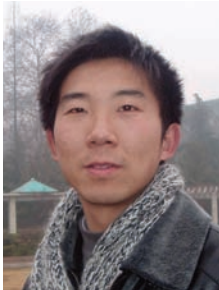


The Columnists Forum



Tao Feng
Shanghai Institute of
Technology
Shanghai, China



Kelley Fitzpatrick
NutriTech Consulting
Winnipeg, Canada



Julie Miller Jones
College of
St. Catherine
St. Paul, MN, U.S.A.



Leon Levine
Leon Levine &
Associates
Sante Fe, NM, U.S.A.



Richard Stier
Consulting Food
Scientist
Sonoma, CA, U.S.A.

During the course of this past year, CEREAL FOODS WORLD has expanded our base of contributors as a way of facilitating the cross flow of information about cereal foods-related developments from around the world. We now have columnists from Canada, China, Mexico, and Japan, as well as U.S.-based columnists reporting on baking, biotechnology, engineering, market research, nutrition, and more. Now that all of our columnists have had a chance to contribute, we thought you might want to acquaint yourself with some of them and learn more about their observations on our industry.

What is the most pressing nutritional issue that we need to address pertaining to cereal foods?

“Unfortunately, confusion still exists with regard to low carb diets and the need to avoid cereal products for weight loss. This needs to be addressed.”

— Kelley Fitzpatrick

“The most pressing nutritional issue today has got to be obesity. Given that cereals and grain products offer good and relatively inexpensive sources of calories, the industry is going to have to help teach people, particularly low income people, about caloric intake and the potential adverse effects on health. It is rather ironic that, when one looks at the demographics

of the United States, it is many of the poorest areas that include the highest percentages of obese or overweight individuals.”

— Richard Stier

“The most pressing nutritional issue that we need to address with respect to cereal foods is dietary fiber. As we all know, increased dietary fiber can help reduce hyperglycemia and many concurrent symptoms, such as obesity, vascular disease, and so on. These illnesses are among the most common and deadly illnesses suffered by people around the world.”

— Tao Feng

“We need to increase whole-grain intakes, reduce salt intakes, and revisit enrichment and fortification standards. The data for whole grains continue to show multiple benefits and many of these extend beyond fiber content. Salt is a big issue in Europe and an emerging issue in the United States. More research is needed to find ways to protect the taste and flavor of products while reducing their sodium and increasing their whole-grains content. Current enrichment standards were actively worked on by the AACC International early in its history. It is time to look at these again and determine whether these enrichment and fortification standards are still in line with people’s needs.”

— Julie Miller Jones

What is the most interesting technical development that you believe will sig-

nificantly impact the food industry (e.g., packaging, ingredient, equipment)?

“The United States is blessed by the fact that consumers enjoy a very diverse and inexpensive food supply. I can’t quite recall what the figure is, but only 9–10% of each consumer dollar earned goes for food purchases. This is among the lowest in the world. The industry will be pushed hard to keep costs down, especially when it comes to economizing on fuel costs. The major equipment manufacturers are already moving to make ovens, fryers, and other cooking equipment more energy efficient. Processors are also making significant investments in new and more energy efficient equipment. Given the rising costs of fuel/energy, this trend will continue.”

— Richard Stier

“I think the most interesting technical development which will have an impact on the food industry is that of packaging. The dominant trends of food industry development could be summarized into three words, namely nutrition, safety, and convenience. I believe that packaging technology provides the key to all three objectives.”

— Tao Feng

“I believe that microencapsulation of ingredients will have a very important impact. With new encapsulation technologies, nutrients and functional ingredients can be protected and released at the right time for optimal physiological effect.”

— Julie Miller Jones

What do you foresee to be the most important challenge facing our industry over the near future (1–2 years)?

“I think there are great opportunities to promote the health benefits of cereal products, especially with regard to the benefits of dietary fiber, resistant starch, and the low GI potential.”

—*Kelley Fitzpatrick*

“I believe that our biggest challenge will be convincing the public that our food supply is truly safe. After the California spinach *E. coli* outbreak of September 2006, ConAgra’s recent problems with peanut butter, and the media hype over concerns with imports, it suggests that the public is losing confidence in the safety of our food supply. The news media has glommed onto this issue, and our representatives in Congress have jumped on this band wagon. I firmly believe that the food processing industry and the government needs to be more proactive when it comes to addressing food safety. As an industry, we need to let consumers clearly know what is being done to ensure that their foods and ingredients are safe. We, as an industry, need to work with the regulatory agencies to show how interventions and systems like HACCP are designed to ensure food safety and quality. Processors should solicit popular television programs, such as the Food Channel, the Discovery Channel, or the History Channel, to show people how foods are processed and what is being done to ensure food safety.”

