

Oklahoma Innovations Radio Show

Air Date: June 6-7, 2015

Guests: **Kay Watson**, Oklahoma Manufacturing Alliance; **Chris Whittenburg**, Tactical Electronics; **Jeff Moen** and **Josh Gaskamp**, Samuel Roberts Noble Foundation; **Sam Eck**, WW Livestock Systems

>> 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 science and technology. The OCAST mission is to identify and fund promising research and technologies that allow Oklahoma to compete in a global market economy from our own backyard. This program features some of Oklahoma's most gifted scientists, inventors, entrepreneurs, manufacturers, educators 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 Tessa North.

[Music]

>> Welcome to this edition of *Oklahoma Innovations*. Boy, have we got a show for you and I guarantee it won't be boring. We're going to be talking about--

>> No pun intended.

>> No pun intended. We're going to be talking about the boar-hog problem and it's a nationwide problem. We have got a studio full of guests. We have representation from the Noble Foundation, a manufacturer called WW Manufacturing. I had to say W because in radio, that was some of the--you had to get the WW, which we said W, boy, they would just smack you on the vocal chords I'm telling you.

>> I'm going to need you to say that.

>> And then, we have Chris Whittenburg, who's with Tactical Electronics and we have had Tactical Electronics on our program in previous shows and they have all converged together and partnered together to develop a new technology called the BoarBuster trap and for you guys out there who are living in rural areas and know what the wild hog population is doing, it's a--they're very costly devastating problem. We have the answers for you. We'll be talking to all these guys here in just a little while. But right now, Tessa has an Oklahoma Spotlight for us this week, which is going to basically talk about an Oklahoma company.

>> Right, so this is something cool that's come out of Lawton. Of small company called Fair Wind LLC, has made a name for itself in some of the biggest industries in the state. What started with the manufacturing and sale on industrial cleaner to the wind industry has expanded into a whole portfolio of services offered to both wind and oil companies. Since 2008, the company has expanded into maintenance of wind turbines and oil field equipment, turbine blade repair, aerial platform rental, oil rig cleaning, waste oil removal, technical assistance, interior and exterior cleaning and a ton of other services. Fair Wind also operates--this is scary, the highest reaching aerial work platform in North America. This platform reaches 338 feet in just 15 minutes, so it's designed to get to the top of a wind turbine so that the company can clean or work on it. This crazy high platform is an advantage that other companies in the country do not have. Fair Wind

is a two-time small business administration honoree and credits some of its success to the organizations that have helped them along the way, namely the Oklahoma Manufacturing Alliance and the Great Plains Technology Center. So what started with the desire to be their own boss and own their own business has taken Fair Wind out of Lawton to three strategic locations in Oklahoma, Pennsylvania and Montana, where they continue to grow and serve the oil and wind energies. So it's a pretty cool story. It's a very small company of 16 people, but they have--

>> And where are they based?

>> They're--The owners are actually from Meers, which is even smaller than Lawton.

>> Oh

>> But the company is based now on Lawton.

>> Interesting. All right, good story. Well in our Innovations Spotlight this week, I want to take many of you who can recall this back in the '70s, if you're a baby boomer or one of those that recall the 1970s technology. Do you remember taping your favorite programs so that you wanted to watch later on television, this was before the advent of DVR. In June of 1977, the video home system or VHS for those who wonder what VHS stands for.

>> I have no idea.

>> Video home--no, of course not. This was VHS, video cassette was introduced to consumers and believe it or not, there are still people out there using VHS technology to tape their programs because they didn't move up to DVR. But VHS video cassettes briefly jockeyed for position with Betamax and I was one of the early birds of Betamax. Those were tanks, those beta machines. I mean, your little VHS machines are light. These were tanks. I'm talking--these suckers weighed probably five pounds.

>> Oh my goodness.

>> And very expensive technology at that time. It was much smaller than a VHS cassette. I still have some of my old Betamax tapes as a matter of fact stored somewhere. Anyway, that was another version of a videotape format. Betamax was soon considered obsolete and VHS became the standard videotape format due to longer tape length and quality and so there you go. And there are still a lot of--in fact, you can go to--did you know you can go to a library sale and you'll still find a videotape, VHS movies, commercial movies you can still buy. It's amazing.

>> Can you even buy VCRs anymore?

