

FEARLESS



A TEXAS TECH PRODUCTION

Season 2 | Episode 6 | **Sticky Sweets and Sweet Reds**

Taylor Peters, Host: PREVIOUSLY ON FEARLESS...

Eric Hequet, Horn Professor, Plant and Soil Science: Everybody knows Lubbock. In the cotton industry, you can go anywhere in the world they know it.

Peters: TEXAS TECH RESEARCHERS ARE USING THE REGION'S MOST PROMINENT RESOURCE TO FUEL INNOVATIVE CHANGE THAT COULD MAKE A GLOBAL IMPACT.

Noureddine Abidi, Managing Director, FBRI: In 21 days, you can see that it has started to degrade. AND THE RESEARCH BEHIND HOW A PROFESSOR IS ATTEMPTING TO HELP SAVE THE ENVIRONMENT... BY TRANSFORMING COTTON WASTE INTO BIODEGRADABLE SINGLE USE PLASTICS.

Abidi: If you bury it in the soil and leave it in there for 30 days to 2 months, it's completely gone.

Luis Herrera-Estrella: We need to do research to create plant varieties that can produce the same with less water. We need to find ways to have a stronger interaction with the farmers.

(Instrumental Music)

Peters: ACCORDING TO THE ALZHEIMER'S ASSOCIATION, IT'S ESTIMATED THAT MORE THAN 6 MILLION AMERICANS HAVE DEMENTIA CAUSED BY ALZHEIMER'S DISEASE. TODAY, IT'S THE SEVENTH LEADING CAUSE OF DEATH IN THE UNITED STATES. IT KILLS MORE SENIORS THAN BREAST AND PROSTATE CANCER COMBINED. THE SCOPE OF THIS DISEASE IS VAST, IMPACTING NOT ONLY THE ONES WHO SUFFER FROM IT BUT THE FAMILY MEMBERS WHO WATCH IT TAKE HOLD. ITS IMPACT IS WIDE-SPREAD AND IT'S SOMETHING THAT HAS CAPTURED THE PROFESSIONAL AND PERSONAL ATTENTION OF A RESEARCHER ON CAMPUS DETERMINED TO FIND A CURE. VIJAY HEGDE'S LAB IS ON THE FOURTH FLOOR OF THE HUMAN SCIENCES BUILDING

(Elevator door opening and walking)

Peters: THROUGH A GLASS DOOR READING 'NUTRITIONAL SCIENCES'.

(Door swinging open)

Peters: ON THIS DAY, IT'S FILLED WITH STUDENTS WEARING LAB COATS AND GLASSES, TRANSFERRING A CLEAR LIQUID FROM A LONG SYRINGE-LOOKING DEVICE INTO SMALL TEST TUBES LINED ON A REFLECTIVE METAL TABLETOP.

(Lab Sounds)

Peters: HE'S WALKING AROUND, MONITORING AND OVERSEEING THEIR PROGRESS AS THEY WORK. HE IS HAPPY TO WELCOME ME IN TO LAB. HIS EXCITEMENT FOR HIS WORK AND MENTORSHIP IS CONTAGIOUS. HE TELLS ME HE'S PROUD TO BE PART OF THIS PARTICULAR SEASON OF THE PODCAST, THRILLED FOR A CHANCE TO SHARE WITH PEOPLE THE WORK THAT HAS OCCUPIED HIS LIFE FOR NEARLY A DECADE.

(Instrumental Music)

(Laughing and chatting)

Peters: AT THE START OF, AND EVEN THROUGH MOST OF HIS CAREER, HE DIDN'T SEE HIMSELF AS A PROFESSOR- HE WANTED TO BE A RESEARCHER, HE WANTED TO INVESTIGATE THINGS. AND HE DID THAT FOR YEARS, BECOMING CONNECTED WITH TEXAS TECH PROFESSOR NIKHIL DHURANDHAR AT ONE OF THE TOP NUTRITIONAL SCIENCES LABS IN THE WORLD LOCATED BATON ROUGE, LOUISIANA.