—*Richard Stier*

“The most important challenge to our industry over the near future is food safety. It is well known that food safety has become a major focus in the world nowadays, as it will be in future.”

—*Tao Feng*

“The primary challenge will be to create great-tasting foods using more whole grains and dietary fiber, while reducing the salt content of foods. ‘Taste’ is still king, but nutrition remains important. Product development must focus on creating foods that deliver on both.”

—*Julie Miller Jones*

There is a major international debate underway with regard to a working and regulatory definition for dietary fiber. What do you believe are the most important attributes of dietary fiber that should be addressed in such a definition and why?

“The most important attribute of dietary fiber is its nutritional contribution. This is clear from the term itself: “dietary fiber” is fiber that contributes to diet. Another attribute, from an academic perspective, is the need to differentiate fiber from starch according to its physiological effects...if it were not for the physiological effects of dietary fiber, there would be no interest in the subject on the part of either researchers, consumers, regulators, and manufacturers. So, again from this perspective, the most important attribute of dietary fiber is nutritional contribution.”

—*Tao Feng*

“I believe that a dietary fiber definition must address physiological effects. There is no reason to eat dietary fiber unless it delivers a physiological effect. Other aspects that are important are that it is not absorbed in the small intestine and that it is fermented to...at least some degree.”

—*Julie Miller Jones*

The biofuels issue has been positioned as a battle for available production capacity between energy and food interests, generating “ag”flation. How do you perceive the pros and cons of bioethanol development?

“The extensive use of ethanol from corn borders on the absurd. The ratio of energy produced to energy used to create the ethanol is too low. Ethanol production should be directed towards using raw materials such as crop residue, waste cellulose, or other plants that do not compete with food sources. I haven’t seen much data, but biodiesel is probably not a good idea from an energy-usage standpoint, either. It’s one thing to use waste oils, another to grow crops to make biodiesel. Even the use of waste oils may be questionable, since much of these have traditionally gone into soaps and detergents or are used as precursors for other valuable products.”

—*Leon Levine*

“I support the development of bioethanol for energy. While the development of biofuels has resulted in significant price increases to agricultural materials in some markets, I believe that it ultimately provides stability to world agricultural product markets. Should biofuels development be stopped for any reason, it would live up to an ancient Chinese saying, ‘to abolish eating by virtue of choking.’”

—*Tao Feng*

What do you believe to be the most important thing that society can do to combat the largely Western epidemic of obesity and what role(s) can the cereal foods industry play in this effort?

“I think the most important thing that societies can do is to advocate that people pay more attention to their diet and find time to exercise frequently. The cereal foods industry can help by developing low-fat and low-calorie foods to help reduce peoples’ concerns about their diet choices.”

—*Tao Feng*

“It would be wrong-headed to suggest that any one factor is more important than another. In order to deal with the problem, we need people to move more, to eat more foods that deliver a raft of nutrients, and to eat fewer foods that are pleasurable but deliver little in the way of nutrition. Restaurants need to serve portions that are not gargantuan. Consumers need to make wiser choices and not simply assume that every day is a day to indulge. I think that portion-controlled packages may be useful to some. Good tasting, well-portioned snacks that help people meet the dietary guidelines—not just deliver flour, sugar, salt, and fat—are what are needed.”

—*Julie Miller Jones*

What are the major obstacles confronting product development efforts to reduce sodium in foods and what cereal foods are the most likely candidates for sodium reduction?

“The major obstacle to sodium reduction in foods is to find nutritional, safe, and healthy salt substitutes, such as those derived from yeast extracts. Recent studies show that yeast extract is a rich source of glutamic acid and nucleotides that could intensify its flavor-enhancing characteristics. With the originally existing amino acids and polypeptides, yeast extract can remarkably decrease salt content without distorting the food’s original flavor. The most likely candidate for salt reduction in cereal foods is monosodium glutamate (MSG), which contains high levels of glutamic acid.”

—*Tao Feng*

“Salt reduction is a noble ideal, but I wonder if it is realistic. People like and crave salt, even though it is associated with elevated blood pressure. Salt adds taste to foods, it is an excellent carrier for flavors, and is an inexpensive means of achieving

desirable flavor profiles in foods. The obvious targets for salt reduction are salty snacks. The easiest products in which to reduce salt levels would be flavored or seasoned items.”

—Richard Stier

If you were a consultant to a major cereal products manager, where would you encourage them to seek significant reductions in energy costs, from farm to table?

“Cereal storage offers significant opportunities for reducing energy costs. Every year, millions of tons of cereal materials are subject to infestation or decay. We invest a lot of energy to keep these cereal materials in a thermostatic environment and, on the other side, we spend a lot of energy to produce pesticides. Despite all this, we still lose many cereal stores. I believe that we should develop more energy-efficient methods to store the cereal materials.”

