

Recent publications

- (1) Tanaka K, Sasaki S, Murakami K, Okubo H, Takahashi Y, Miyake Y. **Relationship between soy and isoflavone intake and periodontal disease: the Freshmen in Dietetic Courses Study II.** *BMC Public Health* 2008;8:39.
- (2) Maskarinec G, Watts K, Kagihara J, Hebshi SM, Franke AA. **Urinary isoflavonoid excretion is similar after consuming soya milk and miso soup in Japanese-American women.** *Br J Nutr* 2008;102:1-6.
- (3) Wu AH, Yu MC, Tseng CC, Pike MC. **Epidemiology of soy exposures and breast cancer risk.** *Br J Cancer* 2008;98:9-14.
- (4) Atmaca A, Kleerekoper M, Bayraktar M, Kucuk O. **Soy isoflavones in the management of postmenopausal osteoporosis.** *Menopause* 2008;15:1-6.
- (5) Yeu K, Lee Y, Lee SY. **Consumer acceptance of an extruded soy-based high-protein breakfast cereal.** *J Food Sci* 2008;73:S20-S25.
- (6) Messina M, Lane B. **Soy protein, soybean isoflavones and coronary heart disease risk: where do we stand?** *Future Medicine Ltd* 2008;2:55-74.

- (7) Song YJ, Paik HY, Joung H. **Soybean and soy isoflavone intake indicate a positive change in bone mineral density for 2 years in young Korean women.** *Nutrition Research* 2008;28:25-30.
- (8) Azadbakht L, Atabak S, Esmailzadeh A. **Soy protein intake, cardio-renal indices and C-reactive protein in type 2 diabetes with nephropathy: a longitudinal randomized clinical trial.** *Diabetes Care* 2008;31:648-654.
- (9) Gardner CD, Messina M, Kiazand A, Morris JL, Franke AA. **Effect of two types of soy milk and dairy milk on plasma lipids in hypercholesterolemic adults: a randomized trial.** *J Am Coll Nutr* 2007;26:669-77.
- (10) Villegas R, Gao YT, Yang G et al. **Legume and soy food intake and the incidence of type 2 diabetes in the Shanghai Women's Health Study.** *Am J Clin Nutr* 2008;87:162-7.
- (11) Kemp AS, Hill DJ, Allen KJ et al. **Guidelines for the use of infant formulas to treat cows milk protein allergy: an Australian consensus panel opinion.** *Med J Aust* 2008;188:109-12.

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News

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Students should submit their thesis before October 15th, 2008. They can upload their thesis on line.

For more information visit <http://www.alprofoundation.org/award.html>

In this edition

Two students from the Institute of Nutritional Sciences at the Justus-Liebig University in Giessen (Germany) were sponsored by Alpro Foundation to attend the 5th International Congress on Vegetarian Nutrition last March in Loma Linda, California. These students addressed the question "What are the direct and indirect effects of vegetarian nutrition" within their Master Program "Nutrition and Science". They presented their results together with their tutor professor Hoffmann at the conference.

In this edition of the newsletter they report on their experience at their first international congress.

Report on the 5th International Congress on Vegetarian Nutrition

March 4-6, 2008, Loma Linda, California
 Katharina Bernsmeier, Lena Wagner Justus-Liebig-University, Giessen, Germany

Since the late 1980's "vegetarian dietary patterns and their effects on health have become the subject of increasing scientific interest" (1). The first Congress on Vegetarian Nutrition was held in March 1987 in Washington DC to bring together the worldwide leading researchers in this field. Because of its success it was decided to organize it every five years in Loma Linda, California.



Topics of the Congress this year were dietary concerns, preventive approaches to chronic diseases as well as ecological and environmental issues.

More than 700 scientists, other experts and people interested in vegetarian nutrition from about 40 countries attended plenary lectures, special symposia, debates as well as oral and poster presentations.

The congress started with a welcome speech of the Dean of the School of Public Health, Loma Linda University, Dave Dyjack and of the Congress chair Joan Sabaté (chairman of the Institute of Nutrition, Loma Linda University, California).

