in the world won't be eaten if it's not widely available, pleasing to local tastes – and affordable. Fortunately a pasta meal meets all three conditions.

Affordability of healthy food is a two-part issue. For many in the world – one-sixth of whose population lives on less than US\$ 1 per day – almost any food is difficult to afford. It's widely accepted that those in lower socio-economic groups do not eat as well and therefore suffer disproportionately from undernutrition and chronic diseases like type 2 diabetes and obesity.

Research increasingly shows, however, that the problem may not be the affordability of good food, so much as the *misperception* that healthy food is less affordable and available than it actually is. (See studies at the end of this section.)

How Affordable is a Healthy Pasta Meal?

We asked scientists participating in this Congress to price the same Pasta Primavera meal in their own countries. The meal, which would serve 6 people, consisted of the following (all amounts before cooking):

Pasta 500 grams (or 1.25 lbs)
Olive oil 75 ML (or 6 tablespoons)
Garlic..... 3 cloves, finely chopped
Tomatoes 2 tomatoes, chopped or crushed
Vegetables 750 ML (or 3 cups) mixed vegetables to local taste
Cheese..... 120 ML (or 4 tablespoons) cheese, grated or crumbled

Region	Country	Pasta Meal (one serving)
North America	United States	\$0.81
	Canada	\$1.01
	Mexico	\$0.71
Central & South America	Argentina	\$1.54
	Brazil	\$0.93
	Colombia	\$1.03
	Costa Rica	\$0.86
	Chile	\$0.71
Europe	France	\$0.84
	Italy	\$1.20
	Portugal	\$0.85
	Spain	\$0.69
	Turkey	\$0.56
	Average	\$0.90

All values in U.S. dollars at current exchange rates.

We also wanted to compare the cost of a pasta meal to other simple meals that families might make and consume at home. This time our meal – for each person – consisted of 2 chicken thighs (120g / 4 oz), carrots (56g / 2 oz), and rice (56g / 2 oz). We priced this meal in one country in each of our three regions:

United States:	\$1.23	52% higher than the pasta meal
France:	\$1.79	113% higher than the pasta meal
Chile:	\$1.12	57% higher than the pasta meal

The conclusion? In many countries, it may be possible to cut meal costs by half or more, each time a healthy pasta meal is consumed in place of other choices. Beyond cutting costs, the healthy pasta meal becomes an excellent vehicle for promoting consumption of other healthy foods, especially vegetables. As one Australian study reported,

*Strategies to decrease socioeconomic inequalities in diet could involve promoting inexpensive ways to increase fruit and vegetable consumption, and ensuring that people of low SEP are aware that many healthy foods are available at relatively low cost. **

Based on our informal conference data and the growing body of international research, it's clear that health campaigns would benefit from making the affordability of the healthy pasta meal well known.

* Socioeconomic variations in women's diets: what is the role of perceptions of the local food environment? Inglis et al. *Journal of Epidemiological and Community Health*. March 2008' 62(3):191-7.

Scientific Studies

Supporting the Healthy Pasta Meal

The role of carbohydrates, especially low-glycemic carbs, in weight loss and in general health

1. **Macronutrient Balance Does Not Affect Weight Loss**

Scientists at the Harvard School of Public Health (including Pasta Consensus Scientist Kathy McManus) randomly assigned 811 overweight adults to one of four reduced-calorie diets varying in macronutrient balance. Carbohydrate levels in the four diets were 65%, 55%, 45%, or 35%, but all consisted of similar foods and met guidelines for cardiovascular health. After following the group for two years, the researchers determined that weight loss was similar at 65% or 35% carbohydrate (2.9 kg and 3.4 kg, respectively) and that all four diets improved lipid-related risk factors and fasting insulin levels.

New England Journal of Medicine, 26 Feb 2009; 360(9):859-73.

2. **Both Low-Fat and Low-Carb Result in Weight Loss**

At Temple University's Center for Obesity Research and Education, scientists followed 307 obese adults for two years. Some consumed a low-carb diet (20g/day for 3 months, then increasing 5g/day each week) consisting of low-glycemic index vegetables with unrestricted fat and protein, while the others followed a calorie-restricted (1200 to 1800 kcal/d), low-fat ($\leq 30\%$ calories from fat) diet. The researchers found no differences in weight, body composition or bone mineral density at any time point.

Annals of Internal Medicine, 3 August 2010; 153(3):147-157.

3. **Long Term Comparison of Low-Fat and Low-Carb Diets**

This meta-analysis by seven nutrition experts (including Oldways Founder K. Dun Gifford) compared the short-term and long-term benefits of low-carb and low-fat diets. In general, they found that low-carb diets showed certain benefits at six months, but that longer-term studies showed both diets to be comparable at twelve months or longer.

Nutrition Reviews, May 2009; 67 Suppl 1:S99-101.