>> Yes you can, believe it--you just go to your neighborhood pawnshop, I'm sure you'll find a VHS cassette or just ask grandma and grandpa, they probably--

>> True.

>> --on the garage somewhere, all right. Well, we want to move on now to our subject matter this week and I tell you, this is really interesting. Feral hogs cost approximately \$1.5 billion in damages to US land and crops each year. Conventional trapping systems have an insufficient capture rate of only 49%. Trapping is often the most effective method to mitigate damage, but I can't believe the invasiveness for decades, farmers and ranchers, land managers across the US who fought a losing war against feral hogs. This invasive animal acts similarly to a harmful virus in the human body. Listen to this, they enter an ecosystem, they multiply rapidly, destroy valuable crop land in urban areas, they endanger native wildlife, spread disease and pollute water

waste with the recordable populations now present in 48 states. Feral hogs also called wild hogs or wild pigs have a financial impact as I said a while ago exceeding more than \$1.5 billion each year. Well guess what? We have some guests who have come together to help farmers and ranchers and other people, homeowners and landowners to helpfully kind of get this problem under control. We have first of all some representatives from the Noble Foundation who we haven't had the Noble Foundation, Sam Roberts, Samuel Roberts, Noble Foundation on our program on quite a while. Jeff Moen, who director of business development and Josh Gaskamp, who is wildlife and range consultant in the agricultural division. We have Sam Eck who is sales manager for the manufacturer of this trap called--they're called WW Livestock Systems, interesting background on this organization. And then we have Chris Whittenburg, who's Tactical--who's with Tactical Electronics, who we haven't had on the program, Tactical Electronics, in quite a while. And then I want to open the mic to a very dear friend of ours who's been on our program a number of times, have brought us some really interesting gifts, Kay Watson, who's with the Oklahoma Manufacturing Alliance. Kay, nice to have you back.

>> Thank you.

>> You're a busy lady as usual and you seem to always find us some interesting guests.

>> I know some interesting people.

>> Come up to the microphone there a little bit and tell us first of all about how this all came together, I mean, with the alliance obviously pulling together WW Livestock Systems as a key part I guess of how these all came together for you, right?

>> Yes, you're familiar with what the Oklahoma Manufacturing Alliance does. We are funded through the federal government and state government and OCAST to assist manufacturers in Oklahoma. The way that it started was the Noble Foundation approached me because they had developed a product, this trap, with Tactical Electronics and they were looking for a manufacturer, a metal fab manufacturer that met a certain criteria they were looking for. I went to my coordinates around the state, the other manufacturing extension agents and asked them who they had that met this criteria. We found three or four, five maybe that were possible manufacturers. Jeff Moen and his partner at the Noble Foundation and I went around and talked to these manufacturers and they decided that WW Manufacturing in Thomas, Oklahoma was the best candidate. So that's kind of how we got this started.

>> You have been doing this a long time and just briefly before we get into our guest, Oklahoma Manufacturing over the last decade or so has come a long way and how are we doing in the state compared to other states with manufacturers in the state--I mean as far as employment, as far as import and export, are we doing pretty well?

>> We do very well in Oklahoma. We have a lot of small manufacturers and that's really our focus in the Oklahoma Manufacturing Alliance is to assist and find resources for small manufacturers and that's 500 employees or less at an Oklahoma plant. We do have a lot of companies that are large corporations that have plants in Oklahoma. But we find that we probably do the best with small family-owned manufacturers like WW and we try to match them with customers, suppliers, resources, funding--

>> There's a variety of services.

>> Yeah, a variety of things.

>> And you guys as a--as agents who go out and consult with manufacturers, this is a great service you provide and you've basically showed Oklahomans how to do lean mean manufacturing and so it's a great opportunity for manufacturers out there who don't know about the alliance to take advantage of those services and how do they do that?

>> Well --

>> Did you have different agents in different parts of the state?

>> Right. We're geographically assigned. I'm out of Ardmore and primarily do all of Southeastern Oklahoma. But there's 16 other manufacturing extension agents and we have an administrative office in Tulsa, but probably the best way would be to look at our website which is www.okalliance.com.

