Oklahoma Innovations Radio Show

Air Date: November 1, 2009

Guests: **Tom Keenze**, Dry Cleaning Station; **Tim Maxwell**, Green Earth; **Kevin Gavlak**, Faultless by Nature

[Music]

From the OCAST Radio Network, this is *Oklahoma Innovations*, a weekly science and technology radio magazine brought to you as a service of OCAST, the Oklahoma Center for the Advancement of Science and Technology. OCAST is the state's only agency whose sole focus is technology, its development, transfer, and commercialization. OCAST mission is to identify and fund promising research in technologies that allow Oklahoma to compete in a global market economy from our own backyard. This program features some of the state's most gifted and talented scientists, inventors, entrepreneurs, manufacturers, and business leaders who all have one common goal, developing technology-based economic growth for all Oklahomans. Now here are your hosts, Gary Owen and Steve Paris.

>> Welcome to another edition of Oklahoma's science radio magazine, *Oklahoma Innovations*. We are delighted to be here, and I hope whatever you're doing this weekend it's good because it's fall time and it's the time of year where everybody gets... starts to get geared up and the holidays start rolling around, all that stuff. How are you Steve?

>> Doing well Gary, and you?

>> I'm doing fan-tabulous. Let's talk about our guest this week, Dry Clean Goes Green.

>> Yes exactly, and if you live in the Owasso area you need to be aware of the Dry Cleaning Station, owned by our guest Tom Keenze.

>> And his wife.

>> And his wife.

>> You got to throw the wife in there.

>> Yeah, her name is?

>> Barbara.

>> Barbara, exactly. Well we're going to hear about how Tom and his wife have taken this business and turned it into a green business, and this is very important to all of us because whether you know it or not, the dry cleaning industry historically has had to use chemicals and things that are just really not that friendly to the Earth. And Tom is with a group of people who are starting to turn that around.

>> I remember the old days... the dry cleaning, even though the clothes were clean, they didn't really smell that great sometimes.

>> I think they call that NAFTA, I don't know... that's probably not the correct name for it, but we're going to hear more about that from Tom here in just a little bit.

>> It'll be interesting to hear about the process. What's going on at OCAST this week? There's some news... some innovation news this week right?

>> Well there is actually. We are, or one of several sponsors, who sponsored the Bricktown Capital Conference.

>> Oh yes.

>> One of the issues in Oklahoma that we have is that we develop a lot of technology through R&D, but when we get toward the end of that process we need to find ways to fund those projects so that they can become an up and running commercialized business. That's where the Bricktown Capital Conference comes into play because it's a group of angel investors, it's a group of investors at the different levels. These folks meet and greet, and look at some of the up and coming companies that are here in Oklahoma; and we've had just about 15 or 20 of those companies were recognized at the Bricktown Capital Conference. Two of the highest award winners went to Acorn growth companies. They're a private equity firm focused exclusively on aerospace and defense. They have more than 100 million dollars under management and operating companies across the United States, with operations worldwide. But they're headquartered right here by Tinker Air Force base.

>> No kidding?

>> Midwest City, you bet. Started right here in Oklahoma. And then we've had them, by the way, some years ago on our show. We also had PL Studios. Remember them?

>> I do. Yes.

>> Animation people. If you go to a movie and you watch the animation, there's a very good chance, a better than even chance that the people who put that together were trained by a company here in Oklahoma City.

>> Pixar was trained by them, Disney people trained by them. It's PL Studios.

>> It's a company that has really gone worldwide, and that's one of the things we try to do here in Oklahoma because we love Oklahoma money, but we really like Texas money, and New York money, and England money. We like that a lot better because it's new money coming into the state, and that's what this is... what those companies are all about.

>> Fabulous.

>> Outstanding.

>> Anything else coming out of the offices of OCAST for the future?

>> Well always. We're kind of caught up on all of our solicitations we have. Plant science is the next one, and all those applications came in about a week and a half ago, so you're going to be hearing more about that as we go through the solicitation process and have those evaluated and determine by using some of the methods that we've used for many years; peer review being the main one. You're going to hear about those here before very long, and who the real winners are, the ones who really... the cream rises to the top. We're going to be funding the cream here pretty quick.

>> You know, it's been awhile since we've talked about this. On average what is our average tax dollar return now thanks to OCAST projects?

>> Well I'm really not supposed to release this yet, because we just got that number just recently. We were going to release it in... but we're going to tell you it's a secret. For a couple of

years now we've been at about 18 dollars and 40 some odd cents to 1. And right now we're over $20.

>> Congratulations.