4. **Metabolic Effects of Low-Fat and Low-Carb Diets**

University of Colorado researchers randomly assigned 32 healthy obese adults to either a high fat (low carb) or a high carb (low fat) diet for six weeks. They found that weight loss was similar between both diets, but the high fat (low carb) diet increased LDL ("bad") cholesterol, due to a "lack of suppression of circulating free fatty acids."

American Journal of Clinical Nutrition, March 2010; 91(3):578-85.

5. **Lowest Risk with 47% to 64% Energy from Carbohydrates**

4,451 Canadian adults participated in the Canadian Community Health Survey in 2004-2005, yielding data that was analyzed by a team from several universities in Canada, the U.S. and the UAE interested to learn more about the association between carbohydrate intake and overweight / obesity. They concluded that consuming a low-carbohydrate diet (approximately 47% of energy from carbs) is associated with a greater likelihood of being overweight or obese, among healthy, free-living adults. Further analysis revealed that the lowest risk of excess weight was for those consuming 290 to 310g of carbohydrates per day.

Journal of the American Dietetic Association, July 2009; 109(7): 1165-72.

6. **Carbohydrate Suppresses Appetite Most Effectively**

Scientists at Athens University Medical School studied the effects of macronutrient composition on ghrelin, a powerful appetite hormone. Working with both rodents and with lean individuals, the researchers found that, although protein offers the most prolonged appetite suppression, "carbohydrate appears to be the most effective macronutrient for ghrelin suppression, because of its rapid absorption and insulin-secreting effect." Fat exhibited "rather weak and insufficient" ghrelin suppression.

International Journal of Protein and Peptide Research, 2010; pii:710852.

7. **Benefits of Low-Glycemic Diets over Higher Protein Diets**

Although all reduced-calorie diets can achieve weight loss, the challenge is to do so without increasing the risk of chronic disease, and without regaining the weight after the diet concludes. Jennie Brand-Miller and a team of researchers at the University of Sydney reviewed and compared evidence for two types of diets: one low in overall carbs and high in protein, and one high in carbs but depending largely on low-glycemic-index carbohydrates. They concluded that both types of diet result in weight loss, but that the evidence suggested "the potential for increased mortality" with low-carb diets.

Asia Pacific Journal of Clinical Nutrition, 2008;17 Suppl 1:16-9.

8. **Diets High in Cereals and Legumes Achieve Weight Loss**

At the University of Wollongong in Australia, scientists carried out a comprehensive review of the scientific evidence for the role of cereal grains and legumes in weight management. They concluded that there is strong evidence that "significant weight loss is achievable with energy-controlled diets that are high in cereals and legumes" and that "there is no evidence that low-carbohydrate diets that restrict cereal intakes offer long-term advantages for sustained weight loss."

Nutrition Reviews, April 2008; 66(4):171-82.

9. **Increased Energy Intake Likely with Low-Carb Diets**

Because of the body's small storage capacity for carbohydrate and its importance to the brain and to metabolism, scientists at the Human Physiology Lab of Pennington Biomedical Research Center in Louisiana, USA, postulate that our bodies have a strong drive to maintain carbohydrate balance at a certain level. This drive may cause "increased energy intake when consuming a diet high in fat and low in carbohydrate" which may, over time, "cause meaningful increases in body weight."

International Journal of Obesity, Dec. 2008; 32 Suppl 7:S109-19.

10. **Low-Carb Diet Increases Mortality in Swedish Women**

Reviewing 12 years of data from 42,237 women in the Women's Lifestyle and Health cohort study, researchers at the University of Athens Medical School tallied total mortality and cardiovascular mortality by decile of carbohydrate consumption and concluded that "a diet characterized by low carbohydrate and high protein intake was associated with increased total and particularly cardiovascular mortality amongst women."

Journal of Internal Medicine, April 2007; 261(4):363-5.

12. **Low-Carb Diets Impair Long-Term Survival**

A similar study of adult Greek men and women, also from the University of Athens Medical School analyzed ten years of data from the European Prospective Investigation into Cancer and Nutrition (EPIC). After distributing participants into deciles according to carbohydrate and protein intake, the researchers concluded that those in the lowest carb / highest protein group were at increased risk for total mortality, cardiovascular mortality and cancer mortality.

European Journal of Clinical Nutrition, May 2007; 61(5):575-81.

12. **Glycemic Index Helps Reduce Risk of Chronic Disease**

Scientists at the University of Toronto (including Pasta Consensus Scientist Cyril Kendall) reviewed the evidence related to glycemic index and health. They concluded that low glycemic index (GI) or low glycemic load diets are associated with higher levels of HDL ("good") cholesterol, with reduced concentration levels of CRP (an inflammation marker), as well as decreased risk of developing diabetes and cardiovascular disease. Some studies have also found a link between dietary GI and certain cancers.

Journal of the American College of Nutrition, August 2009: 28 Suppl:439S-445S.