>> Okalliance.com, OK, very good, OK. Thank you so much. Let's move over now to our--a couple of our guests. We want to the gentlemen from the Noble Foundation, Jeff Moen and Josh Gaskamp. Gentlemen, thank you for joining us in the program. I'm going to ask Jeff if you'll pull a microphone--phone up there first and let's get to know a little bit about the organization. First of all like I said earlier in the program; it's been a while since we've had a representative from the Noble Foundation. You guys do awesome research down there. It's just amazing what you're doing for agriculture in general and this boar problem we're going to talk about in just a minute, but tell our audience because we haven't heard about you in a while about the Noble Foundation, and what you do.

>> Sure. Thank you very much and we also want to thank you for having us today and--

>> Absolutely.

>> --talk about this product. The Noble Foundation is an agricultural research and consultation organization that was founded actually about in 1945. So we've been around for quite some time and we focus in three basic areas, basic plant science. We've got PhD scientists looking at how plants work and how we can make them perform better and create a better plant if you will. We've got a second group that takes that research out of our lab space and takes research out of lab space from scientific organizations around this--the country, around the globe and translates that basic plant science into forage crops that you take out into the field. So we take the--work out of the lab, take it into the field and find if we--or see if we can have a proof of concept. And once we get to that point, we then take that research and pass it on to our third operating division, which is our agricultural division and we take those discoveries that we've--come from our plant biology group, our forage improvement group and we take them out to producers around the state and help educate them on what we've been doing scientifically, but also take a look at their operation as a whole to identify ways that they can become more efficient, more effective, more profitable. We see a lot of different goals with the various producers around the state. Some of them want to have a hobby farm and some a big operation.

>> We have a lot more to talk about and we're going to talk with your colleague Josh Gaskamp when we come back on from the break. We're going to be talking about the BoarBuster trap system. And this is very interesting technology you're going to want to hear about when we return on *Oklahoma Innovations*.

[Music]

>> When I invented my new product, I faced a lot of challenges from securing capital to recruiting qualified employees. It's a very complex path from innovation to the marketplace and I needed some help navigating the process.

>> The Oklahoma Center for the Advancement of Science and Technology and its strategic partners, the Oklahoma Manufacturing Alliance and i2E, help entrepreneurs. They support existing and startup companies so they can succeed and create jobs, increase per capita income and grow the state's economy. In its 26-year history, OCAST has funded nearly 2,500 research projects and provided support to hundreds of Oklahoma-based companies. The investments made in these businesses yield high returns for our state by strengthening and diversifying our economy. Advancing innovation is investing in a positive future, that's what OCAST is all about. For more information, call OCAST toll-free at 866-265-2215 or visit us on Facebook or our website at ocast.ok.gov.

>> Now back to *Oklahoma Innovations* with Gary and Tessa on the OCAST Radio Network.

[Music]

>> This week on *Oklahoma Innovations*, so we're talking about the BoarBuster, a research-based cutting edge trapping system developed as a solution for managing the nation's exploding feral hog population. And before the break, we were talking with Jeff Moen who is with the--Sam Noble Foundation and are more now, we want to talk to--

>> Now, we're going to talk to Josh Gaskamp. Jeff mentioned a little bit about the agricultural division at Noble and Josh that's where you work. Can you tell us a little bit about your role there in the agricultural division?

>> In the agricultural division, I'm a wildlife and range consultant, so I--as Jeff mentioned I go out to landowners that have specific goals for the ranchers, help them improve their operations, make them more profitable, all these things that Jeff mentioned. In addition to that, I've got a short research goal or research appointment. I--Before moving into the consultant role, I was actually doing 100% research and in that--doing that research, we do--we test different technologies, number one, that's why we--how we came up with BoarBuster to make those farmer and ranchers more profitable. So for instance feral hogs are a big problem for farmers and ranchers across our service area, that we saw a real need that these farmers or ranchers need to control these animals because they are jeopardizing a lot of their other operations. So that was just one of the research projects that I was a part of, is developing some technologies to control those animals to make those operations more profitable.

>> And now we know that this is a collaborative effort as Gary alluded to at the beginning of the show. We have many parties here in the room today to talk to us about this effort. Let's switch gears a little bit and talk to Chris Whitten--Whittenburg, sorry, from Tactical Electronics, who has also played a big role in the part of--in this development. Hi Chris.

>> Hi.

>> Can you tell us a little bit about yourself first and Tactical Electronics?

>> Sure, so Tactical Electronics is a company in Broken Arrow, a small company relatively and mainly we do products for law enforcement and the government, you know, military agencies. So we have some products we sell to them and then we also do research and development kind of on a contract basis for other companies and that's kind of the relationship we have with Noble as

OCAST actually put us--put Noble in contact with us and we helped them commercialize the prototype unit that they have so we can sell it.

