



KRISTINE YOUNG



STORY BY ERICA ROWELL

Photos courtesy of Kristine Young



HARDLY BOGGED DOWN BY SUSTAINABILITY CHALLENGES

“When you eat them fresh, they almost pop inside your mouth,” says **Kristine Young MEM’09**, describing something most people have not experienced.

“Cranberries are unique in that they’re not a sweet fruit, definitely more on the bright side of a profile,” she continues, schooling the uninitiated on the taste of a fresh cranberry. “I would describe them as bright and refreshing.”

Young’s burgeoning authority on the cranberry is a result of her position at Ocean Spray. As sustainability manager, she integrates sustainable environmental practices into the business of making products, primarily from cranberries but also citrus fruits. Eating fresh cranberries has been part of her on-the-job training, along with learning the ins and outs of growing the native North American berry, and turning the tart, highly nutritious fruit into beverages and snacks.

She came to the job with the sustainability piece in hand, thanks to her Duke University master of environmental management degree, and she has taken to being sustainability manager, one might say, like a duck to water.

Water, it turns out, is a big part of her story.

“[Cranberries] float, which is why our entire harvesting process is based on floating and water,” Young explains.

But water also is the common thread that weaves together her lifelong interests, her career and her studies, both as a graduate student at the Nicholas School of the Environment and an undergraduate studying photography at the University of North Texas.

WATER WORLD AND FIELD PHOTOGRAPHY

“Growing up in Texas,” says Young, a native of Fort Worth, “there’s a lot of awareness around water conservation. It’s just part of life, a way of being. Water restrictions are a common theme every summer. So I’m familiar with water challenges.”

That familiarity with water, combined with her curiosity about how humans interact with and depend on such a vital resource, became the basis for her photography projects.

For her senior exhibition, she put together a photographic series showing objects floating on water and their reflections. It created what she calls an “interaction” between the actual items on the surface as caught on camera and their reflections captured both on the water and on film. She did another installation showing a series of nightscapes with long exposures around water.

Perhaps most prescient of her career to

come was the photographic exhibit she did involving actual physical interaction between the medium and its subject.

For this week-long installation, four photographs, each depicting a different water source—a duck pond, a Japanese garden, a recreational river and a reservoir that supplied her local water—sat in four separate jars of water collected from the location pictured. The jars, each labeled with water-quality metrics (such as pH levels) that she had tested for, sat illuminated on a mantel-like shelf built by Young. Throughout the exhibition, observers could see the water slowly eat away at the images, sending the photographic materials into the water column.

“Imagine a lava lamp,” she says, describing the debris that floated in the water, detritus from the water source as well as the photograph. “Over the course of the week, the photographs disappeared—the heat from the light removed the emulsion from the photographs in layers, taking off the red, then the blue, and finally the yellow,” says Young.

“It was a total interconnection of the physical aspect of water and our perspective of it. It played with our perceptions of what we see as pristine and beautiful and the reality of the environmental aspect of the resource.”

pg. 26: Alumna Kristine Young marshals cranberries during harvest season at Mayflower Cranberries in Plymouth, Mass. (October 2011).

pg. 27: (left) Young, as a consultant for Coca-Cola, at a reforestation project in Mexico. Her work at Coca-Cola also involved working on a certification standard for sugarcane. Shown top right Honduras sugarcane fields. (bottom right) Water treatment pond at a Honduras sugarcane farm.



FROM FIELD PHOTOGRAPHY TO FIELD WORK

After receiving her bachelor of fine arts, Young got her feet wet in the business world, where ideas for her career path began percolating. As a store manager for both Apple Computers and Starbucks, she found that she liked the experience of working for popular brands that sold “amazing products.” Her exposure to the coffee giant’s efforts to source sustainably grown coffee sharpened her focus—she wanted to work with top companies to make a business case for sustainability and to be able to know *how* to make that case.

For the *how* part, she chose the Nicholas School. A visit to campus left her impressed with the school’s interdisciplinary approach. She liked that the program was grounded in science, and found appealing the easy access to the Sanford School of Public Policy, Duke Law, and the Fuqua School of Business. Other selling points: flexibility and opportunity—the ability to mix forestry and wetland classes and fieldwork with the potential to work with professionals in the business program.

As a student at the Nicholas School in the environmental economics and policy track, she used her philosophy as an artist to guide her program of study: study what you love so you can do what you love when you graduate. For Young that meant that water, not energy (the popular pairing with business studies), would be front and center.

“When looking at the critical challenges facing humanity and our Earth,” Young says, “energy is important, but you can harness energy. Energy comes from very different forms and many different means and it’s through human ingenuity that we learn how to capture and utilize it. We cannot create water as much as we would like to think that we can. It’s a finite resource that is critical for life. It’s life-sustaining; it’s also business-sustaining.”

