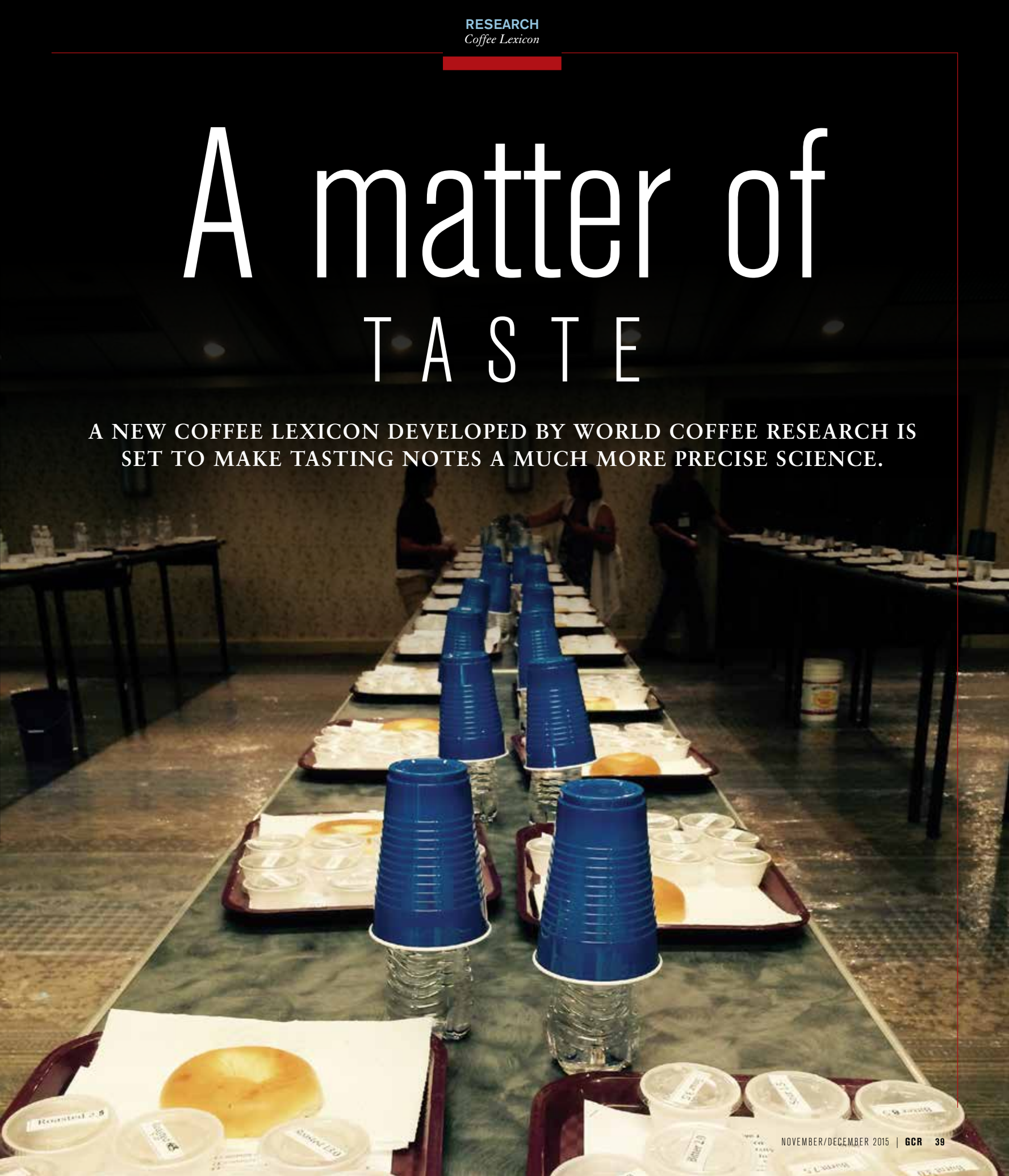
A matter of TASTE

A NEW COFFEE LEXICON DEVELOPED BY WORLD COFFEE RESEARCH IS SET TO MAKE TASTING NOTES A MUCH MORE PRECISE SCIENCE.



For many people both within and without the industry, coffee tasting can appear to be more art than science. Where one taster might note detecting hints of plum, another could swear they are getting notes of blueberry. But where does the truth lie?

A new project by World Coffee Research (WCR) is aiming to liberate the tasting process of such confusion, replacing it with a precise catalogue of objectively assessable attributes that will make tasting notes more consistent and replicable for scientists studying coffee quality.

The WCR Coffee Lexicon is the culmination of more than a year's work by a group of sensory scientists, led by Edward Chambers from Kansas State University, to compile a vocabulary of sensory attributes that can be used to study how changes in coffee genetics, terroir, processing, and roasting affect coffee quality—with potential repercussions for the way the entire coffee industry describes flavour.

According to WCR's Director of Communications, Hanna Neuschwander, the new Lexicon is not an exercise in reinventing the wheel (though it will inform the development of the new Specialty Coffee Association of America's flavour wheel), but is about refining the language that is already out there and making sure its use is consistent.

"The thing that really differentiates the Lexicon from the other tools out there is that, for each of the 108 attributes, there's a definition and then there's a reference, or multiple references for each attribute," Neuschwander tells *GCR Magazine*.