>> OK. And now talking about this prototype unit, can you give us a bit of an overview for our listeners who can't see any sort visual aids, what this system actually looks like. It's fairly simple to look at, correct? But there's a lot going on behind the scenes.

>> Yeah, so, I mean the piece everyone normally sees is the trap itself, you know, it's--Josh can probably talk more about the coral itself, but the portion we did is kind of overlooked if you--for you to walk up on the thing but it's a camera that sits on a pole that--it's pointed up a trap and in operation, when hogs enter the trap, there's motion detected by this camera. This camera has a cellular module that sends alerts right to your phones so you can see if it's deer, if it's hog or if it's raccoons or whatever it might be and then if you chose to, you can bring up live video of that trap and so you watch live over the cellular network to your phone or to your computer and you decide when to drop the trap. And that's really part of the, you know, one of the main innovations I think--

>> This technology sounds a little like some of the home security technology that's out here today where you can see video and still pictures on your cameras at home on your cellphone is--are we talking about a similar kind of technology?

>> I think it's similar to that. We're doing it--you know, there's a few things we had to do for this to make it work well for this application. One of them is really little latency, you know, you're dropping the trap--as soon as you press the button, you want to trap the drop because, you know that's one of the keys to the product. So a home system might have more latency built in because you don't have that kind of requirement to see things exactly, you know, as soon as possible as they're happening. And then motion sensors for outdoor use are a little more difficult than your home system. And all our systems are designed for -- or this system is designed for low light and all the Tactical Electronics cameras are also designed for low light so that worked well but, you know, your--

>> I guess what I was getting is the transmission of the feed is a lot like what we're getting--and particularly, the live video is where we're getting the home technology now. But the activation of the trap and all of that, we don't have that kind of thing where we can lock the doors and keep the burglar in, you know. So OK, I get that. OK, so let's go back to Josh and lets you elaborate a little bit about this because this is pretty sophisticated stuff.

>> Yeah, at the Noble Foundation, we've spent several years researching different technologies and we've found very quickly that feral hogs are really sharp animals. They're very smart. So, in a lot of cases conventional type traps like we see on the market today coral traps and hog traps are largely ineffective at capturing populations of hogs at the sounder level. And a sounder is a family group of hog so a lot of those traps we're only capturing a portion of the animals on the landscape and the hog's reproductive potential is such that it can get out of control very rapidly. Feral pigs to have 15 piglets in a litter, you know and those piglets are then capable of reproducing at six to eight months of age again. They can have up to two litters a year, so they can rapidly get out of control. So unless you have control of the entire population, you're not really doing any good just catching a small portion of those animals so--

>> How do these get out of control nationwide? I mean, I don't recall ever hearing this--the severity of the problem 'till recently it's been in the national news as a matter of fact.

>> Sure, you know, the--one thing about feral swine is they're readily adaptable to any environment you put them in. They survive, they eat anything with a calorie, so they can survive in a lot of different habitats and when humans introduce a new population of feral hogs or domestic pigs, it's just turned out in new areas, that's a reestablished population that quickly gets out of control.

>> Wow, so you know, because we think about wild hogs, we think of like jungles and things like that. We don't think about not--obviously in some rural areas, but I--this is a 48-state problem and I'm like how the--and are they even getting--are they starting to get into metro area issues? I mean, when you think about urban areas for example, are we having that problem matter?

>> Sure, and that's why you've probably seen a lot of it in the news more recently is they are encroaching on urban landscapes and as I mentioned, they didn't get along with any habitat you throw at them. They live out in the country where there's no trees at all, even out in far Western Oklahoma where there's very little canopy cover.

>> So what's the answer to this, resolve well, it's a BoarBuster trap and we're going to be talking when we come back with Sam Eck, who is the manufacturer with WW Livestock Systems when we turn on *Oklahoma Innovations*.

[Music]

>> From Oklahoma City to Tulsa, Woodward to Lawton. This is your science and technology

>> Pancreatic cancer is the fourth leading cause of cancer deaths, with a median survival range of only six months. As an oncologist, I see far too many families suffer from the effects of this terrible disease. We need better treatment options for patients.