Vijay Hegde, Associate Professor, Nutritional Sciences: And when Dr. Dhurandhar was offered a track position here, I moved with him here."

Peters: THIS DECISION LAUNCHED HIM INTO A NEW ADVENTURE- TEACHING FOR THE FIRST TIME AND PURSUING A DIFFERENT TYPE OF RESEARCH. STUDYING OBESITY AND EXPLORING A CONNECTION BETWEEN DIABETES WITH ALZHEIMER'S DISEASE.

Hegde: A few years ago, I want to say 6, 7, 8 years ago, there were more reports coming out about the strong association between diabetes and Alzheimer's disease... So, that was kind of new and it was like 'if you're diabetic you are two to three more times likely to develop Alzheimer's disease.'

Peters: THE CONNECTION BETWEEN THESE TWO IS GLUCOSE LEVELS. VIJAY SAYS IT'S UNDERSTOOD IN THIS RESEARCH THAT THE DEVELOPMENT OF ALZHEIMER'S IS A PRODUCT OF HYPO-METABOLISM- OR LESS GLUCOSE GOING TO THE BRAIN.

Hegde: So that's when I was like 'Okay, we have a protein that works independent of insulin and insulin seems to be a major player in this situation between diabetes and Alzheimer's. Why don't we try to look into that?'...There was a new grant opportunity, a seed pilot program for grant funding through the president's office.

Peters: THEY APPLIED FOR IT AND RECEIVED THE FUNDING THEY NEEDED TO CONTINUE SEARCHING. THEY CONNECTED WITH A RESEARCHER AT THE GARRISON INSTITUTE OF AGING, PART OF THE TEXAS TECH HEALTH SCIENCES CENTER. HIS AREA OF FOCUS IS DEMENTIA, LIKE ALZHEIMER'S AND HUNTINGTON'S DISEASE, SO HIS EXPERTISE PROVIDED ANOTHER LAYER OF UNDERSTANDING TO THIS STUDY.

Hegde: That's when we submitted this idea of looking into how if we improve diabetes, or glucose metabolism, would that help in Alzheimer's disease.

Peters: AS THEIR WORK CONTINUED TO GROW, THEY SUBMITTED A PROPOSAL TO THE NATIONAL INSTITUTES OF HEALTH WITH THE IDEA THAT MAYBE TREATING ALZHEIMER'S IN TWO DIFFERENT AREAS OF THE BODY WOULD HAVE AN OVERALL EFFECT ON THE DISEASE.

Hegde: We are talking about the diabetes area and the brain area... so if we are targeting only the periphery or the brain, we are not seeing benefits. So, what if we tried both places? Would that be an effective treatment option or something that would help? That's what I proposed in this grant, and that's what we got funded for.

Cameron Smith, Office of Research Commercialization: The grants that Dr. Dhurandhar and Dr. Hegde have gotten...

Peters: THIS IS CAMERON SMITH WITH THE OFFICE OF RESEARCH COMMERCIALIZATION... HE HELPS TO ENSURE DISCOVERIES LIKE THIS ONE ARE PROTECTED BY PATENTS.

...they help move the research forward and we're moving the patent portfolio growing that. There we're working to license that patent portfolio and the right to use it out to industry, so that our

industry partner can then go through clinical trials, do patient testing and actually get something to market.

Peters: AS VIJAY AND HIS RESEARCH PARTNERS CONTINUE TO PURSUE A CURE FOR THIS DISEASE, THEY'RE GETTING THE HELP AND PROTECTION THEY NEED FROM PEOPLE LIKE CAMERON. IT'S HIS JOB TO ENSURE ALL INTELLECTUAL PROPERTY DEVELOPED BY THESE RESEARCHERS CAN'T BE STOLEN OR FABRICATED. I CAN'T EMPHASIZE ENOUGH THE POTENTIAL IMPACT OF THIS RESEARCH. PART OF THE REASON THIS WORK IS SO FULFILLING TO VIJAY, IS BECAUSE HE'S USING HIS OWN DISCOVERIES TO CREATE CHANGE FOR PEOPLE LIVING WITH THE DISEASE AND THEIR FAMILIES.