The opening session started with a lecture by David Heber (Professor at the Department of Nutrition, University of California, Los Angeles) who examined the link between diet and cancer prevention. During the session on "plant-based diets and cancer" Tim Key (Cancer Epidemiology Unit, Oxford University, UK) based his presentation on big epidemiological studies such as the EPIC trial, a large European trial on

the impact of food on cancer. The data of this study are less significant concerning beneficial effects of fruit and vegetables on cancer compared to older data.

Soy is an important part of the vegetarian diet and several topics in relation to soy were discussed including the question whether isoflavone metabolism is the key of the efficacy of soy foods on health, the health implications and safety of soy infant formula, the impact of plant-based diets and soy on breast cancer and soy as a source of iron in a vegetarian diet. Iron is of special interest to vegetarians since many lacto-ovo-vegetarians and especially vegans replace meat and dairy foods with soy products. In the evening authors from different countries presented conclusions of their research during a poster session. On the background of vegetarian nutrition, different aspects were addressed like nutrition education, clinical nutrition and nutritional assessment.

The second day of the congress started with a plenary lecture on **vegetarian diets and health outcomes**. Gary Fraser (Department of Epidemiology and Preventive Care, Loma Linda University, California) commented on the controversial findings, that vegetarians in different parts of the world have different health outcomes. He pointed out that these differences may be due to differences in diet and in lifestyle of the studied populations.

For more information:

Alpro Foundation VZW
 Kortrijksesteenweg 1093C
 9051 Sint-Denijs-Westrem
 Belgium

T +32 (0)9 260 22 11
 F +32 (0)9 260 22 99
 info@alprofoundation.org

www.alprofoundation.org

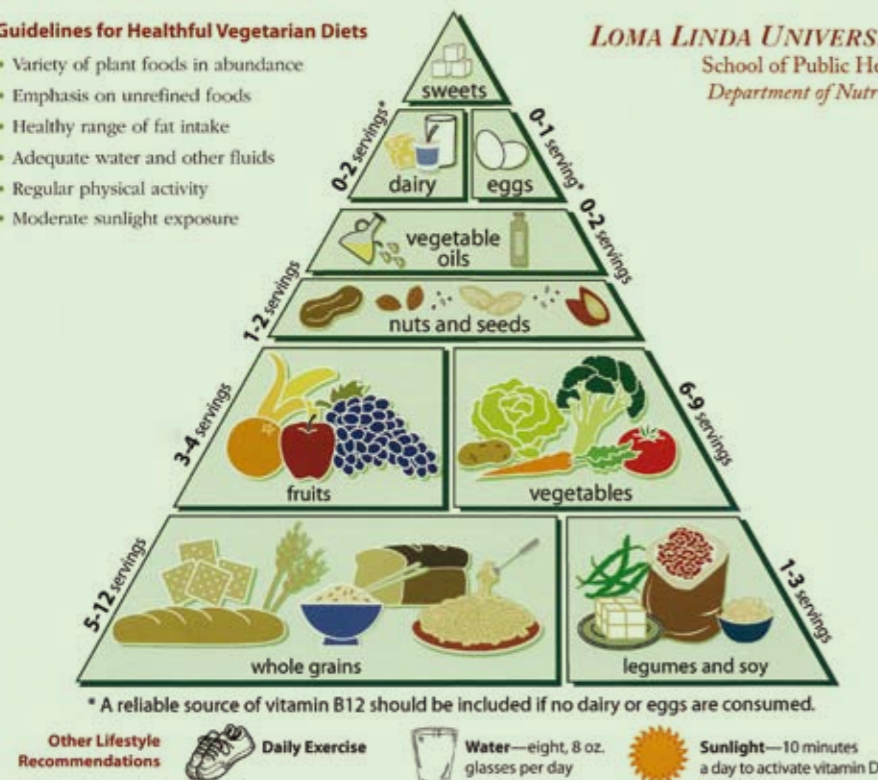
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Guidelines for Healthful Vegetarian Diets