So she plotted her coursework, focusing on business, water, and whatever other subjects she found appealing.

“I took a lot of forestry courses that involved being more outside than in the classroom,” she says. “And I now find those classes to be very helpful in

my current position because it was an opportunity for me to see sustainability from the side of land management and the stewardship perspective. In much of the same way a forest manager is trying to look at land resources over the long term, that same concept is very helpful in thinking about sustainability when I'm working with farmers and agricultural production systems and global supply chains."

Her work with global supply chains began with another big beverage company. The fall after graduating from Duke, she landed a consulting position at The Coca-Cola Company, working on Bonsucro, now a publically available certification standard. Then, it was being developed to reduce the environmental and social impacts of producing sugarcane, a very thirsty crop. She also helped assess ways in which the company's water resources could be improved.

She credits a life cycle analysis class, offered during her last semester at the Nicholas School, with providing her the right skillset for the job.

"[The course] completely overloaded me," she says. "I did not need the credit, but it was a tool I was very interested in and that has served me very well. It opened up opportunities for me to work on very specific projects at Coca-Cola—and that same concept has transferred when I look at water footprints on consumer packaged goods."

AFTER FIELDS OF SUGARCANE, CRANBERRY LAND

Last April, Young moved from consultant at Coca-Cola to sustainability manager at Ocean Spray, the giant Massachusetts-based agricultural co-op owned by more than 700 cranberry growers and 50 citrus growers.

Contrary to popular belief, the floatable cranberry, cultivated in the United States since the early 19th century, grows not in water but on low-lying vines. The plant's pink blossoms reminded European settlers of the head of a crane. (Eventually the *crane-berry* morphed into the *cranberry*). But along with acidic soil and sand, cranberries do require lots of water.

It's fall harvest season that gives rise to the iconic image of the cranberry farmer

up to his or her waist in water, raking the berries. And during last year's harvest, Young hiked up a pair of waders, and waded through cranberry bogs. She corralled the berries toward a big funnel that then shot them up into a truck. The berries are later tested for bounceability (good berries not only float, they bounce). Harvest days are long and wet, but the harvest season is relatively short, meaning just a few days of the exhausting in-water work for most bogs.

In Massachusetts, Young says, "the growers coordinate, so when the water leaves one bog it goes to another. Water may pass through 2 to 4 cranberry bogs before it's released back into a water system." She says she's been impressed with how some bogs in Massachusetts, the number two cranberry-growing state after Wisconsin, are used as storm-water control, taking on and holding extra water until local waterways can handle the influx of water.

It's capitalizing on these types of things, and getting the relevant stakeholders onboard, that allows Young to help Ocean Spray improve its environmental practices and stewardship.

Ocean Spray's sustainability program focuses on five key areas: sustainable agriculture, water stewardship, climate change and energy, packaging, and waste reduction. Setting five-year targets in each area, Young and her colleagues monitor and measure their progress in meeting those goals.

Recently, the company reduced its carbon dioxide (CO₂) footprint just by reevaluating and optimizing their logistics network. After seeing that a big chunk of demand was coming from the Southeast while bottling was done out of New Jersey and Texas, Ocean Spray contracted with a bottler in Florida to get the supply-and-demand chain in closer proximity. The change resulted in 14,000 tons in CO₂ savings as well as reduced costs.

While cutting costs is something that generally translates well across all stakeholders in business, one of the challenges Young faces is reducing environmental impacts that do not necessarily carry cost savings.

"One of the challenges I'm always facing is trying to make the case for looking

at water resources as closely as we do energy resources even though there isn't always a cost reduction associated with it," says Young. "There's a business continuity guarantee that comes with looking at and planning for long-term water risk."

For water used in manufacturing, for instance, Ocean Spray's goal is a 15 percent reduction per production unit. To achieve this, the company is continually looking for water leaks they can stop up, as well as opportunities to reuse water. For example, they have identified places to capture evaporators' condensate for reuse in cooling tower systems and general cleaning. And through a partnership with The Nature Conservancy they are looking at upstream and downstream impacts in watersheds where the company's manufacturing facilities are located to identify long-term trends and potential mitigation activities.

On the agricultural side of water use, there's not much room for conservation since, unlike with traditional crops, the water used to grow cranberries is not consumed but is reused and recycled for irrigation and harvesting. Young and her colleagues are, though, working with Ocean Spray's growers on a comprehensive water management plan to aim for high water quality in and around bogs.

As she did at the Nicholas School, Young divides her time between being indoors, this time in an office, and going out in the fields to meet with growers on their farms, some of whose cranberry fields go back many generations, some even more than a century. She thinks these professionals have a lot in common with her Nicholas School colleagues.

"Their very essence of being a cranberry farmer is rooted in sustainability," Young says of her new colleagues. "They understand the long-term necessity for managing the crop for environmental impacts."

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