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Exporting expertise

Chemist plays key role in international food chain

BY PHAEDRA HISE

On a typical business trip, Tom Deeb '83 will wake up with the sun because he's probably been sleeping outside. The "hotels" in the developing countries he visits frequently don't have windows or doors, and can be so stifling that he sometimes takes his mattress into the yard. He carries his own water and energy bars. "It's like the Peace Corps," he admits.



Tom Deeb '83 has worked with food providers around the world to improve what are often primitive production processes. He's observed Ethiopians shoveling corn, above, and visited vendors in simple marketplaces, such as the one where Guatemalan women sold their produce, opposite page.

But this isn't volunteer work. It's a successful business for Deeb and his wife, Maria Beug-Deeb, who spend a combined nine months or so overseas each year. Maria is the president and CEO of T&M Associates in Atlanta, Georgia, which consults with U.S. and global food companies on how to improve their supplier's compliance with international food safety

standards. Tom handles sales and marketing.

Deeb earned his bachelor's in chemistry at Illinois State, then a Ph.D. in the same subject at Texas A&M. He spent 20 years working in prod-

uct development at DuPont, and two more doing the same at Honeywell. His job for both companies was essentially to study the engineers' crazy and creative lab experiments, and figure out how to turn them into marketable products. Some of the ones he worked on include StainMaster® and Resolve® Carpet Cleaner.

When Honeywell was purchased by Allied Signal in 1999, Deeb's department was closed. He found himself with "an opportunity to go off and do something different." The original plan was to buy a small chemical company and grow it, since he and Maria are both chemists.

She had been running a small consulting company, offering advice on improving food supply chains and food safety. When DuPont asked Tom to set up a food safety consulting business for them, he and Maria took over that project and grew it into T&M Associates. After a year of success, the idea of buying an existing chemical company went permanently on hold.

"Two things during my time at Illinois State University allowed me to do what I do today," Deeb said. "In the Chemistry Department I worked with Otis Rothenberger, and he brought an interesting perspective to science. He emphasized how it can be a positive force on the environment and society."





Deeb's work takes him to remote areas with limited lodging. He is accustomed to sparse accommodations, such as the Zoo Garden Hotel, above, in Nigeria.

One of the greatest challenges is tracking food sources to their origin. Often that means finding local farmers, such as those who harvest acai berries in the Brazilian Amazon, right.



Deeb still remembers Rothenberger holding up the example of beer and color TV, which are both based on chemistry. Rothenberger emphasized the positive aspects of science, Deeb said. "It can be applied to solve problems and cure disease."

The second influence was department chair Douglas West. "He actively recruited faculty and students from developing countries," Deeb said. "For me, growing up in the Midwest, that was the first time I had interacted with people from Asia,

sourcing overseas foods, and expanding their food businesses.

For example, several years ago T&M was working with a company in Armenia named Cheer that was shipping dried fruit to retail customers in Europe. When new European Union regulations went into place requiring companies to trace their food sources all the way back to the ground, one of the company's biggest clients, Migros, asked for that documentation.

The problem was that the Armenian company employed more than 1,500 local women who gathered berries not from a farm, but from countless wild rural locations in the local mountains. It looked impossible to keep track of the myriad locations and employees, and the company faced losing one of its largest clients.

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the Middle East, and Africa. I learned about their cultures."

In his work today Deeb has combined his appreciation of these other cultures with a passion for using science and technology to improve both the environment and society. Essentially T&M helps food suppliers and government agencies improve compliance to food safety regulations. The goal is to help companies deliver safer products.

In addition T&M plays "connect the dots," making introductions and setting up contacts in developing countries for executives who might feel a little squeamish about camping out in the hotel's backyard. They also guide companies in

To solve the problem, T&M created a series of simple paper forms to identify where each batch of berries was picked. These were translated into the local language for ease of use. T&M then trained two local consultants on how to use the forms, and how to teach other small food companies to create food traceability programs.

"So the company was able to retain their client, the women were able to continue to derive an income, and the local consultants were able to increase their skills and offer a new service," Deeb explained.

It's the kind of work Deeb enjoys most—not just solving a food problem, but doing so with a

solution that can then be expanded and replicated by other emerging companies trying to get a foothold in the world food trade.

Take juice, for example. A company based in the U.S. might hire T&M to help find juice concentrate sources overseas. T&M will look for an overseas company that can meet all food safety regulations. They will then help the overseas company grow its export business to Europe and Asia as well.

"We work with the companies, telling them to supply their local economy first," Deeb says. "It's quicker and easier." Once a company has developed a network of customers in nearby countries, then it's time to look at America or other far away markets. "You get a higher price for Latin American products that you sell in Venezuela than you do in Wal-Mart," Deeb tells clients.

When a company can sell processed products like juice concentrate instead of onions or potatoes,

Such learning experiences extend through the entire family. Last summer the Deeb took their children—Elisabeth 18, Julia 15, Anna 10, and Susanne 8—for part of a summer in the Ukraine. There they rented an apartment, and learned some Russian.

"It was an opportunity for them to see an emerging market, the strongest one in the former Soviet," Deeb said. "And to understand what it's like for people to live in these types of markets."

The political and economic issues were impressive, but what surprised the kids most was that they had to haul 12 liters of water every day to drink. "And that you can't just order food from a street stand and eat it," Deeb said.

When not overseas, Deeb teaches food safety compliance at Michigan State University. Students studying for a degree in international trade or food safety usually go to work for major food com-



it earns higher profit margins and provides work for more employees. "We've helped companies grow from being very small to employing 200 people in their countries," Deeb said, "and now they earn more in a day than they used to earn in a month."

Spending so much time in developing nations has given Deeb a fresh perspective on being a U.S. citizen. For example, he was in Africa when Al Gore lost to George W. Bush in the 2000 presidential election. "They couldn't believe that the man who won the popular election lost, and we didn't revert to civil unrest," he says. "They were floored that we could change government without using guns."

Last fall he was in the former Soviet Union where "they thought the fix was in, and John McCain would win since there was already a Republican in office." When Barack Obama won, "they were astounded that we elected an outsider," Deeb said.



panies, helping import and export. Or they might work for the government, working on establishing food safety standards.

Currently the U.S. exports more foods than it imports, buying basic low-processed foods like fruits and vegetables. "That's changing," Deeb said. "We are starting to see more manufacturing capacity overseas, and higher value-added products being imported."

All in all, it's been a busy 10 years since Maria and Tom started the company. "The reward is building your own business," he said. "There is an enormous amount of flexibility. You get to choose projects that are of interest to you as a person, and as a company."

Equally rewarding, Deeb said, is watching other small businesses grow alongside his. "We're helping grow talent around the world."

Deeb partners with local administrators in the countries where he works. He met with representatives of Ethiopia's National Agricultural Research Organization, left, to discuss how the U.S. can provide technical assistance in the production of staple foods Ethiopians need to reduce the nation's starvation rate.

Treks overseas often include visits to production lines, such as a dairy plant, above.