>> With the support of the Oklahoma Center for the Advancement of Science and Technology, the researchers at COARE Biotechnology have what they hope will eventually be a treatment even a cure for pancreatic cancer. They have identified a protein that if blocked may prevent tumors or keep them from growing. With help from OCAST and i2E, the team at COARE was recently awarded an SBIR Research Grant to enable them to continue their research and move closer to a treatment for pancreatic cancer. If you are a researcher or a small business in Oklahoma and are considering applying for a federal SBIR funding, contact OCAST toll-free at 866-265-2215 or visit us on Facebook or our website at ocast.ok.gov.

>> I'll graduate from college soon. I wanted a real world experience that would make me stand out to potential employers, that's what I like about my internship. It's preparing me for a competitive job market.

>> With the support of the Oklahoma Center for the Advancement of Science and Technology, more than 500 Oklahoma students have intern with science and engineering companies. OCAST's intern program helps students connect with mentors, operate instruments not available in the classroom, build confidence and gain practical experience.

>> The OCAST internship gives me the opportunity to put into practice what I study in the classroom. It's a great learning experience and the chance to work with topnotch professionals.

>> Internships play an important role in connecting Oklahoma's brightest students to quality technology jobs in Oklahoma, creating opportunities, that's what OCAST is all about. For more

information, call OCAST toll-free at 866-265-2215 or visit us on Facebook or our website at ocast.ok.gov.

>> Research and development, technology transfer and commercialization, creating high paying jobs in Oklahoma is what OCAST is all about. This is *Oklahoma Innovations* on the OCAST Radio Network.

[Music]

>> The scientific research conducted with the BoarBuster trap system shows its unmatched ability to provide feral hog population control. Feral hog populations must be reduced by 70% annually to achieve effective control. From years of testing and evaluation on both Noble Foundation properties as well as 10 locations around the US, the BoarBuster trap system catches 88% of targeted hog population. That's pretty impressive.

>> Yes, we spent several years at the Noble Foundation Research in various trapping techniques and where I said a lot of the technologies available in the market are ineffective today, really those conventional traps we're catching about 49% of the population, which is not enough to meet that 70% threshold. So we began doing research in different technologies such as drop nets and things what--other trapping techniques that we were using for various other research projects. In using some of those drop nets, we found that they were actually a pretty effective technology for catching feral hogs. So we spent two years researching that technique in comparison to some of the conventional traps like coral traps. We found that drop nets were 86% effective at capturing the hogs at the population level. So we're catching 86% of the population of those, while we're only catching 49% with conventional dropping techniques. So when we go visit with landowners, we tell them that drop nets might be the way to go to really mitigate some of these damage shoes, but landowners didn't want to adopt that technology because it meant spending the night out in the field watching the net and dropping it with a remote control. So they were hesitant to adopt that technology. So what we really had to do is to find something that was user friendly, something that was safe and very effective for landowners to use and it meant basically taking harbored of the different technologies we had, coupling the origin nature of the coral trap with the suspended nature of the drop net. Hogs don't seem to associate overhead canopy with any dangers. They can enter from any direction and leave at any direction. They feel very comfortable walking inside drop nets and therefore, the BoarBuster.

>> So talk to us a little about what this coral looks like. It's suspended as you mentioned. How big is it? How many can it capture at one time?

>> We've caught as many as 44 pigs in one drop with the trap. We--One of the beautiful parts of the trap, you can do that from anywhere in the world. We actually caught 16 pigs from Nashville, Tennessee that were here in Oklahoma. It is 18 foot in diameter. It is a circle, rigid--a round rigid structure. It has integrated door in the trap so that users can't get in and out of the trap to manipulate different components, setting up the trap or unloading pigs into a trailer, things of that nature.

>> I have a question about pig behavior. So how long does it--I wonder do these pigs travel in packs of 44 or whatever? Is it common that you could get a message on your phone showing you that there's a pig there and when you go and look, there are actually 44 pigs there. Is there something to draw them all there or is it just luck that they all become--get under the trap at the same time.

>> The way that most landowners do trapping is they habituate animals to an area via some sort of bait. So we use whole corn on the ground to attract the pigs to an area. Once we've got the pigs attracted to the area, we erect the trap and that point in time, with the camera set on the location, we know how many pigs are coming to the location. So if I've got like you've mentioned 44 pigs coming to a location, since I've got a live video stream, I don't trap just 15 of those. I'll wait for all 44 to get into the footprint of that trap before I hit the deploy button.

