

# Trends in Healthy Foods - the Future

**Roy Bickerstaffe**  
**Molecular Biotechnology Group, Animal and Food Sciences Division,**  
**Box 84, Lincoln University**

## Introduction

Every consumer is aware of the increased emphasis on the nutritional value of foods, media claims on the health benefits of specific foods, increased health food sections in supermarkets, popular magazines containing articles on food, the perfect diet to keep you healthy and fit, and consultants at every corner are waiting to inform you on how to balance your life and food to enjoy a modern stress-free lifestyle. This workshop is designed to provide facts on (i) Update on the changes in Dietary Guidelines recommended in the USA, (ii) Trends in Healthy Foods occurring in USA and Europe and (iii) emerging foods in response to changing lifestyles.

## Definition of healthy foods

The marketing cry is “Our product is Healthy” but from a scientific viewpoint there are two aspects of healthy foods. One aspect is whether the healthy food contributes to the make-up of a diet which meets National Dietary Guidelines. The Dietary Guidelines are designed to meet the nutritional requirements of people across all age groups to support their active lives and to minimise disease risks. The basic principle is that a healthy diet, through selecting specific foods will promote healthy people. This approach embraces issues such as Recommended Dietary Allowances (RDAs), nutritional labelling and the Food Guide Pyramid. All are designed to allow you to individually mix and match food which will provide an overall healthy diet. The question is, do people have the patience, time or inclination to keep a record of their intake of specific dietary components, the nutritional composition of the individual components and whether the complete diet is contributing health benefits.

The second aspect is whether healthy food has a specific healthy attribute which will enable the consumer to treat a specific health problem. This health aspect embraces functional foods, often called nutraceuticals, which possess specific ingredients influencing a disease.

In summary, there are two types of healthy foods. Those foods which enable consumers to manage their health through providing the correct nutritional components to support a “healthy” lifestyle and those foods which provide identifiable ingredients which target diseases of concern to the individual and their health.

## **Dietary guidelines promoting health**

### ***Recommendations***

The 1995 edition of the USA “Dietary Guidelines” has been reviewed on the basis of current scientific and medical knowledge and the recommendations have been forwarded to the US Department of Health and Human Services and the US Department of Agriculture as “Dietary Guidelines for Americans, 2000.” The format is new with three basic messages under the banner “**ABC**” for “Health.” They are:

- **Aim** for fitness
- **Build** a healthy base
- **Choose** sensibly.

There are ten guidelines that support these three basic messages. The guidelines are:

#### ***Aim for fitness***

- 1 Aim for a healthy weight
- 2 Be physically active each day

#### ***Build a healthy base***

- 3 Use the Pyramid Food Guide for food choice
- 4 Choose a variety of grains daily
- 5 Choose a variety of fruits and vegetables daily
- 6 Keep food safe to eat

#### ***Choose sensibly***

- 7 Choose a diet low in saturated fat and cholesterol. Aim for a total moderate fat intake.
- 8 Choose beverages which limit sugar intake
- 9 Choose and prepare foods with less salt
- 10 Moderate your alcohol intake

### ***Controversies in the 1995 and 2000 guidelines***

- “Encouraging a variety of foods caused people to overeat” has been *changed to* “Pyramid Food Guide being the guide” which advocates nutritional adequacy without over-eating.
- “Restricting fat consumption led to increased calorie intake” has been *changed to* “aim for a total fat intake of 30% dietary calories,” which is intended to reduce the carbohydrate intake especially the added sugar intake.
- Increased consumption of beverages especially sweetened beverages has led to over consumption has been *changed to* “limit your intake of sugars.”
- “Lack of physical activity” with access to palatable food led to increased weight has been *changed to* be “physically active every day.”

- As a consequence of the 1995 Eat Less Fat Campaign most people increased their carbohydrate intake especially refined carbohydrate. This has contributed to people becoming overweight.

### **Specific recommendations**

- 1 Divide your weight by height to determine your Body Mass Index (BMI). A BMI <25 indicates a healthy weight, 25-30 overweight and >30 obesity.
- 2 Aim for the equivalent of a 30 minute two mile walk each day.
- 3 Eat by the Pyramid Food Guide which means balancing across the following food groups.

<b>Food Group</b>	<b>Amount</b>	<b>One serving</b>
Meat, poultry, fish, nuts	2 servings	2-3 oz lean
Milk, yoghurt, cheese	2 servings	1 cup yoghurt
Vegetables	3-5 servings	½ cup raw vegetables
Fruits	3-5 servings	1 medium fruit
Bread, cereal, pasta, grains	6-11 servings	1 oz cereal or 1 bread slice

- 4 Include whole grains (whole wheat, brown rice, oats etc) in your daily diet.
- 5 Aim for a maximum fat intake equivalent to 30% of your dietary calories, saturated fats equivalent to 10% dietary calories and cholesterol less than 300 mg/day.
- 6 Salt intake should be limited to 6 g of table salt per day.
- 7 Alcohol should be moderated to two drinks (12 oz glass) per day.

