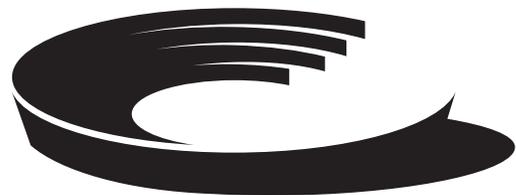


# The Future and Practice of Healthy Foods

## Summary

Monday, October 1, 2007  
Holiday Inn Metrodome  
Minneapolis, MN



The Food Industry Center  
UNIVERSITY OF MINNESOTA

# KEY MESSAGES

On October 1, 2007, The Food Industry Center presented its Fall Symposium, "The Future and Practice of Healthy Foods." Leaders from the food industry, academia, and the public sector discussed sustainable and healthy food systems, and the efforts currently underway to make the food supply system in the United States safer, healthier, less wasteful, more sensitive to the environment, and more egalitarian.

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Healthy food – organic/sustainable/local – must be egalitarian, not elitist.

"Nutrients delivered per mile" is more important than the distance a particular food travels to the consumer.

"Food miles" is not as important as the total energy embodied in the food when it reaches the consumer.

We are at the front edge of the "carbon footprint" discussion.

Stealth changes in many small things (growing crops, packaging, transport, portion control and reducing waste) can reduce embodied carbon substantially.

For sustainability around the world, we need to educate people and producers.

Confidence in the food system is critical in order to continue to do science, research and development.

Sustainability is not a niche market; it must be mainstream and affordable.

Rising food prices are due to rising incomes around the world creating an increase in the demand for animal proteins (meat and milk), in turn, using up surplus production of grains. Using food stock for biofuels contributes to this issue.

Healthy school lunches are not more expensive and children will eat them.

Food safety requires the cooperation of the private sector and of foreign governments.

Three tenets to follow in order to implement plans for healthier food: 1) Follow the money, 2) Follow the waste, and 3) Follow the imports to the origin.

Inspecting and monitoring the health of food at its original point of production and processing, even in a foreign country, is needed to improve food safety.

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# SYMPOSIUM THEMES

## **Consumers Must be Confident about the Safety of the Food Supply**

From tainted imported pet food to recalls of domestic lettuce, the American consumer has been made more acutely aware of food safety issues, even as the overall number of food-borne illnesses has decreased. Consumer confidence is necessary if the public is to support industry's efforts to leverage science and globalized markets to secure healthier, safer and more affordable food choices. Because global food safety standards are not consistent or coordinated, greater efforts must be made across industry, government and international stakeholders to verify supply chain integrity and food safety standards both domestically and abroad.

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## **Consumers Need Access to Healthier Food Options and Choices**

From trans fats to high-fructose corn syrup, the ingredients of many processed foods are coming under greater scrutiny. While, foodservice providers, who design menus and deliver meals to large populations each day, must meet basic nutritional guidelines and appeal to their customers. A growing body of research is showing that students will eat healthier foods, and make healthier food choices, when access and education create opportunities. Rising obesity rates and the concurrent public health crisis of complications from obesity compel action from all sectors of the food industry, especially those in foodservice and school lunch programs.

Safe, healthy, and environmentally-sensitive food cannot be a niche market. Food systems must be egalitarian, not elitist. School lunch programs that serve ethnically-diverse and impoverished populations should have financing options and nutritional programs that offer tasty, healthy and diverse food choices. Farmers and vendors from across the world, who produce food for the American consumer, must be able to leverage efficiencies and new technologies to increase their own standard of living. For many, this investment in people is as much a part of good corporate citizenship as it is food system sustainability. When done right, the trade and transportation of food can both increase the standard of living in agricultural economies and provide affordable choices for safe, healthy, tasty, environmentally-sensitive and interesting food for the greatest number of people.

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## **The Food Industry Must Reduce Waste and Leverage Efficiencies**

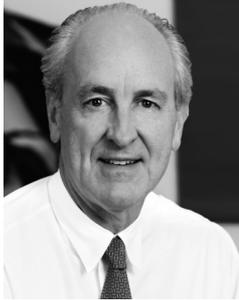
Simple calculations like "food miles" do not tell the whole story. It is important to differentiate between "local" and "locale." Inefficient shipping of food products over great distances can be wasteful, but with greater knowledge and appreciation of concepts like "nutrients per mile" and the "embodied energy" contained within the entire production cycle of food, the food industry can make smarter choices about investments in innovation and efficient production. Increasing the relative efficiency of photosynthesis in agricultural production is one way to achieve this goal. Consumers may desire smaller, more wasteful packaging, but these choices need to be considered in the balance between sustainability and convenience.