Hegde: Here's the thing, with Alzheimer's Disease, the more that we come to know about it, the more we learn that it is affecting many families. You speak talk to many people and immediately get a response like "my grandmother, my aunt, my father-in-law..."

Peters: HIS PASSION WAS TAKEN TO A NEW LEVEL WHEN HE GOT A CALL FROM HIS OWN MOTHER IN 2017, THREE YEARS AFTER HE STARTED THIS RESEARCH.

(Instrumental Music)

Hegde: My father was diagnosed with Alzheimer's...initially we didn't know it was Alzheimer's, we were like 'okay he's just forgetting things. Of course, my parents live in India and me and my siblings live here in the US so we don't have a daily connection in a way where we can observe him to know what's going on.

Peters: VIJAY'S MOM WAS THE PROTECTOR AND PRIMARY CAREGIVER FOR HIS DAD, WHICH IS COMMON. THE ALZHEIMER'S ASSOCIATION SAYS THAT AROUND 11 MILLION PEOPLE PROVIDE UNPAID CARE FOR PEOPLE WITH ALZHEIMER'S, MOST OF THEM FAMILY MEMBERS.

Hegde: She wouldn't tell us all the details because we're all here, thousands of miles away, she didn't want to get us worried, so she didn't tell us until things got really bad. And of course, we started seeing all the patterns Alzheimer's patients go through, behavioral patterns that you never had seen from an individual like that. 'Oh my god, my mom is acting like that'... or saying things they've never heard coming out of their mom's mouth. So, that's how that disease affects people.

Peters: HE SAYS THAT ONE DAY, WHILE HIS MOM WAS ASLEEP HIS DAD SIMPLY WALKED OUT OF THE HOUSE AND WANDERED AROUND FOR A WHILE. HE RETURNED WITH A STORY THAT HE HAD BEEN INVITED TO BREAKFAST AT A COUSIN'S HOUSE.

Hequet: God knows in which year that was kind of thing... He passed away in 2018, and right before, a couple of months before that, I went to see him because we knew this would be it. At that point he wasn't that person that I had known all these years, he didn't even recognize me...

Peters: IT WAS SOBERING FOR HIM, BUT HE RETURNED TO HIS WORK WITH A RENEWED SENSE OF UNDERSTANDING AND PURPOSE. THERE ARE PEOPLE IN MY OWN LIFE WHO HAVE OR HAVE HAD ALZHEIMER'S. PEOPLE IN MY FAMILY WHO HAVE LOST THE ONES THEY LOVE TO THIS SLOW FADE OF MEMORY. I TELL VIJAY THAT I WANT TO SHARE WHAT HE'S DOING WITH PEOPLE. THAT THEIR PROGRESS DESERVES RECOGNITION AND HE SMILES. SAYS THAT IT COULD HELP A LOT OF PEOPLE AND IT INSPIRES ME IN THAT MOMENT, THAT HIS REAL MOTIVATION IS THE REST OF US.

(Instrumental Music)

(Bees buzzing)

Peters: IN MY BACKYARD, WE HAVE AN ENORMOUS OAK TREE- IT'S HUGE TRUNK SUPPORTS DOZENS OF LONG, FULL BRANCHES WITH LEAVES THAT CAST SHADE ON OUR BACKYARD. ONE

EVENING LAST SPRING, I NOTICED A LOW, VIBRATING BUZZ EMINATING FROM IT'S CENTER. MY NORMALLY ENERGETIC AND EXCITABLE DOG STOOD AT ATTENTION, EARS FLIPPED BACK, AND HEAD COCKED TO THE SIDE STARTING AT THE BRANCH CLOSEST TO OUR HOUSE. WHEN I WENT TO STAND WITH HER, I UNDERSTOOD WHY. HUNDREDS OF TINY BLACK AND GOLD BODIES HOVERED AND SHOOK OVER A HIVE I WAS CERTAIN HADN'T BEEN THERE THE DAY BEFORE. WHEN I LOOKED UP THROUGH THE BRANCHES OF THIS 30-FOOT TREE, I SAW HUNDREDS MORE. BEES HAD MADE THEIR HOME SEEMINGLY OVERNIGHT IN MY BACKYARD. I HAD A BUNCH OF QUESTIONS... HOW AND WHY DOES THIS HAPPEN? AS IT TURNS OUT, TEXAS TECH HAS A SCIENTIST WHO HAD THOSE ANSWERS... AND MUCH MORE.