>> Well, I mean... exactly. It's Oklahoma congratulations because we put a relatively small amount of money, over 22 years we've put about 170 million dollars appropriated by the legislature into R&D. And with that money, Oklahoma researchers have been able to track well over three billion dollars. Now it's over a 22 year period, and that's where we get the 20 to 1 leverage number. It's one of those things where that's what we said we were going to do, way back when, it's what the legislature said we need to do, and this is a big part of diversifying the Oklahoma economy. Oil, or rather energy and agriculture are two of the mainstays in Oklahoma, and still are, will always be. We're very proud of those industries. But one of the things we noticed back in the 1980's when both of them were down, as far as the economic spectrum is concerned, is somebody said hey let's diversify. Let's look at some other ways to create wealth in Oklahoma, and investing in science and technology is one of those ways.

>> It's paid off. That's wonderful.

>> You bet.

>> In science news this week. The company that has exclusive rights to salvage the Titanic wants to make another expedition to the world's most famous shipwreck in 2010. RMS Titanic Inc. expedition would be the first by the salvor since 2004; though two other expeditions have been to the sight since then, including one by Titanic director James Cameron. The company went before a judge this past week to seek a salvage award for it's past expeditions, and to inform the court of it's plans. In court filings the company has said it's making plans to return to the wreck sight this next year. The 5,900 pieces of china, ship fittings, and personal belongings are valued at more than 110 million dollars; displayed around the world, those that have been found so far are displayed around the world by Premier Exhibitions, an Atlantic company. RMS Titanic is a subsidiary of Premier. Well it seems that the Associated Press went out, saw some independent statistical analysis of global temperatures to determine if there is a true cooling of Earth's climate. AP contacted University of South Carolina statistics professor John Grego, a long time reliable statistics source. And in addition, the American Statistical Association sent an email request from the AP seeking statisticians willing to examine certain sets of numbers, and look for trends without being told what those numbers represented. three professors of statistics agreed that... of the policy, and get this – each was given two spreadsheets, neither of which had any indication they were temperature data. one spreadsheet was year by year global temperature changes from 1880 to 2009, adjusted through most of this year from the National Oceanic and Atmospheric Administration's ground measurements. The other was year to year temperature changes from 1979 to 2009, gathered by scientists at the University of Alabama in Huntsville, from atmospheric measurements by satellite. None of the experts detected a downward, or cooling trend in the numbers. All saw a distinct upward trend. Just reading the story folks. The amazing eyes of a giant shrimp living on Australia's Great Barrier Reef, scientists say could hold the key to developing a new type of super high quality DVD player. That according to British scientists. Mantis shrimps, dubbed thumb splitters by divers because of their vicious claws, have the most complex eyes in the animal kingdom. They can see in 12 primary colors, four times as many as humans, and can also detect different kinds of light polarization. The direction of oscillization in light waves, or oscillation, excuse me, in light waves. Well a team at the

University of Bristol have shown how the shrimps do it. Using remarkable light sensitive cells that rotate the plane of polarization in light, as it travels through the eye. Manmade devices do a similar thing in DVD and CD players, but they only work well for one color. Well now they're saying transferring the same multicolor ability to a DVD player would result in a machine capable of handling far more information than a conventional one. How can it get any better folks? I just told you. Oh my goodness. Well in health news this week, at least one in five children in the U.S. aged 1 to 11 don't get enough vitamin D, according to researchers, and could be at risk for a variety of health problems including weak bones. This is the most recent national analysis. By a looser measure, almost 90 percent they say, of Black children that age, and 80 percent of Hispanic kids could be vitamin D deficient. And the findings add to mounting evidence about vitamin D deficiency in children, teens, and adults; a concern because of recent studies suggesting that vitamin might help prevent serious diseases including infections, diabetes, and even some cancers. That's interesting stuff. Remember Ida?

>> Ida?

>> Yeah Ida, the fossil discovered back in May? Remember, even had a book and TV documentary about it, publicity blitz called The Link that would reveal the earliest evolutionary roots of monkeys, apes, and humans. Experts protested that Ida wasn't even a close relative, and now a new analysis supports the reaction; in fact Ida is as far removed from the monkey, ape, human ancestry as a primate could be. That according to some scientists at Stony Brook University in New York. Ida is a skeleton of a 47 million year old cat-size creature found in Germany, and it starred in The Link book Uncovering Our Earliest Ancestors; and they're saying not even close. Steve has our innovations in history.

