



## New food for older people

(HEALTHSENSE-CHOICE)

In Europe, there will be more people over 60 years old than under 20 very soon. This demographic shift will become an increasing world-wide phenomenon as global life expectancy rises. Research on the particular nutritional needs of older generations has been somewhat neglected, but there is soon likely to be a major demand for health-promoting foods for the older population. This research project studied the physiological factors affecting adequate nutrition among older people, together with their attitudes to food choice and acceptability. The project highlighted the issues of loss of sensory perception (taste etc.) and social factors, such as tiredness and loneliness, associated with ageing that impact nutrition for older people. The results will feed into EU food policy-making.

### A healthier diet for an ageing population

Over the next 25 years or so there will be a significant change in the age demography of the world. A major societal challenge will be to improve the quality of life



and reduce disability and dependency in an increasingly ageing population. Large variations in age-adjusted incidence of major chronic diseases suggest strong environmental determinants, including the influence of diet. However, the consumer is the final judge of the acceptability of a food product - and consumers today are becoming increasingly discerning. In contrast, the

active lifestyles led by today's older generations have brought about higher demand for convenience foods. Therefore, healthy ageing among all groups, but particularly in older people, may not be possible until the physiological factors and mechanisms of food choice and acceptance have been fully understood.

This project defined the sensory physiology, cognitive and social determinants of food choice, intake and enjoyment in different age groups and cultures. The data obtained will help to develop future nutrition policy and improve the competitiveness of the EU food and drink industry by informing the design of a new generation of health-promoting foods.

### Food sense and sensibility

The HEALTHSENSE project was a European research initiative that investigated the relationships between sensory physiology and food liking, studied the degradation of sensory capability in the elderly and determined how this affects food liking and general well being. This allowed insights into the attitudes and behaviour of older people to food with regard to different socio-economic and lifestyle factors. The research was carried out in a concerted effort to re-assess the food sensory requirements of older consumers and to provide direction for the production of tasty and acceptable new foods for them.

A consumer's response to the sensory properties of foods, namely the appearance, smell, taste, mouth feel and texture of the food, is among the most important factors determining sustained consumption of a particular product. However, as ageing progresses, people lose sensory abilities, resulting in a changed perception of food. This may lead to loss of eating pleasure and a reduced desire to eat in a healthy way. Tests were developed to measure the sensory properties of food such as odour, taste and 'mouth-feel' abilities and studies of sensory abilities in ageing, sensory memory, cross-modal sensory interactions, and large-scale cross-cultural liking of meals were carried out. In addition, the influence of sensory properties and eating environments



# Consumer science

on repeated food intake was studied. Finally, qualitative and quantitative surveys were conducted and attitudes and behaviour with respect to food choice were investigated.

## Complex attitudes, social influences important

The results showed a complex relationship between sensory abilities and food preferences, as loss in sensory abilities was not uniform in elderly people or the individual senses important for food choice. Compensation for specific losses to some senses, and the taking advantage of residual ability in other senses, may be crucial to establish new preferences for products tailored for some older consumers with specific sensory losses: such as enhancement of some flavours and mouth-feel of foods. In addition, environmental factors, such as the eating situation and eating context, can also be used to compensate for losses in sensory abilities.

Survey findings determined the potential for promotion of good health through diet in the older EU population. However, for the elderly, the link between health and diet is not as obvious as it is for younger people. In addition, although many changes in eating habits that accompany ageing are due to the ageing process itself, other social and psychological factors are of major importance, including tiredness, widowhood and, most critically, loneliness. All these social factors cause older people to lose motivation in preparing and consuming meals. Other older-generation effects were pin-pointed by the HEALTHSENSE project, including a mistrust of industrial products, or the low use of some kitchen appliances, such as microwave ovens. A variety of inter-country and demographic differences among the elderly were also found, for example in responses to controlled food tastings, and specific dietary needs and barriers must be considered when developing strategies to promote health through diet.

## Better guidance and health promotion

The results from HEALTHSENSE will provide guidance for organisations seeking to target the older generation with new food products. In addition, the results will hopefully contribute to improved nutritional status

among the elderly. As an added value, significant sensory and consumer science methodological advances have been made. Using the most trusted information suppliers (e.g. general practitioners) and messages directed towards specific benefits to the older adult may be the most effective way to promote healthy eating in the elderly.

## More information

Project website: <http://healthsense.ucc.ie>  
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## Project Essentials

### Full Project name:

Healthy Ageing: How Changes in Sensory Physiology, Sensory Psychology and Socio-Cognitive Factors Influence Food Choice.

**Project Acronym:** HEALTHSENSE

**Project type:** Shared-cost project

**Theme:** Quality of Life

**Contract No.:** QLK1-CT-1999-00010

**Project Start Date:** 01/02/2000

**Duration:** 42 months

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**EC Contribution:** € 4 011 922

## Project Collaborators:

University College Cork (IE), Wageningen Centre for Food Sciences (NL), IRNA Theix (FR), Leatherhead Food Research Association (UK), University Claude Bernard Lyon 1 (FR), Swedish Institute for Food and Biotechnology AB (SE), IRNA Nates/Leima (FR), Wageningen Agricultural University (NL), IRNA Dijon (FR), Biotechnology Institute (DK), The Royal Veterinary and Agricultural University (DK), German Institute of Human Nutrition (DE), Warsaw Agricultural University (PL), Polytechnic University of Madrid (ES), University of Helsinki (FI), Oxford Brookes University (UK), Bestfood Europe sprl (DE), Campden & Chorleywood Food Research Association (UK), Adriant Nates (FR), AINIA – Technical Institute for Food and Nutrition (ES), INRA CORELA (FR), University of Barcelona (ES), Trinity Collage Dublin (IE), VTT Biotechnology (FI)