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## **The Food Industry Must be More Sensitive to Environmental Impact**

Greenhouse gases like methane and nitrous oxide are by-products of our food and agricultural production processes and contributors to climate change. In order to reduce these emissions, it is important to "follow the waste," especially the embodied energy contained in the entire production cycle of food. To live is to pollute, but choices can be made, and incentives can be created to encourage those in the food manufacturing, supply and distribution system to reduce their "carbon footprint." Whether through a "low carbon diet" foodservice menu, or a more thorough measurement of all energy-consuming aspects of agricultural production, environmental sensitivity can be achieved through a number of waste-reducing processes and strategies.

# Sustainable Food Systems and Healthy Eating



*Keynote conversation with  
Rick Schnieders  
CEO and Chair  
SYSCO Corporation*

*Session facilitators  
Jean Kinsey and Ben Senauer  
Co-Directors of The Food Industry Center*

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## *Requirements for Food*

Safe. Healthy. Tasty. Raised in an environmentally sensitive way. Interesting and egalitarian. We offer affordable foods because we have adequate supply, a supply chain that moves products to consumers innovatively and integrates the distribution system into the supply chain.

## *Local vs. Locale?*

We need to ask, "What is the best product to be produced at a particular location?"

When talking about the distance food travels (food miles), it is better to think about nutrients delivered per mile traveled. An efficient refrigerated truck can deliver more nutrients per mile than a local farmer.

The need for carbon efficiency means that companies are putting more pieces onto trucks, routing trucks more efficiently to reduce mileage, and working with customers for sequential deliveries.

## *Sustainability*

The challenge of supplying more sustainably grown foods will involve a change in public policies to help both the big and small farmers. There are few subsidies to farmers who grow differentiated products.

The growing demand for sustainably produced foods comes from consumers who want to trust their food, to know where and how their food was treated.

## *Food & Health*

An overall decline in food-borne illness in the U.S. is in danger of being lost in light of recent high profile outbreaks. We have gained some ground toward public confidence in food safety due to new tracability technologies that improve food safety records; we catch incidents quicker, we know where it comes from and have a better response.

For products from outside of the U.S., food safety concerns have led to importing more frozen products. We also train foreign suppliers in good food handling practices before the food is shipped to the U.S.

After the elimination of trans-fats, a number of food and health challenges loom: sodium, high fructose corn syrup, and better information on whether organic food is really healthier.

# Will Climate Change Define a New Frontier for Sustainable Food?



**Helene York**  
*Director*  
*Bon Appétit Management Company Foundation*

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## *Greenhouse Gasses*

The goal of the Bon Appétit Management Company Foundation's low-carbon diet program is to identify and help implement sustainable foods and reduce the impact on climate change by reducing emissions of Carbon Dioxide, Methane (22 times more potent than CO<sub>2</sub>), and Nitrous Oxide (300 times more potent than CO<sub>2</sub>).

Food and agriculture systems contribute 1/3 of global warming and climate change worldwide. The U.S. is responsible for eight percent of greenhouse gases worldwide and the typical American diet (with red meat) contributes more to global warming than driving a sedan.

Where do we find CO<sub>2</sub> in the food system? Transportation, manufacturing of fertilizers/pesticides, livestock/aquaculture feed, refrigerated or prepared meals, energy expended to develop/combine raw products, and manufacturing of packaging materials.

Where do we find methane (CH<sub>4</sub>) in the food system? In unfinished lunches, in landfill (waste is the most significant issue between food and climate change), livestock production (enteric fermentation and manure of cattle/sheep/goats), and landfill emissions from anaerobic compression of organic matter.

Where do we find nitrous oxide (N<sub>2</sub>O) in the food system? In agricultural growing practices like excessive irrigation/fertilization, animal waste lagoons, and excessive tillage.

## *Waste*

Waste of embodied energy is "energy that is used during the entire life cycle of the commodity to manufacture, transport and dispose." Waste in all phases of the food supply chain represents the loss of embodied energy and unnecessary emission of greenhouse gases.

As an industry we should "follow the waste" and eliminate as much as possible through operational changes, diet changes, and developing metrics for measuring the impact across the life-cycle of a commodity.

Reducing greenhouse gases produced in the food system (farm to fork) is a new frontier for food and agriculture industries. We can make a difference by changing lots of processes a little and educating consumers to join us.