Scott Longing, Associate Professor Natural Resources Management: This is the adult.

Peters: SCOTT LONGING'S OFFICE IS PACKED FULL OF BOOKS, PAMPLETS, PAPERS AND DOZENS OF ENTOMOLOGY BOXES WITH VARIOUS INSECTS. SCOTT'S CHILDHOOD IS PAINTED WITH MEMORIES OF CREEK DIGGING, BIKE RIDES THROUGH THE WOODS AND ONE IMAGINATIVE EXPLORATION AFTER ANOTHER. BUT BY THE TIME HE WENT TO COLLEGE, HE HAD CHOSEN A DIFFERENT PATH.

Longing: I was actually a pre-dental major [LAUGHTER], rocking along on that track and actually took the dental test and did all that. Anyway, my last year I had a chance to have an elective course and I didn't know what to take.

Peters: HE SETTLED ON ENTOMOLOGY AND A PASSION FOR THE STUDY OF INSECTS BEGAN TO TAKE ON A LIFE OF ITS OWN. SUDDENLY DENTAL SCHOOL WAS OFF THE TABLE.

Longing: Right now, we're documenting bee biodiversity. Bees are major pollinators. Right now, we're interested in what's out there really...

Peters: BY THE WAY, HE'S WEARING A BLACK HAT WITH A YELLOW HONEYBEE ON THE FRONT- HE PICKED IT UP AT THE WOLFFORTH FARMER'S MARKET. HIS REDDISH BEARD AND LONG HAIR BENEATH HIS CAP PLACE HIM PERFECTLY IN AN HIKING MAGAZINE, IT SUITS HIM GIVEN THAT HE SPENDS MUCH OF TIME AND WORK IN THE FIELD.

Longing: What we want to know is how do human factors influence biodiversity? So, we're trying to figure out what those mechanisms are, everything from habitat fragmentation to pesticide exposure, so all of these bees they're foraging, they're flying around, they don't discriminate between crops and wildflowers, so whatever we do to our crops can affect what they pick up.

Peters: Like pesticides or something?

Longing: Yeah, they can pick up pesticides as they are foraging. (FADE OUT)

Peters: IN WEST TEXAS, FARMERS REGULARLY USE CHEMICALS LIKE INSECTICIDES OR PESTICIDES TO CONTROL INSECT INFESTATIONS, DISEASES AND WEEDS. THESE PRACTICES HAVE STARTED TO HAVE AN IMPACT ON THE BEES THAT POLLINATE THOSE CROPS.

(Bees)

Longing: So, they're picking up things ambiently, but then they're concentrating them within, in this case, they're concentrating them within their brood chambers where they raise young.

Peters: THIS HAS BECOME IMPORTANT NOT ONLY TO BEEKEEPERS AND RESEARCHERS, BUT IT HAS ALSO LED TO CONVERSATIONS ABOUT PUBLIC HEALTH.

IN A SCHOLARLY ARTICLE, RESEARCHERS FOUND THAT IF EXPOSED TO AGRICHEMICALS, CONSUMERS COULD BE AT RISK. THEY TESTED MORE THAN 2600 HONEY SAMPLES FROM 27 DIFFERENT COUNTRIES AND FOUND THAT NEARLY ALL SAMPLES TESTED SHOWED TRACES OF VARIOUS CHEMICALS. SO, WHAT DOES THIS ALL MEAN? ACCORDING TO THAT ARTICLE, IF HIGH LEVELS OF THESE CHEMICALS ARE CONSUMED, IT COULD DAMAGE REPRODUCTIVE HEALTH IN

ADULTS... SCOTT SAYS THAT THE U.S. UPHOLDS BETTER PESTICIDE REGULATIONS THAN MOST COUNTRIES... HE ALSO HAS FAITH IN GOOD PRACTICES BY BEEKEEPERS AND PART OF THAT IS MONITORING THE HONEY FOR CONTAMINANTS. SCOTT TOLD ME THAT MOST HONEY *IS SAFE AND HE CREDITS THAT TO BEEKEEPERS WHO TAKE A LOT OF PRIDE IN THEIR WORK.