13. **Low GI Diet Better Than High-Fiber for Type 2 Diabetes Care**

In another study from the University of Toronto (also including Pasta Consensus Scientist Cyril Kendall), 210 adults with type 2 diabetes participated in a random, parallel-design study, where they were assigned to one of two different diets – a low-glycemic index diet including pasta, or a high-fiber diet– for six months. (It bears noting that the low GI group actually ended up getting more total fiber than the "high cereal fiber" group by the end of the trial.) Their results showed that a low-glycemic diet results in moderately lower glycated hemoglobin (HbA(1c)) levels compared with a high-cereal-fiber diet.

Journal of the American Medical Association, 17 Dec. 2008; 300(23):2742-53.

14. **Low GI and Low GL Diets Protect Against Chronic Disease**

Jennie Brand-Miller's team at the University of Sydney carried out a systematic review of 37 studies of glycemic index (GI) and glycemic load (GL) and found that "low GI and/or low GL diets are independently associated with a reduced risk of certain chronic diseases. In diabetes and heart disease, the protection is comparable with that seen for whole grain and high fiber intakes. The findings support the hypothesis that higher postprandial glycemia is a universal mechanism for disease progression."

American Journal of Clinical Nutrition, 2008; 87:627-37

15. Med-Style Diets Reduce Metabolic Syndrome

In a one-year longitudinal intervention study, researchers at Pontificia Catholic University in Santiago, Chile (including Pasta Consensus Scientist Jaime Rozowski) “mediterraneanized” the diet in a workplace cafeteria. 145 workers started the study, and 96 completed all controls. As the workers’ diets more closely approached a Med-style diet (as measured by a Mediterranean Diet Score of 0-14), waist circumference, HDL-cholesterol, systolic and diastolic blood pressure, and other health markers improved significantly.

Public Health Nutrition, September 2009; 12(9A):1635-43.

16. Why the Mediterranean Diet is Especially Effective for Weight Loss

Focusing on energy balance alone rarely results in lasting weight loss, unless a meaningful behavioral therapy component is also added. A team at the University of Murcia, in Spain (including Pasta Consensus Scientist Marta Garaulet), has found that, although many types of diets result in weight loss, the Mediterranean Diet is especially effective because it is suited to the social and daily life of patients and can be easily followed in the long term. Therefore, counseling programs built around the Med Diet are very likely to succeed.

Nutrición Hospitalaria, 2010; 25:9-17.

17. Med Diet – and Pasta – Recommended for Kids

Scientists at the Hospital Virgen del Camino, in Pamplona, Spain compared the diet of secondary-school students to the proven-healthy Mediterranean Diet and determined their scores on the “KidMed” index. They found that diet quality decreased progressively with age, and recommended that the students should “increase consumption of fruit, vegetables, nuts, pasta and rice, yogurt and cheese, pulses and fish” and reduce consumption of “factory produced baked foodstuffs, sweets and fast food.”

Anales del Sistema Sanitario de Navarra, Jan-Apr 2010; 33(1):35-42.

18. Pasta among Foods Associated with Reduced Atherosclerosis

A growing movement aims to associate entire eating patterns – rather than nutrients or even individual foods – with better health. At the University of South Carolina, researchers sought to identify food patterns that increase or decrease carotid artery atherosclerosis. Their research showed greater risk in those who ate a pattern of too many unhealthy foods (including refined grains, processed meats, etc.) and too few healthy foods (including pasta, wine, poultry, etc.)

British Journal of Nutrition, May 2010; 103(10): 1471-9.

19. Greater Satiety with Some Fibers, including Resistant Starch

Some studies suggest high-fiber foods are more satiating than foods with little or no fiber. Researchers at the University of Minnesota hypothesized that certain types of dietary fiber may enhance satiety more than others. They fed foods with four different types of fiber and a low-fiber control to 20 healthy adults in a randomized, double-blind, crossover study, then asked them to rate satiety. Resistant starch and corn bran had the most impact on satiety, confirming the researchers’ hypothesis.

Nutrition Research. February 2009; 29(2):100-5.

20. Whole Grains Reduce Blood Pressure

In a randomized control trial of more than 200 healthy, middle-aged volunteers, subjects spent 4 weeks consuming a run-in diet of refined grains, and then were randomly allocated to the control diet (refined), a whole wheat diet, or a whole wheat and whole oats diet for 12 weeks. Each group consumed 3 daily portions of the specific grains. Systolic blood pressure and pulse pressure were significantly reduced by 6 and 3 mm HG, respectively, in the whole grains groups compared to the control refined group. Researchers at the University of Aberdeen, Scotland, concluded that this blood pressure decrease would decrease the incidence of coronary artery disease and stroke by 15-25% respectively.

American Journal of Clinical Nutrition, October, 2010; 92(4):733-40.

21. Obesity, Diets and Social Inequalities

A study from the University of Washington, Seattle, observes that obesity and type 2 diabetes follow a socioeconomic gradient, with the highest rates observed among groups with the lowest levels of education and income. As incomes drop, energy-dense foods that are nutrient poor become the best way to provide daily calories at an affordable cost. By contrast, nutrient-rich foods and high-quality diets not only cost more but are consumed by more affluent groups.