—Tao Feng

“There is an excellent, albeit somewhat slanted, article titled “Growing Fuel” in the October 2007 issue of *National Geographic*. The article looks at the potential for generating energy from plants such as sugar cane, corn, and other plants. These are renewable sources of energy, but they pose some inherent challenges. They do not contain as much energy as gasoline or diesel and consume a great deal of energy in their manufacture. When one compares corn and sugar cane, sugar cane is the more efficient source for fuel. However, *National Geographic* neglects to mention the effects of sugar cane on the soil, whereas they harp on how corn requires high inputs of pesticides and fertilizers. Biofuels and alternative energy sources should be part of the future for all cereal product manufacturers. I have a sense that one of the best means of reducing energy usage in the future will be tapping into the sun. Solar collectors are becoming increasing more efficient and less expensive each year. Most food plants have large roofs and other structures that would allow installation of such collectors. However, if energy was my field, I would encourage my clients to look at new ovens, roasters, and cookers. The older systems are not energy efficient. Many new systems have been designed to capture and/or reuse the energy used to process foods. Such systems may be a bit trickier to maintain and operate, but with rising fuel costs and a push to conserve resources, energy efficient equipment should

be considered as seriously as hybrid or hydrogen fueled vehicles.”

—Richard Stier

Environmental pressures on industry are mounting on a number of fronts, including such issues as air quality regulation, heating costs, transportation costs, CO₂ emissions, water quality and utilization, pesticide regulations, packaging waste, etc. From your own unique geographic and technical perspective, where do you believe that environmental regulations will have the biggest impact upon your local cereal foods companies in the near future?

“I believe that pesticide regulations will have the biggest impact on Chinese cereal foods companies in the near future. China is a developing country. It is going through a process of having an incomplete regulatory system become a more complete regulatory environment. Thanks to the wide application of pesticides in agricultural production, Chinese cereal production is showing great gains. Chinese cereal foods companies will benefit greatly if pesticide regulation became more complete and strictly supervised at the farm level.”

—Tao Feng

“The food industry has been under pressure on the environmental front for many, many years. This is not new. When I joined the food industry in 1977, there were many large food processors in the San Francisco Bay Area. Companies with a major presence included Hunt Wesson, Gerber, and many other operations. These larger operations have relocated offshore or moved to the Central Valley. One of the driving forces behind the move was pressure from the water districts. The costs for treating effluent kept going up and even though most operations had on-site water treatment plants, it was food processors that were blamed for problems associated with rapid population growth. This pressure has not gone away. Bakers and snack food manufacturers will be forced to retrofit old plants with scrubbers and other treatment sys-

tems, which are very expensive. In fact, even the smell of baking bread emanating from large bakeries has become a memory. One of the components of gases coming off baking bread is ethanol from bread proofing. This has apparently been deemed an environmental contaminant, which has forced bakers to install scrubbers. The composition of “stack gases” that emanate from deep-fat frying operations is very complex. When foods are fried, steam blows out of products and literally distills components from the oil. These compounds go up the waste stacks and must be treated. Some fryer manufacturers capture the stack gases and burn them to generate more heat.”

—Richard Stier

Different societies place different emphases on cereal foods products and innovation. From your own geographic perspective, what consumer trend or new product concept do you find to be a particularly interesting and/or exciting development?

“Fabricated rice or instant cooked rice is becoming a popular new trend with Chinese consumers. Because it is very convenient and nutritional, Chinese people are very fond of buying such cereal foods and you can see their proliferation in supermarkets. Chinese manufacturers of instant cooked rice are becoming more evident in China, nowadays.”

—Tao Feng

“I live in California, which we jokingly refer to as the land of fruits and nuts. This may be shared by persons in other parts of the country, however, especially when the subject of Proposition 65 is broached. Be that as it may, one of the things that I appreciate about northern California where I currently reside is the number of boutique bakeries. I love good bread and there are lots of places where I can indulge myself. These products taste good, you can chew on them, and they literally are a meal on their own.”

—Richard Stier

CEREAL FOODS WORLD would also like to thank our other columnists that have made contributions throughout the past year. They are:

Hollis Ashman, The U&I Group, Powell, OH, U.S.A.

Jacqueline H. Beckley, The U&I Group, Denville, NJ, U.S.A.

Rick Broz, Culinary Wizard, Inc., Mundelein, IL, U.S.A.

David Busken, Oak State Products, Wenona, IL, U.S.A.

Rebeca López-García, Logre International Food Science Consulting, Mexico City, Mexico

Kiyoko R. Kubomura, Kubomura Food Advisory Consultants, Tokyo, Japan