(Music)

Peters: I'VE LEARNED A LOT FROM SCOTT. LIKE, DID YOU KNOW THAT SOME CROPS CAN'T GROW WITHOUT THE PRESENCE OF POLLINATORS? IT'S TRUE.

Longing: Crops like almonds, watermelons, pumpkins, all of those require insect pollinators. If we didn't take honeybees to the Central Valley in California every year, then we wouldn't have the almonds that are produced. Almond's 100 percent require honeybees.

Peters: BUT THE BEES DON'T LIVE IN CALIFORNIA. THEY'RE TRANSPORTED THERE – MILLIONS OF THEM – FROM ACROSS THE COUNTRY EACH YEAR. CAN YOU IMAGINE?

(Bees)

Nathan Prueitt: This is called a queen excluder... the worker bees come through it but the queen is too fat to come through.

Peters: THESE BEES ARE FROM A COLONY IN LORENZO KEPT BY MY NEW FRIEND AND LOCAL BEEKEEPER NATHAN PRUEITT.

Prueitt: Most of the bees on these frames are nurse bees, nurse bees haven't learned to fly yet. It takes about 10 days for them to be strong enough to fly.

Peters: HE'S A TEXAS TECH GRAD WITH A REALLY INTERESTING STORY. ASIDE FROM HIS DAY JOB, NATHAN INSTALLS BEE COLONIES ON PROPERTIES OF FARMERS WHO NEED A BIT OF AN EXTRA PUSH FOR THEIR CROP. ITS CALLED TUMBLEWEED BEES. THIS PARTICULAR FARMER IS GROWING STRAWBERRIES.

Prueitt: There she is- she had her head in the... (FADE OUT)

Peters: WE FOUND THE QUEEN. WHEN HE GRADUATED FROM TECH, HE WENT ON TO BECOME A LICENSED FINANCIAL AGENT. ABOUT 5 YEARS AGO, HE AND HIS WIFE PLANTED WATERMELON IN THEIR COUNTRY GARDEN...

Prueitt: The first year was wonderful. We expanded the second year. We had so much fun doing it. What happened was, my neighbor found out he had a very large beehive under a shed. This hive was huge. He had it removed, and in the next two years the crops were terrible. We were getting melons instead of the size of [OVERLAPPING] traditional huge watermelons, we were getting the size of a cantaloupe or none at all. There was definitely a pollination issue.

Peters: WEST TEXAS ISN'T EXACTLY THE HUB FOR GROWING ALMONDS OR WATERMELON, BUT STUDIES SHOW THAT HONEYBEES CAN ALSO PLAY A BIG ROLE IN OTHER CROPS THAT ARE CRITICAL TO THIS REGION.

Longing: There was a paper published in 2016 that showed improvements in cotton and seed cotton weight if the farm maintained wild habitat on the farm, that wild habitat gave nesting sites for native bees. They determined that the native bees were helping to move pollen across the cotton flowers, which, I think, improved the seed cotton weight by about 18 percent. That's a big deal. So, for some crops they help, for some they're required of that crop to produce.

(Buzzing)

(Music)

Peters: DID YOU KNOW THAT TEXAS TECH HAS THE WINE MARKETING RESEARCH INSTITUTE? IT'S A PROGRAM FOUNDED IN THE COLLEGE OF HUMAN SCIENCES DEDICATED TO STRENGTHENING THE WINE AND GRAPE INDUSTRIES IN TEXAS. TIM DODD IS THE DIRECTOR AND HAS BEEN INVOLVED SINCE 1988.