### **Problems**

The “Dietary Guideline Document” is a policy document for scientists and the food industry - consumers are not attracted or motivated by the document. For example, the document and labels use the term food servings whilst consumers often associate food with plate portions. The recommendations are also in terms of calories, percentages or servings whilst consumers often eat by slice or number of pieces on a plate. These differences in presentation and expectations of consumers knowledge will need to be addressed in the future if consumers are to practice and understand the implications of the Dietary Guidelines 2000.

### **Trends in healthy food selection and lifestyles**

The struggle of consumers to look great and feel good has shifted their reason for selecting food from healthy eating to using food to treat health problems. Nutrition is now

perceived as a tool for self-treatment of specific health problems or to prevent the onset of health problems. Approximately 33% of shoppers are likely to self-treat themselves with food if there is a perceived health benefit. The fastest growing segment of the food industry is nutraceuticals. Some trends in food selection are as follows:

### ***Trend 1***

Consumers are more adventuresome with flavours and are looking for new and unusual flavours. Ethnic foods are expected to account for one in every seven food dollars spent. Plain mildly flavoured food is preferred. A taste sensation is essential.

### ***Trend 2***

Only 50% of homes prepare food from scratch, the use of cookbooks has fallen and weekend recreational cooking has declined. Forty percent of Americans eat out every day, the remainder have moved to one-dish meals. The trend is to have very simple meals such as casseroles, meal solutions, pre-cut vegetables and salads, frozen ready to go pizza etc. Grocery shopping now lasts less than 24 minutes. The first food stop for the next generation will be the meat section with recipes, which will need to guarantee restaurant quality results at home.

### ***Trend 3***

With increased numbers of people commuting to work and lunch hours being reduced to 36 minutes, the sale of hand-held foods is growing at 7% per year. Sandwiches remain strong but the concern about energy and fatigue has supported increased sales in energy bars and energy beverages. Hand-held hamburgers remain the third best selling American restaurant item.

### ***Trend 4***

Product freshness is the third most important reason for a consumer to select a supermarket. The trend is for products to carry a fresh and natural label rather than a healthy claim. Natural fresh food products have outperformed the market by 30%.

Organic foods have enjoyed a double-digit growth on the “grown without pesticide” image. Fresh products however will require “prepared on” and “use by” dates. Furthermore, as phytochemicals from fruits and vegetables become part of the health strategy of “food for medicine,” freshness will be emphasised and be used even more as a marketing tool in the future.

### ***Trend 5***

Every month, at least 70% of all American households purchase a takeaway and 33% of the orders are delivered. Predictions are that the consumers will continue to demand home delivery but with the Internet, there will be a movement to on-line shopping. Indeed, market studies have already shown that consumer-direct Internet sales of produce are higher than in-store produce sales providing the cost and quality of the delivered product matches the product in the supermarket.

### ***Trend 6***

Socialising over food is increasing. There is a trend to the casual European-style of large communal one-dish platters.

### ***Trend 7***

Ten percent of Americans snack frequently and nearly 66% eat two meals daily with snacks. Preparing three meals a day at breakfast, lunch and dinner at their respective times has gone forever. Casual dining establishments are responding to the emerging irregular eating schedules by offering extended opening hours. School breakfasts, however, should grow since there is a link between the consumption of breakfast and increased scholarly achievements.

### ***Trend 8***

Consumers' concern over fat has dropped from a high of 65% to 50% and casual steak house sales have increased 70% since 1993. Big and larger portions are back. "Triple Decker" hamburgers and cheesecakes are in demand as consumers return to taste sensations. The trend is how to balance the indulgence of "bad for you" against "good for you" foods. Children (72%) aged 6-11 years are increasingly buying sweets, snacks or soft drinks with their own money.

### ***Trend 9***

The fastest growing food segment is vitamins and herbal sales followed by energy drinks, energy bars, anti-oxidant and calcium-fortified juices. There is a trend to select food as a medicine. More than 50% of shoppers believe foods can replace over-the-counter drugs. Future consumers are looking at foods as a means of self-treating health problems such as stomach upsets, headaches and diarrhoea. Shoppers are now looking at a new generation of foods that will deliver specific health benefits. The health concerns, in order of priority are: lack of energy, heart disease, cholesterol, stress and diabetes. The trend is to purchase food (nutraceuticals) which targets specific health problems.

### **Trend 10**

After 30 years of age, people increasingly resist the introduction of new technologies. Young parents with children are the technophiles. The use of biotechnology in the USA to adjust the fat or vitamin content of food is accepted (75%) provided foods are labelled that biotechnology has been used to generate the food product. In contrast, Europeans (63%) avoid biotechnologically modified foods. The trend is to accept technology if the food is safe and the technology provides a benefit.