Nutrition Reviews. May 2009; 67 Suppl 1:S36-9.

22. Perceptions vs. Reality in Affordability of Healthy Foods

in Victoria, Australia, scientists at Deakin University studied the extent to which perceived environmental factors affected socioeconomic variations in women's fruit, vegetable, and fast food consumption. After surveying 1850 women from 45 neighborhoods, the researchers concluded that "once perceived environmental variables were considered, the associations between socioeconomic position and diet were weak and non-significant, suggesting that socioeconomic differences in diet were almost wholly explained by perceptions of food availability, accessibility, and affordability.

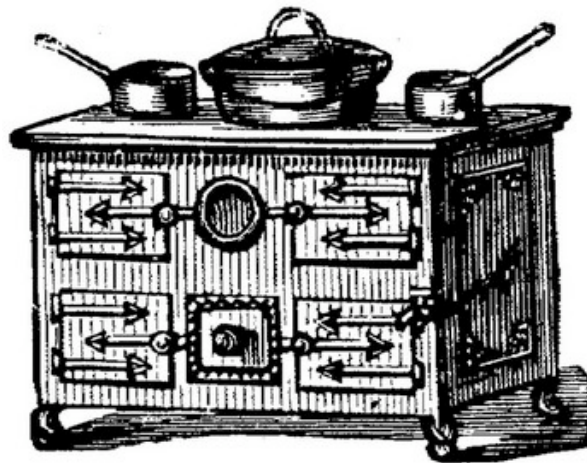
Journal of Epidemiology & Community Health, March 2008; 62(3):191-7.

23. Affordability of Fruits and Vegetables: Perception Matters

Researchers at France's National Institute of Health and Medical Research (INSERM) investigated a group of 295 adults with low fruit and vegetable consumption (baseline mean daily consumption 2.13 ± 1.57 times/d; nearly 30% of the sample did not eat fruits or vegetables daily). They found that a range of attitudinal factors affected consumption beyond cost, and concluded that "the impact of financial difficulties is crucial, as is the perception of affordability of fruits and vegetables."

Journal of Nutrition. April 2010; 140(4):823-30.

Culinary References

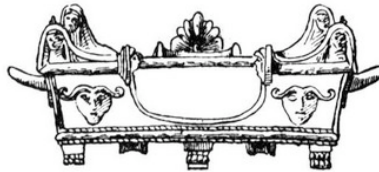


CULINARY REFERENCES

HISTORY

“Many theories have been presented concerning the origin of pasta. Some researchers place its discovery in the XIII Century by Marco Polo, who introduced pasta in Italy upon returning from one of his trips to China in 1271. In chapter CLXXI from the “Books of the World’s Wonders”, Marco Polo makes a reference to the pasta in China. More accepted now is the theory that the first pasta can be traced back to ancient Etruscan civilizations, which made pasta by grinding several cereals and grains and then mixed them with water, a blend that was later cooked producing tasty and nutritious food product. “

International Pasta Organisation



POPULARITY

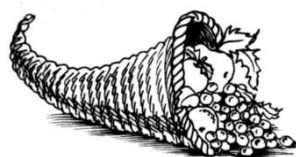
“No matter its origin, “pasta has rapidly become one of Western society’s staple foods, traveling across the world in various forms from Asia and South America. The enormous popularity of pasta is due to its incredible versatility, and its value for money. Pasta can stretch a few pantry ingredients to make a satisfying meal fit for a king! “

*Linda Fraser,
Pasta: Irresistible Recipe for Perfect Pasta*

PASTA AND VEGETABLES

“A simple dinner of pasta with vegetables satisfies so many contemporary needs. The ingredients are wholesome, widely available and relatively inexpensive. Preparation is rarely time-consuming and requires few cooking skills. And, part of the pleasure I get from pasta with vegetable dishes is watching the seasons march across my plate.”

*Janet Fletcher,
Pasta Harvest*



THE WIDE RANGE OF PASTA MEALS

Pasta is a remarkably versatile food – as the variety of pasta meals around the world shows.

Soup

Pasta and soup are perfect partners, but the shape and size of the pasta should be matched to the style of the soup. For broth, use only the smallest soup pasta for fine angel's hair pasta.



Dried Pasta Dishes

The astounding range of dried pasta lends itself to a variety of dishes. Certain shapes combine with sauces in different ways: spaghetti, for example suits cream or olive oil-based sauces, while penne is perfect for thicker sauces that can nestle in the tunnels and grooves.



Dried Pasta with Uncooked Sauces

The combination of steaming, piping-hot pasta with a cool, uncooked sauce is a delightful one. It is important that the best ingredients are used for these sauces – for example, pesto or simply, tomato and cheese.

Stuffed Pasta Dishes: Thin sheets of pasta can be molded or cut to enclose a delectable variety of freshly made fillings.