For example, according to the new Lexicon, the sensory attributes of blueberry are benchmarked against those attributes displayed by Oregon brand blueberries, which should be readily accessible to tasting panels right across the USA.

"The idea is that, when you are doing a flavour analysis using the Lexicon, the trained sensory panel that is doing the analysis will sit down with all of the different references relevant to that sample and they would actually have Oregon brand canned blueberries, and they would have roasted peanuts and various other references depending on what attributes they're looking at, and each of the references is then assigned an intensity on a scale of one to 15," Neuschwander says.

This, says Neuschwander, will ensure more precise and replicable results for tasting notes across the country.

"We are coming at this from a scientific, research approach," she says, adding that this is not meant as a way to replace the cupping process used by roasters and other industry professionals, but rather as a way to complement it.

The initial body of work for the project developed by the team at Kansas State, and then validated by a team at Texas A&M University, with input along the way from an advisory group made up of senior industry figures.

One member of that group, Timothy Hill, who is the Coffee Buyer and Quality Manager for Counter Culture Coffee in North Carolina, says the Lexicon could have a dramatic effect on the way tasting notes are developed in the future.

"The impact is going to be greater than I think we can know right now," Hill says. "In the short term, the Lexicon will certainly inform the language and descriptors that we use as an industry."

While this project will have a clear application for anybody working in the industry for whom tasting and evaluating coffee is a regular feature of their life, for WCR the aim is much bigger than that. In fact, Neuschwander says, this tool is set to play a role in helping to secure the very future of quality coffee.

"Our very big picture goals involve helping to advance and improve quality in coffee and one way that we're choosing to do that is through breeding new varieties of coffee," she says.

"When we stepped back and looked at how we can achieve that goal, we realised that if we wanted to make quality a primary consideration for research and development, we need a more scientific way for understanding, evaluating and quantifying what we mean by quality."

This meant that the language for defining and evaluating quality, which up until now has largely been the language of Q grading, needed to be refined.

"A scientist can't really use a cupping score of 83, for example, because coffees are very different from each other, from a sensory perspective," Neuschwander says. "They taste different, they smell different, but they could still get the same cupping score."

For Counter Culture's Timothy Hill, this was one of the most challenging aspects of the project.

"For me the most interesting part of the Lexicon is having to think about flavour in a very different way," he says. "Pointedly, the Lexicon is not about whether flavour is good or bad – rather it is to create a specific language with specific calibrations for flavours, that then can be used to gauge the relative presence and strength."

The team at Kansas State went about this by drawing on an existing body of knowledge and work in sensory science and then applying it to the specific field of coffee.

"Sensory scientists already use a universal set of attributes as a starting point, so there is already a giant library of aromas and flavours out there for us to begin with," Neuschwander says.

The team at Kansas State worked their way through that library, identifying 108 existing attributes that pertained to coffee.

"That's a little bit less than what's in the SCAA flavour wheel, but we do expect that number to grow over time as we assess more samples from more places," Neuschwander says.

While this initial work identified attributes associated with Arabica, WCR intends to add attributes of other species of coffee over time.

A group of coffee roasters gathered in a session to learn about the lexicon and the process of descriptive sensory analysis.

With the initial work on the Lexicon now done, WCR will integrate that work into a larger project to catalogue varieties grown in Central America, including information about both the agronomic and sensory attributes of each variety.

This work is being done to then inform WCR's work on developing new breeds of coffee that are able to flourish in the changing climate.

What makes this project radically different from previous work in this field, Neuschwander says, is the focus on quality.

"Quality wasn't the main concern 20 or 30 years ago," she says. "They were concerned about leaf rust and productivity and balancing higher productivity with the need for higher inputs – fertilizer – because that adds cost."

The work by WCR, however, seeks to balance those considerations with the growing demand for quality.

"It's only very recently that the market has started to send very strong signals that quality is really of primary importance," Neuschwander says. "As we are working to develop new varieties of coffee, we are incorporating some of the traditional concerns of breeding, such as vigour and overall plant health and productivity and rust resistance, but also, in a primary way we are focused on quality, and that's new."

The need to get this right cannot be underestimated, Neuschwander says, pointing to recent climate-induced shocks to the global coffee industry as evidence of just how precarious the industry's future really is.

"The recent rust crisis in Central and South America was not an isolated event – that was the canary in the coalmine, this is the new reality for coffee," she says. "If we don't stay a step ahead of that with our breeding, we're essentially abandoning producers."

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With the Lexicon set to be ready for distribution by the end of the year, Neuschwander says she is curious to see if its usage spreads beyond the scientific community.

"How exactly people will end up using it, I will be very interested to find out," she says. "My best guess is that companies will be able to use it to more accurately map the flavour profiles of their different blends, so as the availability of different ingredients change, they will be able to plug in different types of coffee, using the Lexicon to figure out which is the best match for that profile."

Counter Culture's Timothy Hill says he is already seeing applications for the Lexicon in his day-to-day work.

"Having a tool that is used to gauge the strength of descriptors is going to change how I think about flavor notes and the development of the notes we give coffee," he says. "Working in this way has made me reevaluate and think harder on protocols and methodologies for how I taste and draw conclusions on coffee when tasting for purchase and quality control under the current specialty coffee methodology. I will certainly be working on incorporating ideas I learned in this process into the lab I run." **GCR**