### **Summary**

In future, meals, cooking and taste will be simplified. Plates are being replaced by bowls; the main meal is at noon and people will socially indulge in food pleasures. Table 1 summarises the main changes.

**Table 1:** Food attitudes and behaviours.

<b>Fading</b>	<b>Growing</b>
Guilty	Give it to me
Bars	Small bites
Wraps	Wontons
After dinner desserts	Bed friendly foods
Nuggets and wings	Skewers
Plates	Bowls
Deli take-out	Delivered delights
Microwaved	Slow roasted
Oils and sauces	Broth and reductions
Healthy eating	Problem treating
“Me” generation	“We” generation

### **Trends in foods with specific functions**

Last year, 85% of Americans used a dietary supplement to improve their health. However, 90% of shoppers preferred natural nutritious foods instead of supplements to maintain or manage their health. Indeed 66% of shoppers reported their actual food purchase is driven by a desire to reduce the risk or manage a specific health condition. Health areas of major concern are: being overweight, high cholesterol levels or a poor immune system to maintain health. Shoppers who specifically manage health through food are more likely to purchase nutritious foods as health foods rather than use supplements. To reflect this trend, supermarkets are now providing health and nutrition information which is used by 50% of shoppers. The desire for good health is the number one factor that drives the decision of healthy food purchasers. Foods, for the first time, are rivalling Over-the-counter (OTC) drug preparations as a health treatment option. The next generation of shoppers (39%) is more likely to try a natural remedy before a drug. Food retailers are looking at the “do it yourself” health market segment and creating in-store “whole health centres.” Accessible in-store trusted sources of nutrition and health

information will be the key to future food health purchasing. The trend is Functional Foods which deliver specific health benefits in a sustainable way.

The functional food segment is driven by the financially well-off ageing baby boomer who will dominate the market for the next 30 years. For example, within the next five years, the 50-64 boomer is expected to experience a 30% increase in stress, lack of energy, high cholesterol, high blood pressure, heart disease, cancer and digestive problems. More than 40% of Americans have tried alternative therapies but due to the severe side effects from some of the wonder drugs, consumers are now looking at natural products. For example, 50% of Americans use multivitamins, 42% use supplements and 33% use herbals. 15% of all college students are vegetarians and 71% of all shoppers are purchasing more fruit. Physical activity has increased in the younger age groups. There has been a 60% increase in sports participation by 6-11 year old children, a 68% increase in weight training, a 64% upturn in aerobics and 44% in walking. To respond to these changes in lifestyles and purchasing food according to your health condition, major food companies are developing “functional foods” or health-promoting foods. However, only 24% of the public are familiar with the term “Functional Foods” and 10% with the term nutraceutical. Below are listed some trends in the development of “functional foods.”

### ***Trend 1***

The natural high levels of minerals and vitamins in fruits, or phytochemicals in tomato ketchup, or omega fatty acids in fish products are all being marketed as natural foods which deliver beneficial health effects through ingredients such as antioxidants or calcium. *The trend is: market natural products with ingredients which are beneficial to health.*

### ***Trend 2***

The number of teenagers is increasing. Teenagers are growing in number and becoming aware of the importance of food particularly as 25% are overweight and 36% have no exercise at all. Teens directly influence sport drinks, breakfast bars, carbonated beverages and cereals. Behaviour issues such as hyperactivity disorders affect 5-10% of all school children. Functional foods such as metabolic response modifiers or cereals fortified with omega fatty acids and vitamins are known to encourage students to feel more awake and be smarter. In addition, NutriDelight is marketed for growing children and organic yoghurt has been created for infants and targets children who are not receiving their recommended levels of calcium, zinc, iron and B-vitamins. *The trend is: target the new youth market and their problems.*

### ***Trend 3***

Surveys have shown consumers will not give up their favourite foods in search of health. Only 49% will give up junk food. However, some of the favourite foods and beverages

have been changing. Tea, the second most popular drink in the world after water, has been marketed as fortified green tea and gained market share. Chocolate fortified with vitamins and calcium has also increased market share. Low calorie diabetic chocolates to control blood glucose have also increased market share by 11%. Sugarless gum for kids, which has been shown to re-mineralise and strengthen teeth, has also gained sales. *The trend is: upgrade favourite foods to provide a health benefit.*

#### **Trend 4**

Customisation of a food product is the aim of any company strategy plan. Products providing phyto-oestrogens and calcium for menopausal or premenopausal women have been developed. 85% of women who do not use prescription hormone therapy are turning to the 'Soy Sensations' beverage and energy bars which contain soy isoflavonoids and nutrients.