- Variety of plant foods in abundance
- Emphasis on unrefined foods
- Healthy range of fat intake
- Adequate water and other fluids
- Regular physical activity
- Moderate sunlight exposure

LOMA LINDA UNIVERSITY
School of Public Health
Department of Nutrition



During the session “**Nutritional and health status of vegetarians**”, Winston Craig (Department of Dietetics Internship Program, Andrews University, Michigan) presented pros and cons of vegetarian diets and Tim Key gave an update on the health status of vegetarians based on the findings of epidemiological studies such as EPIC Oxford. In general the health status of vegetarians and vegans appear to be good. A reduction in the risk of ischaemic heart diseases can be observed and vegetarians also have a relatively low body mass index. Pramil Singh (Department of Epidemiology and Biostatistics, Loma Linda University, California), Julio Acosta-Navarro (Heart Institute, University of Sao Paulo, Brasil) and Peter Clarys (Department of Faculty of Physical Education and Physiotherapy, Free University, Brussels, Belgium) presented findings on the nutritional status of respectively Seventh-day Adventists vegetarians from Latin America and Belgium,

The Alpro-Foundation sponsored our participation at the congress as students of the Master program at the Institute of Nutritional Sciences, Justus-Liebig-University,

Giessen, Germany. This gave us the opportunity to co-present at the congress the results of a project within a presentation entitled “**Vegetarian nutrition: Intended and actual effects**” given by Prof. Dr. Ingrid Hoffmann (Department of Nutrition, Justus-Liebig-University, Giessen, Germany).

Within the **Master Program “Nutrition Science”** we participated with ten other students in the course “Analysis and assessment of complex nutrition aspects” offered by Prof. Hoffmann. In close cooperation with her and two research assistants Katja Schneider and Martina Metz we addressed the question: “What are the direct and indirect effects of vegetarian nutrition and how do they correspond to the intended effects?” The background of the research question was that vegetarian nutrition is often practiced for personal reasons such as the prevention of nutrition related diseases. Even though a lot is known about single effects of vegetarian nutrition, little is known about the actual effects of vegetarian nutrition. In order to get a better and deeper insight into vegetarianism we

studied vegetarian nutrition from a nutrition-ecological point of view. Nutrition Ecology embraces the dimensions health, environment, society and economy. Each of these dimensions incorporates a large number of aspects which are interlinked both within and across the dimensions .

With the **nutrition-ecological approach dimensions (2)** we intended to compose current knowledge about the effects of vegetarianism to a comprehensive model reflecting the effects of vegetarianism with all its interlinkages. To capture the complexity of vegetarian nutrition according to the nutrition-ecological approach, four working groups dealt with either health, environmental, societal or economic aspects of vegetarian nutrition. Each group reviewed the current scientific literature and collected data on the effects of vegetarian nutrition on the respective dimension. About 150 references were reviewed. Most scientific studies on vegetarian nutrition focus on single aspects, predominantly on single health effects. Several studies deal with environmental effects, but little to almost no research has been conducted on societal and economic effects of vegetarian nutrition.

It was of interest to experience that this congress mirrored exactly this finding: the majority of the presentations dealt with health aspects of vegetarian nutrition.

After data collection each working group developed a model of the aspects and the associations of their assigned dimension. The four models were put together to an overall model. **This comprehensive model reflects the effects of vegetarian nutrition** plus its interlinkages and was the basis for our presentation. Applying the nutrition-ecological perspective we could show that vegetarian nutrition affects the four dimensions health, environment, society and economy. Since the effects are interlinked, side-effects and feedback-loops are at work, which may enhance or diminish the originally intended effects. For example omitting meat products from the diet is associated with a lower risk of nutrition related

diseases. In addition, such a diet is related to a lower environmental impact, like diminished CO₂-emissions from agricultural production that may also affect the health of the general population long-term. Hence, for statements about the actual effects of vegetarian nutrition and especially in the context of increasing global problems it is essential to consider the complexity and the interrelatedness of the effects of vegetarian nutrition.