Tim Dodd, Dean, College of Human Sciences: The wine marketing research, is a lot more of a fun job most of the time, [LAUGHTER] but I do enjoy the role of being an administrator as well in the college.

Taylor Peters: If you're having a conversation with somebody who doesn't know anything about the institute, how do you describe what it is?

Dodd: We're really focused on the business of wine.

(Uncorking and pouring glass of wine)

Peters: ORIGINALLY FROM NEW ZEALAND, TIM DID SOME WORK THERE BEFORE BECOMING THE DEAN OF HUMAN SCIENCES AND THE DIRECTOR OF THE INSTITUTE. HE SAYS IT'S THE CONSTANTLY GROWING AND EVOLVING WORLD OF WINE MARKETING THAT CONSUMES HIM.

Dodd: It's really, as I said, a very complex industry which makes it very interesting for research. That's what we love about being involved in it, and the work we do.

Peters: IN THE 80'S, TIM SAYS THERE WAS A PUSH TO BEGIN DEVELOPING WINE IN THE STATE OF TEXAS... IT WAS THE START OF GRAPE GROWING IN RURAL AREAS AND WINE PRODUCTION SURFACED AS A POTENTIAL ECONOMIC ENGINE.

Dodd: I worked as a research assistant when they were just starting this program here within the College of Human Sciences to help work on the business aspect, and the wine marketing research component within the university. I got involved there, then I've worked several decades now [LAUGHTER] in the industry.

Peters: MOST WINE GRAPES GROWN IN TEXAS ARE FROM THE HIGH PLAINS BUT A LARGE PART OF WINE PRODUCTION TAKES PLACE IN THE FREDERICKSBURG AREA, SOMEWHERE THAT HAS BECOME A STAPLE OF WINE CULTURE.

(Music)

Peters: IT'S NOT JUST THE WINE THAT ATTRACTS PEOPLE. THIS CITY HAS LURED TOURISTS, CAPTIVATING THEM WITH AN EXPERIENCE. IT'S THE LIVE MUSIC, SLOW PACED VIBE... AND IN THE LAST FEW DECADES, I'M TOLD IT HAS BECOME THE SECOND MOST VISITED WINE TOURISM DESTINATION IN THE UNITED STATES BEHIND NAPA VALLEY.

Dodd: I think our involvement with that really helped to recognize that wine was something that had so many benefits for the state in terms of; being able to provide jobs, economic growth, taxation and really gave a new industry to the state of Texas.

Peters: TIM IS CONSTANTLY WANTING TO LEARN MORE. AS AREAS LIKE FREDERICKSBURG CONTINUE TO GROW, SO DOES HIS INTEREST. HIS PRIMARY AREAS OF RESEARCH INCLUDE THINGS RELATED TO TOURISM.

Dodd: Early on, it was a very basic questions, like, who are the people visiting the wineries? What is their make up? What is their interest? You can really start digging down into the motivations and interests of people in tourism. That was really one of the first studies we did. It was that time for a new wine industry especially.

Peters: SOME OF TIM'S RESEARCH IS CONNECTED TO THE HILL COUNTRY UNIVERSITY CENTER, A TEXAS TECH CAMPUS DESIGNATED TO WINE PRODUCTION. IT'S ABOUT A 6 HOUR DRIVE TO FREDERICKSBURG FROM LUBBOCK, BUT I WAS HAPPY TO TAKE THAT TRIP FOR THIS PODCAST.

(Music)

Ed Hellman, Associate Professor, Viticulture and Enology: The viticulture certificate teaches viticulture, teaches grape growing. All the certificate programs are continuing education unit programs.

Peters: THIS IS ED HELLMAN, HE'S A PROFESSOR AT THE HILL COUNTRY CAMPUS TEACHING ENOLOGY AND VITICULTURE... IN OTHER WORDS, THE STUDY OF WINES AND HARVESTING GRAPES FOR WINE PRODUCTION. HE EXPLAINS TO ME THAT THE VITICULTURE CERTIFICATE PROGRAM IS *NOT AN ACADEMIC DEGREE.