The most sophisticated way to customise health benefits is to develop probiotic foods which provide health-promoting bacteria. Nestlé, for example, markets *Lactobacillus johnsonii* which blocks the adhesion of the gut ulcer causing *Helicobacter pylori* whilst Stonyfield Farm launched yoghurt with six live active cultures which aid digestion, lactose intolerance, calcium absorption, immunity and cancer prevention. An ultimate product is one which consumers can add a probiotic to their own diet to manipulate their own health benefits. *The trend is: to tailor make a product with health benefits.*

#### **Trend 5**

Functional foods will address the lack of an individual's performance whether it is energy, weight loss or immunity. 75% of adults are concerned about energy loss and fatigue. The market has responded with sports energy bars and beverages such as Coca-Cola's 'Surge'. There are, however, no satisfactory weight loss products. Products with Vitamin C and the herb, Echinacea, are sold to aid cold prevention and boost immunity. The natural immune-boosting properties of probiotics and prebiotics will probably be the next generation of products on the market. Phytochemicals such as lutein, anthocyanins and carotenoids are known to contribute to maintaining healthy vision. *The trend is: to produce products for treating specific body conditions connected with modern lifestyles.*

#### **Trend 6**

In 1999, the FDA allowed the health claim that "whole-grain foods affect heart disease and cancer." In response, Kellogg labelled products with a "whole-grain" seal. Whole-grain bread is targeted for an upswing. FDA's approval of soy as a food ingredient to improve heart health has also led to an upsurge in soy-banded products such as "smart start" cereals. Prebiotics - usually fructo-oligosaccharides and inulin - which stimulate bifidobacteria and, consequently,

ensure a good gut environment have been added to a wide range of products. Finally, herbal sales are down due to a medical backlash, except echinacea, garlic and ginseng, mega-omegas are growing in popularity. *The trend is: to use extracted plant products to promote a health benefit.*

### **Trend 7**

Functional foods can offer an alternative to an “over-the-counter drug.” For example, digestive tract medication is the largest selling prescription drug in the world. Several new European foods contain probiotics and have been shown to destroy organisms responsible for peptic ulcers. Consequently, Europeans rank probiotics as the most important functional ingredient for the next five years. Cholesterol reducers are the second largest prescription drug category. Cholesterol reducing foods are being developed. The first medical food to aid dietary management of coronary heart disease is the Heart Bar containing L-arginine. Arthritis is often treated with anti-inflammatory medicine. A functional food product, Nutrajoint, is aimed at arthritis. *The trend is: for functional foods to replace “over-the-counter drugs” providing the food can be linked directly to improving a health problem.*

### **Conclusions**

Despite functional foods providing highly desirable health benefits, the products must deliver on taste, ease of use, value for money and actually deliver the promised health benefit. Consumers are not willing to trade great taste for improved health. Access to the consumers, however, is by a multitude of channels. Physicians are the most influential in providing nutritional advice, but in-store trustworthy advice and products which deliver will, in future, ultimately lead to increased retail sales as customers respond to branded products which deliver specific health benefits.

## **Workshop summary**

### **Definition of a healthy food**

There are two viewpoints

1. Does the food contribute to the make up of a diet, which meets National Dietary Guidelines?
2. Does the food have a specific healthy attribute which will enable the consumer to treat a specific health problem?

The overall summary is simple, remember the "A, B, C"

A - Aim for fitness. B - Build a healthy base. C - Choose sensibly.

### **Summary of discussion**

- Timing of meals is still important. Breakfast is important in providing energy through the day. A snack before morning milking was suggested to help out, especially on those days when things don't go to plan and you miss breakfast.
- It is important to have:
  - regular eating patterns for maintaining your energy levels through the day.
  - snacking through when disruption to regular eating occurs, choose healthy snacks, eg. apples, energy bars.
  - a main meal for the day. It doesn't matter when this occurs.
  - eat foods from all food groups, refer to the Food Guide Pyramid.
  - eat plenty of fresh vegies and fruit
- Meat is important, it is a great source of vitamins and minerals, provides protein and energy. It is recommended consumers eat approximately 170g/day.
- Many people use dietary supplements, eg. vitamins and minerals. A word of caution.
- Not all vitamin/mineral supplements are created equal. Check levels and concentration. Good quality is very important. A good brand is the
- Nutriway brand. Quality standards are pharmaceutical grade.

### **Food for thought**

Healthy eating is vital in your performance. You expect your cows to perform at high levels through spring, often when conditions are not ideal. How do you expect yourself to perform if you don't provide good nutrition to your body. You will get sick, tired, show increased stress levels, become depressed, and your decision making process will be reduced.

Take time out to prepare meals and eat. It may be more important not to do that half hour job, if it means missing a meal during a long hard day. You may think the world will end if you don't do the job, be assured - it won't. People don't remember you for that last job you did, and the bank that loaned you the money, is more interested in your ability and welfare, and importantly, so is your family. You can't perform on no food.