Baked Pasta Dishes: Here is the one exception to the rule that pasta should be cooked just before being sauced and served. Pasta is combined with any number of ingredients and sauces – the only caveats are that creativity be tempered with a sense of harmony and that there is plenty of moisture to prevent the pasta from drying as it bakes.

*Julia della Croce,
Pasta*

Pasta around the world

To no one's surprise, Italy leads the world in pasta production, and the United States is in second place. But many people may not have guessed that Brazil takes the number three spot, followed by Russia and Turkey. Italy also leads in the world in per capita consumption of pasta, with Venezuela, Tunisia and Greece following.

Pasta is a global food, enjoyed around the world under different names and in combination with different foods.



PASTA RECIPES

Take a trip around the world and enjoy some of these many wonderful pasta traditions, with the recipes in this section. These recipes are excerpted from the Oldways-IPO *Children's and Cooking Nutrition Program*.



CREDITS: As a nonprofit educational organization, Oldways and the International Pasta Organisation express their sincere appreciation to the sources of selections that appear in this Program Notebook. These publications make a valuable contribution to the Conference and our understanding of the Healthy Pasta Meal.

PASTA TRADITIONS IN BELGIUM

Belgium was instrumental in revolutionizing pasta production, with the help of Josphe Soubry, who opened the first automated pasta factory there in 1921, which still exists today! Pasta is an increasingly popular dish in the Belgian diet, often accompanied by fresh seafood or vegetables.



Penne with Broccoli and Pancetta

Courtesy of Bridget Hafner



INGREDIENTS

350 grams penne
1 head of broccoli,
cut into small pieces
30 grams olive oil
80 grams pancetta
or bacon
2 cloves garlic, thinly
sliced
Pinch tsp chili flakes
15 grams chopped
parsley
(optional) Grated
Parmesan

PREPARATION

1. Cook penne in plenty of salted boiling water. When half cooked, add broccoli.
2. Heat a frying pan over a medium heat, add some of the oil and cook pancetta until crispy. Add the garlic and chili, stir until lightly golden and remove from heat.
3. Drain pasta and broccoli - the broccoli should be soft and broken up - and add to the pan of garlic and pancetta. Cook for a few minutes, tossing and adding pepper, salt and remainder of oil to taste.
4. Sprinkle dish with grated Parmesan to taste just before serving.

PASTA TRADITIONS IN FRANCE

France began its pasta tradition in the 18th century Provence, and it grew into a much loved dish across the country. By the 1900s, Parisian pasta makers could be found in every quarter making vermicelli, macaroni, and lasagna for locals. Today, two pasta traditions—the fresh “melt in your mouth” pasta and the dried “al dente” pasta—are popular staples of the carb-friendly French diet.



Haricot Verts—
French Green
Beans

Cavatelli Salad with Artichokes and Goat Cheese



INGREDIENTS

450 grams cavatelli
pasta or medium
shell pasta
170 grams extra-virgin
olive oil
60 grams red wine
vinegar
680 grams tomatoes,
seeded, coarsely
chopped
335 grams marinated
artichoke hearts,
drained, coarsely
chopped
4 large green onions,
sliced
1 small bunch fresh basil,
chopped.
170 grams soft fresh
goat cheese, crumbled

PREPARATION

1. Cook pasta in large pot of boiling salted water until just tender but still firm to bite. Drain. Rinse under cold water; drain well. Transfer to large bowl.
2. Whisk oil and vinegar in small bowl to blend. Pour over pasta and toss to coat. Add tomatoes, artichokes, green onions, and basil; toss to coat. Season generously with salt and pepper. Cover and refrigerate pasta salad at least 2 hours. (Can be made 1 day ahead. Keep refrigerated.)
3. Mix goat cheese into salad. Serve cold or at room temperature.

PASTA TRADITIONS IN GERMANY

German pasta is made in over 100 different shapes and is made mainly from durum wheat, but other grains such as spelt are also used. Eggs are added to German noodles and spätzle, creating a rich, tender pasta that Germany is known for and which often contains spinach, tomatoes, and herbs.



German Style Spätzle

Courtesy of
www.nudelnmachenglu-ecklich.de/



INGREDIENTS

1 onion, chopped
50 grams olive or canola oil
1 leek, cleaned and cut into 1 cm pieces
250 grams carrots, diced
250 grams mushrooms
1/8 liter broth or stock
1/4 liter cream
250 grams Spätzle
600 grams ground beef, chicken, or turkey
1 clove garlic
1 bunch parsley
2 eggs
3 Tbsp bread crumbs
Salt and Pepper

PREPARATION

1. Cook the onion in 1 Tbsp of the oil until it is soft in a large pot. Turn off heat and set aside.
2. Meanwhile, blanch the leeks and carrots in salted water for 3 and 4 minutes, respectively, and then rinse in cold water and dry. Wash and cut the mushrooms in half.
3. Remove half of the cooked onion to a bowl, and return pan to medium heat. Add mushrooms and braise for 5 minutes. Add broth to pan, scraping up browned bits on bottom. Add cream and cook covered, on low, for 15 minutes.
4. Cook spätzle accordingly to package directions.
5. Mix meat, reserved onion, eggs, and bread crumbs, salt and pepper into 16 equal sized balls. Fry in remaining 3 Tbsp of oil at medium heat for 10 minutes. Add salt and pepper to vegetable cream sauce, then mix with meatballs. Serve ladled over cooked spätzle.