>> Thank you Gary. The U.S. Weather Bureau recorded it's first meteorological observations on November 1, 1870. America's first commercial radio station, Dr. Frank Conrad's KDKA in Pittsburgh, signed on November 2, 1920 with news of Warren Harding's election as president of the United States. November 2, 1931 the DuPont company of Wilmington Delaware announced the first synthetic rubber. It was known as DuPrene. And the Soviet Union launched Sputnik 2 November 3, 53 years ago, onboard was a dog named Laika. I remember that. The first living creature from Earth to travel into outer space. It was 1892, the first successful automatic telephone system was introduced in Laporte, Indiana, Almond Strowger the inventor came up with the idea because the non automatic system made it possible for his customer's calls to be intercepted by his competitor. Strowger ran a funeral parlor. Richard Gatling patented the first machine gun November 4, 1862. The Gatling gun could fire 350 rounds per minute. The first car with air conditioning, a Packard, was unveiled November 4, 1939.

>> You remember that don't you?

>> Yeah, I was there.

>> Like you were there when Ida came... you knew her better than I did. November 4, 1846 an artificial egg was patented by B. F. Palmar of Meredith New Hampshire, who got a leg up on all the other competition, according to the U.S. Patent Office. And it was James and John Ritty of Dayton Ohio who patented the cash register on that same date 134 years ago.

>> Cha-ching!

>> And that Gary, is our... a few of our remarkable innovations in history for the month of November.

>> Fantastic stuff. October was a... October and November actually great months for innovations in history. It was founded in 1999, Green Earth Cleaning, the world's largest solution provider for environment friendly dry cleaning. Imagine that, dry clean goes green. We're going to find out all about that with three guests when we return on *Oklahoma Innovations*.

[Music]

>> Imagine not being able to see your daughter on her wedding day, or experiencing your grandchild's first smile. An estimated one and three-quarter million Americans over age 50 have developed a loss of vision or blindness due to age related macular degeneration. And of more than the 200,000 Oklahomans living with diabetes, 90 percent will develop eye disease. With the support of the Oklahoma Center for the Advancement of Science and Technology, an Oklahoma company is developing innovative treatments for blinding eye diseases. The research will improve the lives of people across the nation, create new treatments that are more comfortable for patients, and prevent vision loss. OCAST is looking for Oklahoma researchers serious about investigating new treatments and products, and improve the quality of life and the economy for Oklahomans. For more information call OCAST toll free at 866-265-2215, or visit their website at OCAST.OK.gov. Investing in science and technology, it's good for your health.

[Music]

>> Now in it's 14th year, this is *Oklahoma Innovations* on the OCAST radio network.

>> Hard to believe isn't it? 14 years, Steve and I are still hitched together doing this show.

>> Yeah, I've had a great time. Hope you have too.

>> We have a guest... we have two guests, but our in studio guest is a gentleman that has a background in broadcasting, and here he is now in the dry clean... see folks, when we retire from radio, television, or whatever we relate to in broadcast, it's interesting. I want to talk to our guest Tom... Keenze.

>> No, Keenze.

>> There you go.

>> Tom and Barbara, his wife, have this business. Those of you that live in Owasso that might be listening to this program out of KRNG in Tulsa. Well you might have read a story in your local paper recently about Tom and his wife, and Green is Great was the headline on the story; which I thought was really cool, and we're going to talk about the technology. But before we do that, Tom I'd like you to just really quick tell our audience, because you started in broadcasting right?

>> I did indeed, 12 years in that business, and then went on to general communications - microwave and satellite and optical fiber communications. I retired from the Williams Companies in 2003, and looked for something else to do because it was really a bit too early for me to quit working.

>> Yeah, you were too young.

>> Way too young, way too young.

>> It's our story, we're sticking to it right?

>> Yeah that's it. So we looked around and looked at a number of opportunities in various areas, and got interested in dry cleaning. Honestly I can't tell you why. But we went in 2003 to the National Dry Cleaning Convention in Las Vegas. That convention's held every other year on odd years. So in 2003 we spent a week in Las Vegas, wandering around, talking to people, and that's where we found the Green Earth technology; dry cleaning without hazardous chemicals. I'm not sure now, I think the latest statistics are that something in the order of 50 to 60 percent of dry cleaners are using perchloroethylene as their dry cleaning solvent. And by the way, I don't know if you are aware of this, but dry cleaning is called dry cleaning because the clothes go in dry and they come out dry. In between they're washed.

>> Really?

>> Yeah. And they're washed in a liquid and that liquid is most often a petroleum solvent of some sort. In our case we use this Green Earth technology, and the liquid that we use is a liquid silicon and it's the same sort of liquid silicon that's used in deodorants and lots of other cosmetic products. The product, which you will find more about later I suppose, from Tim Maxwell, the president of Green Earth... actually was invented by General Electric and Procter and Gamble. And so anyway those guys did a terrific job of coming up with this system. It is a biodegradable solvent, and it really doesn't do... it doesn't interact with the fabric at all. It's primary job is to penetrate the fabric and to carry the detergent through it. That's how it cleans. And so the clothes go in dry, they come out dry, and it's dry cleaning without the petroleum product.