>> OK.

>> And this is also fail safe to avoid trapping unwanted wildlife, right?

>> That's correct. We completely eliminate non-target captures because we are the trigger. You know, a lot of conventional trapping techniques, the animals that are using the traps are the trigger. They hit a trip wire or something. If we're the trigger, we know exactly what's in the trap. We know how many are in the trap, so it's very safe and we eliminate capturing white-tailed deer, raccoons or things of that nature.

>> OK, so we have the Noble Foundation, we have Tactical Electronics, who obviously have helped evolved this technology, but somebody's got to make it. Somebody's got to manufacture it and that's where WW Livestock Systems comes into play out of Thomas, Oklahoma. Their sales manager Sam Eck is our next guest and Sam, sorry it takes so long to get you on the microphone but welcome to the program. First of all, give us a little background on WW because you guys have been around a while.

>> Yeah. And thank you for having me. WW was started in 1946 by the Webster family in Dodge City, Kansas, manufacturing squeeze chutes and other cattle handling equipment. They then branched out into panels and gates and got a full line of cattle handling equipment, squeeze chutes and calf tables and coral designs. And then we got into the rodeo business in about mid '70s. And now we are one of the largest manufacturers of rodeo equipment in the country. And then we got into equine housing because it--one leads to another.

>> Sure.

>> And so we have a full gamut of livestock equipment. If you needed to hold horses or cattle, we probably manufacture it. And if we don't, we'll figure out a way to get it done. And as far as this trap goes, we feel very fortunate. We understand there were lots of manufacturers that you could probably do--work on. We got lucky here. These guys have done all the work. We get to do the fun part, and that's manufacture and sale.

>> So the manufacturing part is that the trap itself because the--with the integration of the electronics, is that what you do?

>> Correct. We manufacture the--any metal parts of the trap. The electronics and stuff, they all come boxed, ready to go. We just send them on to the end user.

>> Let's talk a little about this, the relationship here. You guys are all in different parts of the state. How has that worked out? Ardmore and Broken Arrow are obviously very far apart. Can you talk a little bit about how you guys managed being, you know, totally different geographic areas? Where there any difficulties involved?

>> I would say no, there were not, you know the state is not that large.

>> Right.

>> We can be in Broken Arrow in three hours and growing up in rural areas, you get used to driving those distances. So for our--from our standpoint, no. It hasn't been problematic at all. We have--Early on, we had regular conference calls, video conferencing and so it wasn't problematic at all. We're all Oklahomans and we all enjoy getting together and helping solve this problem.

>> That's not true with the technology today, you can have a meeting anywhere and still stay right in your office base so that's what's cool.

>> Absolutely, and as Josh mentioned, if we can trap 16 feral hogs in Oklahoma from a conference center floor in Nashville talking to some friends in Thomas or in Broken Arrow, it's not a problem.

>> Now, you know I'm thinking if I'm a rancher or a farmer out here, if I'm an agriculture and I've got Orlando and I've got this kind of technology available, and I have a need for this, it doesn't matter where I'm at. I mean, I can be on vacation in Florida and if I get a monitor setup on my cellphone, which is what I understand is does in the middle of the night and I can just activate that just about--if you got a cell signal, I assume it just activates the trap electronically. Is that pretty much the idea?

>> Correct, the trap is--has a cellular modem in it essentially and so, anywhere you have cell service, you can set up the trap and use the trap in and as far as where the user has to be anywhere you have internet access, you can watch the live video and drop the trap. So it's really kind of distance insensitive. I guess, at some point you have to go unload the animals from the trap but, you know, you can do that the next--

>> So did--I assume there had to be some testing done on this. Who did that? Or is it a partnership?

>> Actually the majority of the testing came through the research phase, which was Josh conducted as part of the scientific efforts and then now that we've got an end product for the end users, obviously we had a period of time where we tested some prototypes out in the field to make sure that this would be a commercial grade product for WW Cell.

>> I'm a rancher or farmer out there and I'm listening to this I'm thinking, "Man, that sounds expensive," especially the trap itself maybe but maybe not. But when you talk about intergrading this sophisticated electronic monitoring system, that's sounds pretty pricey, is it?

>> Well no, not when you compare it to what damage they're doing.

>> OK and that would be the debate right there.