Hellman: It's pretty much the same rigor as an undergraduate degree, but it's a different audience. It's a lot of industry people. It's a lot of entrepreneurs wanting to get into the industry...

ED AND TIM ARE WORKING TOGETHER, IN DIFFERENT PLACES, DOING DIFFERENT WORK IN PERFECT HARMONY. IT'S RESEARCH AND OUTREACH EMBODIED.

Dodd: The partnership came about as filling naturally those interests from the hill country folks for wine education. There are literally hundreds of wineries now and it has become such a huge center for them.

Peters: THE HILL COUNTRY CENTER IS UNIQUELY SET UP TO MEET THE NEEDS OF THE WINE INDUSTRY IN LOTS OF DIFFERENT WAYS. ED SEES THEIR WORK AS EDUCATIONAL IN A WAY THAT'S IMMEDIATELY USEFUL.

Hellman: For example, there's a class there in wine analysis. That's a lab class. It's a lab analysis class. A winery in this area might have somebody that's been working in the cellar for them and got helping out a little bit in the lab, but they've never really had any formal training. They might send an employee like that just to take that class.

Peters: HE SAYS THEY'VE HAD STUDENTS WITH FAMILIES IN THE RESTAURANT OR WINE INDUSTRY, GETTING ADDITIONAL CERTIFICATION OR SPECIFIC TRAINING, THEY'VE HAD STUDENTS WHO JUST WANTED TO LEARN HOW TO CREATE AND MAINTAIN THEIR OWN PERSONAL VINEYARD.

Hellman: It's a different demographic. It is a little more streamlined, but there's still more classes they have to take in the very focused certificate program.

Peters: THE AVERAGE AGE OF A STUDENT HERE IS 35 YEARS OLD, THEY'RE WORKING FULL TIME, THEY HAVE FULL TIME RESPONSIBILITIES AND THIS PROGRAM IS ALLOWING THEM THE OPPORTUNITY TO GO BACK TO SCHOOL IN A WAY THAT IS FLEXIBLE TO THEIR LIFE. BOTH ED AND TIM ARE EXCITED ABOUT HOW FAR THE WINE INDUSTRY HAS COME AND THEY LOOK FORWARD TO SEEING HOW IT WILL CONTINUE TO EVOLVE.

(Music)

Peters: RESEARCH CAN BE THE ACT OF PURSUING UNDERSTANDING. IT CAN BE SPECIFICALLY FOR EDUCATIONAL PURPOSES, EMPOWERING FUTURE GENERATIONS OF SCHOLARS AND ACADEMICS, OR THOSE WHO GO ON TO MAKE FUTURE DISCOVERIES OF THEIR OWN. BUT IT CAN ALSO RESULT IN A NEW PRODUCT, TECHNOLOGY OR APPLICATION THAT REACHES THE MARKET. IT CAN BE CONDUCTED WITH SOMETHING IN MIND THAT CAN BECOME MARKETABLE AND AVAILABLE TO YOU. AND YOU REMEMBER THE OFFICE OF RESEARCH COMMERCIALIZATION AND CAMERON SMITH? THAT'S WHERE PEOPLE LIKE HIM COME IN.

Smith: All of the invention that goes on across the Texas Tech system, we work to protect that usually via a patent filing and then get it out the door and out to industry, so that it can have some societal impact.

Peters: HIS STORY IS NEXT TIME, ON THE FINAL EPISODE IN THIS SEASON OF FEARLESS...

(Music)

Peters: FEARLESS IS PRODUCED BY THE OFFICE OF COMMUNICATIONS AND MARKETING, IN COLLABORATION WITH THE OFFICE OF RESEARCH AND INNOVATION. IT'S WRITTEN AND HOSTED BY ME, TAYLOR PETERS, AND CO-PRODUCED BY ALLISON HIRTH. EDITING AND SOUND DESIGN BY THOMAS BOYD. FEARLESS IS A TEXAS TECH PRODUCTION, FROM HERE IT'S POSSIBLE.

(Music)

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