>> And so you don't have that dry cleaning odor on your?

>> No odor whatsoever. Completely odorless.

>> Yeah, and whatever leaves the process does not pollute the Earth.

>> That's correct. Now when the solvent comes out of the wheel, after it's been used and cleaned the clothes, it goes into a still where it is boiled and the detergent, dirt, and whatever other things come out of the fabrics, wind up in the still. And the solvent is then re...

>> Recycled?

>> Yeah, exactly. It's distilled and it's condensed, and it goes back into the system, so it's recyclable.

>> Now Tom... Dry Cleaning Station, which is your dry cleaning business in Owasso, isn't that the only dry cleaning facility in Oklahoma that's out using the system right now?

>> We are actually the only certified green cleaner in Oklahoma. There are two other companies now who use the Green Earth technology. One of them is in Bartlesville, and the other is in Edmond.

>> OK. So the information is starting to get out there, and people are starting to buy into it aren't they?

>> Well the difficulty is for a cleaner who's been in the business for a long time, to make this change requires buying a new dry cleaning machine, and those things cost thousands of dollars.

>> They're not cheap.

>> Yeah. And then there's also a big learning curve associated with it because the stain removal process that's used prior to putting garments in this Green Earth technology, is different from the

spotting techniques that are used for petroleum product. So you... there's a learning curve, there's a big expense, and quite frankly most cleaners aren't... they're comfortable with what they're doing. They've been using it for a long time, most of them use it safely, their solvents, and take care of them properly, and so... but on the other hand I think it was two Januaries ago the Oklahoma Department of Environmental Quality put out a letter to all of the cleaners in Oklahoma saying that if you were using petroleum solvent, you had to install air quality monitoring equipment in your plant; and you had to meet standards or be subject to enforcement. We were able to write "not applicable" on....

>> There you go!

>> ... and send it back, and so we... yeah.

>> We'll talk about that here in just a minute, but before we do I want to ask you... let's look down the road into the future. Don't you see dry cleaning businesses like yours over time gradually converting to this process? As their old equipment wears out, as they have to upgrade?

>> Well the Environmental Protection Agency, the U.S. EPA, is trying to encourage people to quit using perchlorethelene. Perchlorethelene is the predominant solvent used in the industry today, and it's toxic and stays toxic forever. It never, ever biodegrades. And so California is doing some things to try to end the use of perchlorethelene in that state. They have both a stick and a carrot; the stick being they penalize people, charging them a lot of money to dispose of the hazardous waste. And the carrot is a 10,000 dollar reward for doing the conversion. That comes from the California Air Quality Board. So it's really... to make the economics work for a dry cleaner, to make a change if he's already using a solvent that's petroleum based, to make that change you're going to need to have a positive reward and also a penalty. I think it's going to take both things to get them to change.

>> Well we're going to talk about the Oklahoma Star Incentive Program, which is a program where you were recognized.

>> That's terrific!

>> Don't want to talk about that just yet, because we're about to run out of time this segment. But when we first come back we're going to let you talk about that. Then we're going to have another guest, Tim Maxwell is president of Green Earth Cleaning, who can talk about the origins of this new process; and we're real excited to hear about this by the way, and it's all happening in Owasso Oklahoma, just north of Tulsa.

>> That's fabulous. We like to hear those little small town success stories don't we?

>> Well Owasso, talk about small town, it is emerging. That is one fast growing community.

>> Owasso is a success story in itself.

>> It is! Great community, really growing fast.

>> Alright we'll take a break. We'll come back and talk with Tom once again, and Tim Maxwell when we return on Oklahoma... excuse me, actually we're going to come back and talk with Kevin Gavlak first, who's the national sales manager for Faultless by Nature. We'll find out what that is when we return.

[Music]

>> This is Oklahoma's science radio magazine, *Oklahoma Innovations*, with Gary Owen and Steve Paris on the OCAST radio network.

>> When people think about science and technology, they imagine the future. Although researchers are developing the technology and treatments of tomorrow, results can be seen today. An investment in OCAST yields immediate return to our state, through increased salaries, higher productivity, and a diversified economy. Oklahoma is an emerging global leader in science, technology, research, and development; with a workforce that continues to improve both in incomes and education levels. Oklahoma can achieve a dynamic economy, with a culture of innovation and new opportunities that attract and retain bright creative people. Creating opportunities, improving the economy, and investing in our future; that's what OCAST is all about. For more information call OCAST toll free at 866-265-2215, or visit our website at OCAST.ok.gov. An investment in OCAST is an investment in Oklahoma, for today and tomorrow.