PASTA TRADITIONS IN ITALY

Pasta is the national food of Italy, with the average Italian consuming 28 kilograms per year—the most in the world! Italy also exports more pasta than any other country: 1,700,00 tons per year.



Spaghetti with Tomatoes and Basil

Courtesy of
Unione Industriali
Pastai Italiani



INGREDIENTS

350 grams spaghetti
500 grams fresh tomatoes
50 grams extra virgin olive oil
30 grams white onion, minced
10 basil leaves
4 tablespoons Parmigiano-Reggiano
Salt and pepper to taste

PREPARATION

1. Dip the tomatoes in boiling water for about ten seconds and place in a bowl of ice water for 1 minute. Remove from ice water, and dry. Peel them, remove the seeds and cut them in slices.
2. In a saucepan, brown the minced onion in the olive oil, then add the tomatoes. Season with salt and pepper. Cook for about 10 minutes.
3. Cook the pasta in plenty of salted boiling water, drain it and add to sauce.
4. Garnish with basil leaves and sprinkle with the grated Parmigiano-Reggiano cheese before serving.

PASTA TRADITIONS IN PORTUGAL

In the past few years, pasta is becoming more and more popular in Portugal, mainly among the young people. Many typical Portuguese recipes of pasta are cooked with fish, meat and vegetables, always using traditional seasonings.



Creamy Aletria

Recipe courtesy of
Cerealis-Produtos
Alimentares, S.A.



INGREDIENTS

125 grams of Aletria
"Milaneza" pasta
1/2 dL water
300 grams of sugar
1 cinnamon stick
5 egg yolks
Port Wine
Zest of one lemon
1 Tablespoon butter
Ground cinnamon

PREPARATION

1. Bring water, sugar, lemon zest, salt, and cinnamon to boil in a medium saucepan. Add the broken pasta and cook until al dente, breaking up with a medium spoon if necessary.
2. Meanwhile, in a separate bowl, mix the yolks with a tablespoon of the cooking water with a fork until well blended.
3. When pasta is done cooking, drain well and return to pot, and place pot over low heat. Immediately add the butter and toss to coat the pasta. Add the egg yolk mixture and stir until egg has thickened.
4. Serve in individual cups or a serving dish, sprinkling with cinnamon before serving.

PASTA TRADITIONS IN SPAIN

Pasta is enjoyed by many children in Spain, and is popular with families for ease of preparation and use of other ingredients such as vegetables, cheese, and fish. Often times pasta is served in soups or in pasta salads in Spain.



Linguine with Cocoa Powder

Courtesy of
Asociación Española
de Fabricantes de
Pastas Alimenticias



INGREDIENTS

500 grams of egg
linguine
250 grams of
cottage cheese
75 grams of butter
50 grams of grated
Parmesan cheese
or Gruyère cheese
1 spoonful of sweet
cocoa powder
Salt, pepper and
cinnamon to taste

PREPARATION

1. Cook the pasta in a large pot of boiling salted water.
2. Meanwhile, mix the cottage cheese with the grated parmesan cheese and keep it warm in the double boiler.
3. Once the pasta is cooked al dente, drain quickly, place on a large serving dish and add some butter. Place the cottage cheese on top of the pasta, sprinkle with the cocoa powder and a pinch of cinnamon and pepper.

PASTA TRADITIONS IN TURKEY

Turkey is a major producer of pasta. The first pasta factories appeared in Ismir in 1922; most factories are in Anatolia, where durum wheat, the wheat used in making pasta, is grown. The Turkish diet still involves more bread and pilafs than pasta—but it is considered a delicious ready-made alternative for the busy family.



Vegetable Pasta With Tomato

Sauce

Courtesy of
Turkish Pasta
Manufacturers
Association



INGREDIENTS

250 grams
Nuh'un Ankara
Sebzeli Nuh'un
Gemisi (spinach
and tomato
animal shaped
pasta)
1 kilogram tomatoes,
peeled and chopped
4-5 cloves garlic,
minced
30 grams olive oil
1 zucchini,
peeled and sliced
1 carrot, sliced
1 teaspoon sugar
Salt to taste
15 grams parsley,
minced
Grated cheese

PREPARATION

1. Put the olive oil into a large saucepan and turn heat to medium. Add garlic and sauté for 1 to 2 minutes.
2. Add sliced zucchini and carrot to garlic and olive oil and cook for 4-5 minutes more, stirring occasionally.
3. Add tomatoes, sugar and salt. Cook for 10 minutes more until sauce thickens.
4. Meanwhile boil 2.5 liters of water and desired amount of salt in a large pot. Once it boils, add pasta and cook for 6 minutes and drain.
5. Mix pasta with sauce and season with parsley and grated cheese.