# What Does “Sustainability” Mean? What are the Benefits and Risks for Your Company and for the Public?



Greg Page  
Chairman and CEO  
*Cargill*

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## *Definition of Sustainability*

Sustainable agriculture will meet the needs of the present while improving the ability of future generations to meet their own needs by:

- Increasing productivity to meet future nutritional needs while decreasing impacts on the environment
- Improving human health through access to safe, nutritious food
- Improving the social and economic well being of agricultural communities

(Source: The Keystone Center Sustainable Ag Initiative, Spring 2007)

## *Science*

Sustainability is about investing in the soil, in the processes, in science. We need to invest in the people wherever we operate and leave them better off and more educated. We must increase the public's confidence in our food system and processes so they will let us do the science needed to create a sustainable system.

## *Challenges*

Cargill's vision includes meeting the Millennium Goals of providing access to safe, nutritious, affordable food and stimulating markets that help people rise from poverty. The biggest challenge is to nourish people in the poor areas of the world.

Calculating “food miles” can distort the whole picture of sustainability and carbon emissions unless one includes other energy consuming aspects, e.g. water use, fertilizer outlays, renewable energy applications, means of transportation, photosynthesis, disposal, and storage among other factors.

The primary thing Cargill is trying to do is optimize the efficiency of photosynthesis. This ties together genetics, food, agriculture, land use and energy as a whole system.

As incomes improve around the world, there is more demand for diversified diets – more meat. Recent increases of food prices is not only from bio-fuels, but is due to high income elasticities of (animal protein) demand worldwide.

# What Does “Sustainability” Mean? What are the Benefits and Risks for Your Company and for the Public?



**Gene Kahn**  
*Vice President, Global Sustainability Officer*  
*General Mills*

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## *Definition of Sustainability*

The word of the year in 2006 was sustainability – a balancing between today’s resources with future needs. Sustainability is at the intersection of business and society’s interests.

## *Using Sustainability*

The terms “Sustainability” and “Corporate Social Responsibility” are being used interchangeably. It is dangerous to put “sustainability” in a niche market. This marginalizes its importance and the need for widespread commitment and integration into mainstream food systems.

## *Green-washing*

The definition of green-washing is marketing yourself as practicing sustainable methods without actually doing it. The practice of Green-washing poses a risk to society. Companies need specific goals/tactics/ timelines and accountability for improvement over time.

Ninety percent of General Mills environmental footprint is in their suppliers; they propose to reduce their CO<sub>2</sub> foot print by fifteen percent.

## *Consumer Demand*

Consumer demand for smaller size packages and single serve packages complicates the issues of increased greenhouse gases. We struggle to balance packaging needs with other societal issues



# SCHOOL LUNCH AS A STARTING POINT: ISSUES, PRACTICES, FINANCES, AND SUCCESSES



**Ben Senauer, Professor**  
*Department of Applied Economics*  
*University of Minnesota*

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## *Responsibility*

As an industry, a scholar, a food company, or a school district we have a responsibility to provide healthy food choices to children. Only one in seven secondary schools met dietary guidelines in 1998-99. Thirty percent of children ages 6-19 were obese in 2000, triple the number in 1970.

## *Schools*

National School lunch meals serve 30 million students daily with an average budget of \$2.24 per meal. Schools want easy preparation due to lack of staff and facilities, tight budgets and constraining state and federal policies. School food programs must be operated as a business; they are under lots of scrutiny while being responsible for developing healthier lifetime eating habits.

European schools (for example Italy) serve higher quality meals, but have more resources to work with. In a Milan school the average meal expenditure was \$5.30 versus \$2.24 in the U.S.

## *Research*

Research projects at The Food Industry Center found that participation in school lunch does not decline when healthier foods are served. The research also found that more nutritious lunches do not need to cost more. Labor costs are higher, but food costs are lower.

Research in the Hopkins, MN school district found that serving healthier foods improved the nutritional status of the students, as measured by the Healthy Eating Index of their food choices. Boys food choices improved more than girls, but the girls index was higher.

Indirect costs paid by school lunch programs to their school districts negatively affects nutrition. This charge is arbitrary and used to raise funds to subsidize other school activities such as school bands and uniforms.

# CASE STUDIES IN HEALTHY SCHOOL LUNCH PROGRAMS



**Jean Ronnei**  
*Director of Nutrition and Commercial Services*  
*St. Paul Public Schools*

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Seventy percent of the St. Paul School District students are eligible for free or reduced price lunches under the National School Lunch Program. There is an eighty-one percent participation in school lunches and forty percent participation in breakfast. The District serves an ethnically diverse population.