Prof. Hoffmann started the presentation at the congress by illustrating the background of Nutrition Ecology and giving an overview about the intended effects of vegetarian nutrition. We then presented the model with its components in the four dimensions of nutrition, the associations between the components and an example of a cause-effect chain. Prof. Hoffmann finished by presenting conclusions that could be drawn from the model.

The congress also **included interesting debates** about questions such as “Dairy foods: should they be a part of a healthy vegetarian diet?”. Connie M. Weaver (Department of Food and Nutrition, Purdue University, Indiana) pointed out the benefits of using dairy foods as more than a calcium source. Amy Lanou (Senior Nutrition Scientist, Physicians Committee for Responsible Medicine, Washington) stressed the benefits of the omission of dairy products from the diet. This debate caused a lively discussion both by the speakers and the participants that continued during the congress banquet.

During the congress, **the 100th anniversary of nutrition education at Loma Linda University was celebrated**. Due to a video the attendees obtained an impression about the development of the School of Public Health. Two epidemiologists working in the area of public health were rewarded recognition. Tim Key and Gary Fraser were honoured for their important work in nutritional epidemiology.

The third and last day of the congress addressed several topics such as the effect of DHA (docosahexaenoic acid) from microalgae on plasma lipids, meat consumption and the risk of cancer, the comparison of calcium absorption

from fortified soymilk to cows milk in osteopenic post menopausal women.

Since the US will shortly review their dietary guidelines the question of ‘**food based**’ versus ‘**nutrient based**’ **dietary guidelines was discussed**. Dietary guidelines have traditionally not accentuated particular foods of plant origin that are basic to a healthy vegetarian diet. David R. Jacobs (Department of Epidemiology, University of Minnesota, Minnesota) pointed out the importance of looking at foods rather than just at single food components. It was also discussed how to better position vegetarian diets in the upcoming dietary guidelines. Ella Haddad (Department of Nutrition, Loma Linda University, California) pointed out that it is important to expand the research base for vegetarian studies to show the benefits of a plant-based diet. Amy Lanou commented that some key strategies are needed to feature vegetarian diets in the guidelines.

There was also a session devoted to **plant based diets and aging**. Walter Willett (Professor at the Harvard School of Public Health, Boston) presented epidemiological data on aging, longevity and plant based diets. He mentioned that vegetarianism can have an increased life span thanks to for example lower cardiovascular risk. James Joseph (Research physiologist at the Tufts University, Boston) pointed out the potential role of antioxidants of berries reducing age related diseases of the brain like Alzheimer disease.

Later the Congress chair Joan Sabaté addressed the topic “**Nuts and health - epidemiological perspective: What’s new?**” dealing with current issues on nuts. The following presentations by Emilio Ros (Lipid Clinic, Endocrinology & Nutrition Service Hospital, Barcelona, Spain) and Cyril Kendall (department of Nutritional Sciences University of Toronto, Canada) discussed findings with respect to emerging risk factors for cardiovascular disease and other chronic diseases, like diabetes mellitus and obesity.

In contrast to most of the other topics, the **last symposium** of the Congress dealt with

environmental, not with health aspects. Under the topic “**Climate change and food production – dietary choices**”, specific data on the impact of the production of various diets were presented. Hal Marlow (Department of Environmental Health, Loma Linda University, California) investigated the environmental impact of dietary preferences. Annika Carlsson-Kanyama (Energy and Environmental security Group, Royal Institute of Technology, Stockholm, Sweden) pointed out that changes in food choices towards more plant-based foods can have a beneficial impact on climate change. The third speaker of this session, Gidon Eshel (Division of Science, Mathematics and Computing, Simon’s Rock College of Bard, Massachusetts), compared several plant- and animal-based meals in terms of their greenhouse effects.

Altogether attending the 5th Congress on Vegetarian Nutrition was a great experience and we were able to hear many engaged speakers on the latest research of the impact of vegetarian nutrition.

(1) <http://www.vegetariannutrition.org/congress-background.html>

(2) http://www.uni-giessen.de/fbr09/nutr-ecol/veroe_ernaehrungsoeko_e.php