PASTA TRADITIONS IN BRASIL

Brasilians enjoy their pasta cooked softer than the “al dente” method preferred by Italians, who originally introduced pasta the country. Brasil is the third largest producer of pasta in the world.



Coffee Beans

Penne Rigoletto



INGREDIENTS

500 grams penne pasta
300 grams eggplant
360 grams mozzarella cheese
900 milliliter tomato sauce
1 tablespoon pesto
5 grams chopped garlic
2 tablespoons extra-virgin olive oil
2 egg yolks, beaten
30 grams wheat flour

PREPARATION

1. Cut the eggplant in 1 cm. wide slices. Beat eggs yolks with fork in shallow bowl. Combine bread crumbs and wheat flour on a dinner plate. Dip the slices of eggplant in beaten egg yolks, and then in the bread crumbs to coat.
2. Sauté the eggplant in 2 tablespoons of extra-virgin olive oil over medium heat until browned. Remove eggplant from heat and place on paper towels to drain and cool.
3. Once cool, cut the eggplant and the mozzarella cheese into cubes and set aside.
4. Cook penne pasta “al dente” water with a pinch of salt. Drain and set aside.
5. Saute garlic in 1 teaspoon of olive oil until lightly browned, then add the pesto, tomato sauce eggplant, and cooked penne pasta. Stir delicately and then add the cubed mozzarella cheese. When the cheese melts, remove from the heat and serve immediately.

PASTA TRADITIONS IN CHILE

Chilean cuisine is a product of the combination of traditional indigenous and Spanish customs. This pasta dish is a good representation of this custom.



Chirimoya fruit

Spaghetti with Avocado and Nut Sauce



INGREDIENTS

1 large avocado
50 grams nuts, peeled and chopped
1 garlic clove
15 ml olive oil
Salt and pepper
200 grams of spaghetti

PREPARATION

1. Peel and spoon out the avocado. Cut the avocado flesh into cubes.
2. In a blender or food processor, puree the avocado, nuts, olive oil, salt and pepper (to taste) until it forms a smooth creamy mixture.
3. In the meantime, cook pasta according to directions. Make sure the pasta is cooked are 'al dente'.
4. Once drained, mix pasta with avocado mixture and serve.

PASTA TRADITIONS IN COSTA RICA

In Costa Rica 60% of the pasta that is sold are long shapes such as spaghetti or linguini. Another traditional pasta dish that is popular is cannelloni, which are tube-like pasta filled with meat, chicken, tuna or cheese covered with egg and they fried. Children enjoy pasta salads made with pasta shells with tuna!



Yucca Root

Shell Salad with Peas and Bacon

Courtesy of Pastas Roma



INGREDIENTS

250 grams of
shell pasta
115 grams olive oil
300 grams cooked
peas
1 tomato, peeled
and chopped
4 bacon strips
1/2 sprig of parsley
1 teaspoon vinegar
Black pepper
Olive oil
Salt
Sugar
Paprika

PREPARATION

1. Cook shells in boiling water until el dente. Drain the pasta and move to separate bowl. Add a bit more olive oil to the pasta and let cool until shells are at room temperature.
2. In a frying pan, add a bit of oil and fry the bacon until it is cooked though and golden.
3. In a separate bowl, make a vinaigrette with the rest of the oil, vinegar, sugar, salt, pepper, and paprika, whisking well to combine.
4. Add the peas, tomato, bacon and parsley to the pasta. Add the vinaigrette and mix well.
5. Pasta may be served cold, at room temperature or warmed up!

PASTA TRADITIONS IN MEXICO

Traditional pasta dishes in Mexico are heavily influenced by Aztec, Mayan, and Spanish flavors as well as other local ingredients such as chiles and cactus. Many pasta dishes call for browning or frying the dry pasta before simmering in liquid.



Spaghetti and Chicken in Ancho Chile Adobo

Courtesy of
Grupo Moderna



INGREDIENTS

200 grams spaghetti
1 chicken breast, cooked and shredded
8 ancho chiles
1 spoonful sesame seeds
1/2 onion, chopped
2 garlic cloves
1 cinnamon stick
Pepper to taste
5 oranges, juiced
Oil for frying

PREPARATION

1. Soak the ancho chiles small bowl of hot water. Once soft, remove seeds. Place chiles in blender along with the orange juice, onion, garlic, cinnamon and cloves. Puree until smooth.
2. Place the mixture in the frying pan and saute until fragrant, about 3-4 minutes. Season with salt and pepper. Add the chicken and stir to coat.
3. Cook pasta according to package instructions and drain well. Return pasta to pot.
4. Add chile and chicken mixture to cooked pasta, and stir to coat. Sprinkle with sesame seeds before serving.