Achievements of the St. Paul Schools nutrition program include:

- 1) The difference between setting standards and meeting standards makes for a stable lunch program.
- 2) Control of portions and ingredients is essential.
- 3) We bake our own fresh bread and have fifty percent whole grains added to pizza crust; we have a no transfat policy.
- 4) Scratch cooking is emphasized, hence low food costs.
- 5) We allow no vending machines during school hours.
- 6) The St. Paul School District is now exceeding standards in fruits and vegetables, still needs to contain fat amounts, and protein exceeds the requirements.
- 7) Food waste is reused for hog farms.

We are getting good responses from kids about our veggies and they say we serve food that they like.

Modification of standards is a political process. The value of commodity program food is about \$.18 per lunch now.



# CASE STUDIES IN HEALTHY SCHOOL LUNCH PROGRAMS



**Pat Crawford, DrPH, RD**

*Adjunct Professor Nutrition Specialist & Co-Director  
Center for Weight and Health  
University of California, Berkeley*

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## *The Story of Policy Development in California*

In order to get the attention of the California Legislature on the importance of school food and nutrition policy, the Center published the diabetes data rates by county. Students could easily over-consume empty calorie foods at school because of multiple venues for snack foods and sweetened beverages. Specifically, à la carte school stores, vending machines, periodic fund raisers, classroom celebrations and school events were all contributing to the problem.

## *Dietary Guidelines*

If the recommended daily servings from all food groups are met, we could serve 195 discretionary calories per day. The differences in calories coming from foods high in fat and sugar is 600 calories extra per day which leads to a weight gain of 50 lbs a year. The implications of this troublesome problem is there is no room in children's diets for multiple portions of empty calorie foods since they might displace other nutritious foods.

## *School Nutrition Standards Pilot Program*

The impacts of the Berkeley program were a switch to healthier options, more salad bars, and healthier vending machine foods. Money is the most important factor - after the pilot study, meal revenue increased and an à la carte menu was eliminated. Now, total revenue comes mostly from meals (they eat more school lunches since they can not get off campus). There are many anecdotal reports of improved student behavior and attitude. There are revenue losses for some school groups. The main barrier is from healthy eating adult stakeholders involved in fundraising and celebrations, not students.

There are difficulties determining what is compliant and what is healthy: eighty-five percent of schools adhere to district policy on beverages, fifty-four percent on foods; for statewide standards, eighty-two percent comply on beverages, and twenty-two percent for foods.

## *Lessons Learned:*

- Nutrition standards are feasible and can have positive impacts on multiple levels.
- These "environmental" changes should be accompanied by education & promotion for parents, students and school staff.
- All options need to be healthy: healthy options do not compete well with unhealthy ones, when both are available.
- Reductions in snack food/sweetened beverage intake is desirable and therefore schools may need to pursue other means of fundraising.
- Care should be taken to avoid providing "compliant" alternatives that are still an excess source of empty calories.

# FOOD SAFETY AND DEFENSE IN A GLOBAL SUPPLY SYSTEM: WHAT DID WE LEARN FROM THE PET FOOD CASE?



Col. John Hoffman, USAR, Ret., Research Scholar  
*National Center for Food Protection and Defense*  
*University of Minnesota*

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## *Globalization is the Reality*

It brings problems and we need to prepare for it. There is a lack of proper information, awareness and coordination in understanding the entire scope of the food chain.

The Chinese incidents, starting with adulterated pet food ingredients, are instructional.

## *Most Incidents are not First Time Events*

Global standards are not adequately monitored by implementing countries. In the case of wheat gluten from China, the same contaminant was distributed to other countries and there were incidents reported before it was discovered in the U.S. In May 2007, Chinese firms involved acknowledged they had used a protein supplement contaminant intentionally as economic fraud.

There is an underlying problem of coordination with industry. Customs and Border Patrol (CBP), FDA and other agencies are involved in setting and monitoring standards. CBP is not trained, equipped or staffed for meeting these food related challenges.

## *Country of Origin Labeling May be Counter Productive*

Food available in American food stores must be safe irrespective of origin and there are multiple origins in many food products. Need for supply chain verification is imperative. We have a potentially significant vulnerability and there is a danger in a growing lack of confidence in the food supply.

## *Key Lessons from the Pet Food Case*

- 1) Identified vulnerable spots in food chain
- 2) There is a need for stronger food supply chain communication and control
- 3) A lot of "Just-In-Time" products come through air and not just ports

## *Outcome*

July 18, 2007: Executive order to secure foods coming into the food supply, but infighting among federal agencies delays implementation.

## *Overarching Themes*

- Protect U.S. while continuing to support legitimate trade
- Engage trading partners
- Need safety inspections along the supply chain, preferably off-shore, preferably at the point of growing, packing and processing in a foreign land



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