>> As you drive across Oklahoma, you can see thousands of gas wells sprinkled throughout the countryside. Many of these wells don't produce enough natural gas to justify pipelines. But without this access thousands of well sites are abandoned. With the support of the Oklahoma Center for the Advancement of Science and Technology, one company is creating a portable device transported on a flatbed truck to process natural gas at well sites. This technology optimizes the amount of gas that can be captured, and releases no byproducts into the atmosphere. This idea provides new opportunities for small oil and gas producers, while bringing us one step closer to energy independence. Supporting innovation, that's what OCAST is all about. OCAST is looking for small business owners serious about investigating new products, services, and processes. For more information call OCAST toll free at 866-265-2215, or visit their website at OCAST.ok.gov. Investing in research and development, it pumps new life into Oklahoma's economy.

>> Research and development, technology transfer, and commercialization; creating high paying jobs in Oklahoma, it's what OCAST is all about. This is *Oklahoma Innovations* on the OCAST radio network.

[Music]

>> We appreciate you joining us this week on *Oklahoma Innovations*, Oklahoma's science radio magazine. This week we're talking about Green Earth, a dry cleaning technology which has raised the eyebrows of folks at the Oklahoma Department of Environmental Quality; and a dry cleaner in Owasso that... our in studio guest and his wife have just really done well with so far. Tom Keenze and his wife Barbara have a really great company. Those of you who live in Owasso, you already probably know about this company. And our guest on the long line right now, we're going to talk with Tim Maxwell on here momentarily. We're going to be talking with Kevin Gavlak, but right now we want to talk to Tim Maxwell who's president of Green Earth Cleaning. Hello Tim.

>> Good morning.

>> Nice to have you on the program.

>> Great. Nice to be here from sunny Kansas City.

>> This is my co-host Steve Paris.

>> Hi Tim!

>> Good morning.

>> Tom's in the studio with us.

>> Yes. Welcome to *Oklahoma Innovations*. We've got a friend of yours, Tom Keenze, who obviously you know is from Owasso and owns the Dry Cleaning Station. And he wanted you to be onboard with us today to talk about... this new process, how it all got started, and hey - tell us a little bit about you first. Where are you from originally?

>> Sure, I'm actually originally from Toronto Canada, and good morning Tom and Barbara.

>> Hey. Barbara's not here with me today Tim, but Tim and I speak frequently by the way.

>> I bet you do!

>> Yeah, yeah. We stay in close...

>> I'm originally from Toronto Canada actually, but Green Earth is a company that was formed... is based here in Kansas City, and quite frankly the roots of all of us are dry cleaners. We've all been in the dry cleaning industry. The four principles of this company have operated more than 400 dry cleaning shops across the United States. We certainly know the industry and know the challenges associated with fabric care, and specifically the challenges associated with some of the conventional systems that have been used for literally decades in the dry cleaning industry that... for lack of a better term, carry some environmental baggage associated with them. Along with that environmental baggage comes some liability regarding ground contamination, and some overall negative environmental effects that some of the traditional solvents and dry cleaning have caused to our industry and to the planet.

>> Including air pollution. Tell us how Green Earth evolved. How did this technology evolve?

>> Well it's interesting, the base ingredient is a silicon product that is the base ingredient in many of the personal care items that you and I have used for decades. It's the inert medium which carries the active ingredients for many of the hair shampoos, conditioners, underarm deodorants, facial creams and wrinkle creams. Hawaiian Tropic suntan lotion for instance is over 25 percent this product. So because of it's volatility and the ability to volatize up, it carries the active ingredient... then virtually disappears, volatizes up and leaves the active ingredients to do their work; and as it degrades naturally in the environment, it turns basically back into SiO2 which is sand, and trace amounts of water and CO2. So effectively the half life of the product is days, which let's face it, in today's world replacing some of the other products used in dry cleaning, some of the hydrocarbons and chlorinated hydrocarbons, they're literally in the soil for generations as they degrade; and sometimes degrading into some nasty things versus those innocuous elements like sandwater and CO2.

>> Wow. And Tom talked about a little bit of that earlier in the show Tim, and I want to ask you about the business side of it now. Obviously you have Dry Cleaning Station in Owasso, and I'm sure you have other facilities around the country. Talk to us a little about how much it has expanded, and what you project will be happening.