PASTA TRADITIONS IN URUGUAY

In Uruguay, it is customary to celebrate the "day of ñoqui" the 29th of each month by meeting with family or friends to enjoy pasta dishes, and place coins under the plate in the hopes that money will be abundant in the next month!



Soybeans

PASTA CON SALSA CARUSO

Courtesy of
www.portaldeluruguay.com



INGREDIENTS

40 grams lard
70 grams mushrooms
2 tablespoons beef
bouillon
235 milliliters milk
235 milliliters heavy
cream
200 grams cooked
ham, chopped
100 grams cheese,
grated
2 tablespoons flour

PREPARATION

1. Cook pasta (any type) according to directions.
2. Meanwhile, melt lard in a large skillet and saute mushrooms until soft. Add flour and continue to stir for 2-3 minutes. Add bouillon, milk and cream, stirring while bringing to a simmer. Mixture will thicken after 2-3 minutes.
3. Add ham and cheese to milk mixture, stirring until cheese is melted.
4. Toss sauce with cooked, drained pasta and serve immediately.

PASTA TRADITIONS IN VENEZUELA

Venezuela consumes the second-largest amount of pasta per capita (per person) each year, second only to Italy! Annual pasta consumption in Venezuela currently stands at about 12.9 kg per person, and has been climbing steadily, and may be attributed to the Italian heritage or high wheat production.



Sugarcane stalks

Alphabet Pasta With Tomatoes, Cheese, and Basil

Courtesy of
Asociación Venezolana
de Pastas Alimenticias



INGREDIENTS

1 kg of alphabet pasta
1 can (500g) of
peeled tomatoes
20 kilograms cream
50 grams fresh
chopped basil
2 onions, chopped
Salt, oil and garlic
200 grams parmesan
cheese, grated

PREPARATION

1. In a pan add oil, onion, basil, tomato, salt and garlic. Cook for 10 minutes and add cream.
2. Prepare the pasta according to cooking directions (making sure it's al dente).
3. Drain pasta and put in a bowl, add sauce and mix well. Sprinkle with cheese and serve.

PASTA TRADITIONS IN CANADA

Pasta consumption has been growing in the Canada steadily over the last few decades. Canada produces more than 170,000 tons of pasta per year. High-quality Canadian durum wheat is grown in the western prairie provinces of Saskatchewan, Alberta and Manitoba, creating the main source of ingredients for pasta manufacturing.



Whole Wheat Rotini with Tomatoes and Zucchini

Courtesy of Pasta Canada



INGREDIENTS

375 grams whole wheat rotini
1 garlic clove, chopped
1 onion, chopped
50 milliliters olive oil
12 cherry tomatoes, cut in half
Salt and pepper
Grated parmesan cheese to taste

PREPARATION

1. Cook rotini according to package instructions.
2. Meanwhile, sauté onion, garlic, and zucchini in olive oil over medium-low heat until tender. Add tomatoes and parsley or basil and heat through.
3. Toss cooked rotini with vegetable mixture and serve topped with grated Parmesan cheese.

PASTA TRADITIONS IN UNITED STATES

Pasta came to the United States in various forms from the many different immigrants from Europe and Asia. President Thomas Jefferson enjoyed pasta in the White House, and even designed a pasta machine! Today, pasta is a very popular staple food in the United States, enjoyed in hundreds of different ways.



Kansas wheat

Penne with Zucchini

Courtesy of
National Pasta
Association



INGREDIENTS

450 grams penne,
mostaccioli, or
other medium
shape pasta
450 grams zucchini
(about 3), sliced
into thin coins, plus
one for garnish
75 grams flour
120 grams
parmesan cheese
275 milliliters olive oil
1 medium onion, diced
2 garlic cloves,
sliced very thinly
Freshly ground
black pepper
3 grams unsalted
butter
Salt to taste

PREPARATION

1. Cook pasta according to package directions.
2. Toss sliced zucchini in a bowl with flour until coated on all sides. Remove slices from bowl, shaking off excess flour.
3. Dice remaining zucchini. Heat a small amount of oil in a large heavy skillet. Add onion and sauté until tender and light golden brown, about 10 minutes. Stir in garlic, cook one minute, then stir in diced zucchini. Cook until zucchini is tender and most of the liquid is evaporated from skillet, about 10 minutes. Remove zucchini from skillet and set aside.
4. Clean skillet, dry it well and pour in the remaining oil. Heat over medium heat and carefully slip as many of the zucchini slices as will float freely into the oil. Fry them, turning once until golden brown on both sides. Remove with a slotted spoon to a plate lined with paper towels.
5. Mix pasta, diced zucchini mixture, grated Parmesan, butter, salt and pepper to taste. Heat over low heat until butter is melted and pasta is coated with sauce. Divide the pasta among serving bowls and sprinkle with the shaved Parmesan. Top with fried zucchini slices.

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