>> Sure. We're proud to say that we have 1,500 licenses facilities around the world. About 800 of those are here in the United States, spread out between 44 states. So we've got a tremendous base. We started here in the United States, and we have a tremendous base as we develop the

market here in North America. We also have master licensed orders around the world in 18 different countries that are diffusing this technology to dry cleaners in every continent, except for... right now except for Antarctica. So it's wonderful to see the growth. The business model really is one of a licensing structure. We control the patents for the use of the silicon process, and we also control the registered marks of Green Earth Cleaning. And what we do is license that technology to dry cleaners, and license the ability for them to differentiate themselves to the consumer regarding the practices that they espouse which are more environmentally friendly. The founders of this company, as I said, are dry cleaners and control the company; but we're very proud to be probably one of the few companies on Earth that have two Fortune 10 companies as minority shareholders. General Electric and Procter and Gamble are both founding members of Green Earth Cleaning, and I'll tell you, from a resource standpoint to be able to be involved with companies that have that depth of experience with health and safety studies and environmental studies, and knowledge of the product... it's been a great ride so far for 10 years, and we look forward to continuing growth. Let's face it, right now is a great time to be in the green business. But secondly it's a great time to be providing what we consider to be a better product to the consumer. And I don't know if there's too many times in consumer's lives where they see something green as being actually something better for... a better product; like the efficacy may be better than what they're used to. But as Tom can attest to and anybody who's taken dry cleaning to Dry Cleaning Station in Owasso, the colors are rich and vibrant, there's no odor, and there's a soft feel to the garment that quite frankly you just can't get with regular harsher chemicals used in dry cleaning.

>> It's a better way to do it, and it is environmentally friendly.

>> And not only that, we can do it at competitive prices.

>> Really? I was going to ask you that question. I'm glad you brought it up. Tim, some wonderful information you have, and we wish you well.

>> Well there's more from Tim, and we're excited about what we saw at his booth at the national show in New Orleans last summer.

>> And this comes up with my next question I was going to ask Tim. Look 5, 10 years down the road. Where does this technology take us?

>> Well it's more than just the Green Earth technology, there's going to be a new laundry technology... and it turns out that Tim's company is the exclusive distributor for that technology in the United States, and it's not quite here yet but it's close.

>> We are very excited Tom, to bring the Xeros system to America and to our global affiliate network. The Xeros system, as Tom alluded to, under the Green Earth umbrella we'd like to consider us providing environmentally favorable solutions to conventional fabric care. And while dry cleaning is one component of that, the world uses a heck of a lot of water to wash garments as well. This technology uses 90 percent less water than conventional washing. And it does so basically by replacing that 90 percent of the water in the wash process with small nylon beads which area polymer, and basically have an inherent polarity, an attraction towards staining and soil. So the polymer beads, as they stir around inside the cleaning wheel, much like your washer at home, will attract the dirt and then because of the unique properties of the polymer, the stain is then absorbed into the bead and basically it's a one way trap door - it can get locked in and attracted, but it cannot be released. And that ensures that there's no redeposition of that stain, or

die, or whatever other product, soil has been attracted to the bead. The cleaning performance has been tested now for three years. It's a technology that was discovered by Dr. Steven Birkenshaw, who's a renowned polymer physicist at University of Leeds in London. And quite frankly the water, electricity, and detergent savings look like they'll be about a 30 percent savings in direct operating costs based on the testing that's been done. And as Tom said, the first machines will be available midway through the year of 2010. But more importantly, as I was talking about, the water which is obviously a very valuable resource, if every laundry process here in the United States for instance, was replaced with a technology like this we'd be saving 1.2 billion tons of water a year; which is equal to about 17 million swimming pools. And when we take a look at all of our resources, I think we're very proud to be able to say that we see this as a technology that could be a game changer, and could have certainly a lot of impact in reducing the overall carbon footprint of the fabric care industry.

>> There you go, and the technology that is dealing with an ever increasing challenge of... for a very thirsty world, and we're being told that water is going to become the coin of the realm in the not-too-distant future.

>> Yeah, I wouldn't doubt it 50 years from now there may be wars fought over water, quite frankly.

>> Well we hope that doesn't happen, but you're absolutely right. Anything we can do to improve that situation is beneficial to everyone.

>> So you can see why I'm glad I met Tim. Quite frankly, had we not met Tim and learned about Green Earth, we would never have gone into this business. We would not have wanted to be in... and the good thing about us being green and having our vendors know that we're going that way now, is that they come to us first now when they have something new, and we get first crack at a lot of things. We got first crack at biodegradable polybags in Oklahoma, the first crack at using recyclable plastic hangers and things like that. So it's just been a good thing all the way around.

>> I want to give the website. Green Earth Cleaning.com is where you'll find Tim's company. Is that right?

>> www. greenearthcleaning.com. That's it.

>> That's right. If you're interested in finding out more about that.

>> Thanks Tim!

>> When we come back... we'll talk with Kevin Gavlak, national sales manager for Faultless by Nature.

[Music]

>> More to learn on *Oklahoma Innovations* with Gary Owen and Steve Paris, on the OCAST radio network.

>> The stress of finding a job after college is compounded for recent graduates entering a tough job market. But thanks to the Oklahoma Center for the Advancement of Science and Technology, more students connect with the state's most advanced technology companies while earning income and valuable on the job training. Through the OCAST R&D intern partnerships program, students gain experience in the industry, work with mentors, and operate specialized

instruments. Intern training leads to starting salaries 12 percent higher than Oklahoma's average per capita income. OCAST is investing in Oklahoma's best and brightest. Creating jobs, investing in our future, that's what OCAST is all about. OCAST is seeking intern partnership opportunities that will allow Oklahoma students to gain hands on experience in science and technology careers. For more information call OCAST toll free at 866-265-2215, or visit their website at OCAST.ok.gov. The future of Oklahoma looks bright.

[Music]

>> This program is all about new technologies, new innovations, science, research, business, education, finance when it relates to science and technology in Oklahoma. Our guest in studio this week is the owner of a company called... are you ready for this? The Dry Cleaning Station. And the process they use is called Green Earth dry cleaning technology. It's environmentally friendly. Now something I want to plug here, Steve, before we connect back to Tom... I want to tell you that this company not only do they use a dry cleaning chemical, but they also use biodegradable or recyclable polybags. They also use shirt hangers made of recyclable plastic, and offer customers reusable garment bags. How about that?

>> I think it's a harbinger of things to come.

>> It is.

>> I'm so glad we have Tom Keenze on the show today, because he is an example of the kind of things you can do as a business owner that is good for the environment. You can go the whole spectrum from one extreme to the other on dealing with our environment, and all of us have a vested interest in this, but one of our state agencies has recognized Tom. We talked about that earlier, the Department of Environmental Quality. Deanne Wilkerson who is...

>> Wilkins.

>> Excuse me Wilkins, is one of the employees over there. She's a very dedicated individual and she kind of led you through this process, but I want to go back to the beginning of how you really found out about how to contact Deanne and DEQ, and give us the story.

>> Well when we opened the store, we had a kind of a grand opening thing when the Chamber of Commerce came, and we had a ribbon cutting thing. We invited our local senator, Senator Randy Brogdon, and our local state representative was John Smaligo at the time. He's a county commissioner now, but... because he had term limits right? So anyway, Randy came and we had seen in an industry journal that a company up in Minnesota had been rewarded by the state for bringing the Green Earth technology to Minnesota, so I asked Randy if he had... if Oklahoma had anything like that. He came back to me and introduced me to the people at the DEQ, and Deanne Wilkins in particular who is responsible for administration of the Oklahoma Star Program. We were delighted to find out about that program because not only does it encourage the prevention of pollution, it also actually rewards people who change the way they're doing business to take advantage of that, in the form of tax credits which as you know, are far better than tax deductions everyday. So I mean, it's a really strong program and we were just delighted that Oklahoma had such a program. So Deanne and I talked about it, and she was trying to develop a program specifically for dry cleaners at that time, and so we worked with her a bit on what questions should be asked of a dry cleaner to see if they qualify for this program. Anyway, we were awarded in 2006. We were awarded the gold level award of the Oklahoma Star Program for pollution prevention. And since that time we added the hangers program that Gary talked about,

and we added the biodegradable bags, and last July... well last February I guess is the first thing, we also got certified by the National Green Cleaners Council. Those guys put this council together, the National Cleaners Association put this council together because there are some cleaners claiming to be environmentally friendly when in fact they are using petroleum solvents.

>> Oh my goodness!

>> And so they came up with this certification program to kind of help consumers understand when a cleaner really is green. So anyway, the Oklahoma Star Program... we just applied for that, got the gold level award, and then since then as I say, we added these other things; and then last July we added the Faultless by Nature series of products for our laundry. And those guys made our laundry as green as our dry cleaning. We'll talk about that in a minute, but as a result... when I sent out the press release about the Faultless by Nature products, and Deanne said you know you ought to apply for the platinum level award now. And so we did that, and sure enough we got the platinum level award in September from the Oklahoma DEQ. We were just delighted with that.

>> I was there to watch you get your award.

>> You were indeed.

>> And I would say that Deanne would be with us today except she's doing her duty. She's out there working with other Oklahomans who are trying to be a little more environmentally friendly, and she's doing her good job out there and we appreciate state employees like Deanne.

>> Exactly.

>> Tom, we've got another guest online here. I believe he's online. Kevin Gavlak, who is a regional representative and...

>> National sales manager for the Faultless company, yes.

>> The Faultless company. Kevin are you online with us?

>> Yes sir, I am.

>> Hey, welcome to *Oklahoma Innovations*. Where are you located right now?

>> I'm actually sitting in my home office in Dallas Texas. Faultless is located in Kansas City Missouri for the last 127 years.

>> 127 years? Well we've all heard of Faultless. I think...

>> Kind of a fly-by-night outfit.

>> Yeah.

[Laughter]

>> Well congratulations on your longevity. Kevin you've been working with Tom, and you've got an insight I suspect into the future of this technology and this company? Give us a little bit of your aspect of it from Faultless' standpoint.

>> Yes sir. And thank you all for having me on the show, and getting to be a part and a partner with a guy like Tom and the business that he's operating there in Owasso Oklahoma; has been exactly the partner we want. Faultless, like you said, people know Faultless Starch. The Faultless Starch Bon Ami Company, two brands, been around forever.

>> two very old brands.

>> ... aerosol starch. I run our commercial laundry products group, and about four years ago strategically we started looking at how we could take what we do commercially, and lessen the environmental footprint of what we're doing. Our industry has gotten a bad rep, some of it deserved, some of it not. But we started looking at some of the products we had, and what technology was available to try to make them greener. We worked with a small company in California, and invested heavily in the research of what can be done, getting away with some of the surfactants that are causing some damage out there, some of the phosphates and chlorine bleaches, and the things that are really red flags in the laundry aspect of being environmental. The Faultless by Nature line of products we launched this year. It is botanical based surfactants. There's no chlorine bleaches. And I guess what we did in the beginning, when we started looking for a water mark, how could we measure green? I think you guys have talked about this green claim as being thrown around a lot.

>> Yes.

>> A vehicle that gets one more mile per gallon could be green compared to another one. So we really wanted a higher standard, and we went to the EPA and their DFV, their Design for the Environment Program. I think it's as stringent as any program in the world, we found. Their main concern is looking at each ingredient in what you're doing. They've got a great team of... a review team, and they've got a great methodology in reviewing these products. Material by material, the synergy between the materials and how they break down in the environment. So we built this line of products for a commercial laundry, launched them in June at a clean show, met Tom at that time, and he was I believe our first customer in Oklahoma to bring the product into his shop.

>> Really? Outstanding.

>> So the two of you together as a team are kind of leading the green revolution when it comes to dry cleaning in the state of Oklahoma?

>> Well on the laundry side this time.

>> Yeah, there you go. On the laundry side, exactly.

>> Well and that's true. Like I said, the dry clean side of our business has gotten a bad rep, and a lot of it deserved quite honestly for some of the waste and some of the impact it's had; but the laundry side also, especially commercially, has done it's fair share of damage to the environment... what it does to some of the water treatment plants. Everything we're putting down the drain has got to be dealt with, and from phosphates and their effect on algae and some of the lakes and rivers, to some of the surfactants that actually affect the endocrine systems in some aquatic life out there. So Faultless is a family owned company, and we live and work. And just like Tom and his crew there in Owasso, you want to live and work in a place... and do the least amount of damage. And like I said, a lot of operators around the country are trying to survive. They're not... business wise I don't think they're looking at the big picture, and like I say we're so fortunate to have guys like Tom in this industry who see that you can operate this kind of a business in an environmentally preferred way.

>> A pathfinder so to speak.

>> And again we're able to do it all... as a matter of fact, this series of products from Faultless company wound up being not a whole lot, but slightly cheaper than what we were using before.

>> Really?

>> So it actually saved us money.

>> Well we've got about a minute gentlemen. While we've got you on the line Kevin, we want to know a little bit about... obviously you started this new product, this latest product, in June. How's it going? Is it being accepted?

>> It is being accepted. We're coast to coast and we knew that there would be a lot of interest in California obviously, and anywhere coastal. What surprises is how well it's been accepted in Oklahoma, in Texas, in the Heartland, to find out surprisingly so that people all over this country are looking for a green alternative that actually works and that is affordable. And that was our goal in developing these products.

>> Well Kevin, we appreciate you being on the show, and thank you for sharing your story. We have some great insight now where cleaning is going. Laundry's going green. We like that aspect of it. I want to allow time for Tom. Real quick, do you see Dry Cleaning Station expanding into franchises?

>> We actually... no we wouldn't, we are a franchise actually. We are looking to expand though into other markets, and we are looking for some capital to do so. So if you know some investors, send them our way.

>> Alright. Steve, we'll see you next week.

>> See you Gary.

>> Bye-bye.

[Music]

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