>> And the time savings it gives you, I mean you're--the retail price from the trap is \$5995 and that gets the camera, the trap, everything you need.

>> That's not bad.

>> We worked very hard to try to keep the cost down to where it was in affordable option for the rancher.

>> And like you said, it all--is based on the--almost \$6000 is nothing compared to the hundreds of thousands of dollars of damage these hogs are probably causing.

>> Right, if they're out there tearing out your hay field and you blow out a tire on a tractor, it didn't take many of those to pay for that truck.

>> That's right, yeah. So the implementation of this, I assume that you provide some sense of training for the rancher or the landowner?

>> Well, we are currently--we're selling traps as we speak but our dealers have all been--the dealers we have set up now have all been--and just background on that, WW has probably 1200 dealers nationwide. Not all of which are going to carry the BoarBuster because for one reason or another, but all the BoarBuster dealers will be trained on how to educate the user, on how to set their camera up, how to activate their camera, how to put the trap itself together plus with the help of the Noble Foundation, they've put out a lot of really nice videos on how to assemble the trap and how to properly bait and where to put the trap, how to recognize where to put it.

>> Well now see, audience, I told you, this would not be a boring show, OK. OK, all right I'm sorry, I had to do that, OK. All right while we're talking with Josh and Jeff from the Sam Noble Foundation and Sam Eck with WW Manufacturing and with Chris Whittenburg with Tactical Electronics and we have one more segment to go, let's see where it goes when we return on *Oklahoma Innovations*.

[Music]

>> Gary and Tessa will be back after the break with more interesting conversation. This is *Oklahoma Innovations* on the OCAST Radio Network.

>> As a police officer, one of the most dangerous parts of my job is arriving on a scene where an armed suspect has barricaded himself or where we suspect some type of booby trap. We're most vulnerable when we don't know what kind of explosives or weapons are on the other side. It can be deadly.

>> Tactical Electronics, an Oklahoma-based company, invents, manufactures and sells tools such as under door cameras and video fiberscopes that are used by law enforcement officers, military and counterterrorism personnel around the globe. The tools allow areas and packages to be inspected from a safe distance which reduces the risks of injuries and death. With the support of OCAST, the company is developing image recognition software that scans packages and within milliseconds, identifies what's inside. OCAST is advancing science and technology that not only improves but also saves lives. For more information, call OCAST toll-free at 866-265-2215 or visit us on Facebook or our website at ocast.ok.gov.

[Music]

>> We're talking about the BoarBuster system which is about 18 feet in diameter and capable of capturing more than 30 feral hogs per drop and is available right now, right guys. OK, and the new trap will be exclusively manufactured by WW Livestock Systems out of Thomas, Oklahoma. The trap is easy to transport and set up and most people can start catching hogs within 24 hours of assembling it. And its technology gives the user total control and most importantly, it works. OK, feral hogs you should be scared.

>> I think one of the most important things that we want to really drive home about this product is that it is efficient. It's cost efficient, it's only less than \$6000. As Gary mentioned, it's easy to set up but perhaps most importantly, it's really efficient with the user's time. You don't have to sit there for hours monitoring something. So Josh can you talk a little bit, just elaborate a little bit on each of those things, how it's easy to set up, how--we are to talk about how monitoring but it's just really an overall better product than what we've seen in the past.

>> Sure, the BoarBuster will actually fit on the back of a standard size pickup truck. So you can tow this back into the woods, back into the living room or the feral hog if you will. And, you know, farmers and ranchers are really busy these days. They don't have time to monitor traps every day and go out and re-bait every day and things like that. So one thing about the BoarBuster is it allows you to monitor any time from your office, from the field, where you're working. So farmers and ranchers don't have to spend a lot of time paying attention to that. The trap lets them know when animals are inside of it. So when they get the text message or that email letting them know, "Hey, there's pigs in your trap." They log on, they catch the pigs and then they know they have to travel to the trap to get pigs out of it. They can also check it daily to see or check bait they put there two days ago, it's still there. They don't have to go back, things like that. So it makes it really easy on the farmer or rancher and that's--you know, that's who we're out there to help, so.

>> Right. So it is pretty quick to set up. It's about 30 minutes to set it up. I'm assuming that if a farmer or rancher does happen to look out and notice that the bait hasn't been taken, it would be fairly easy to move the trap as well to a different location?

>> Sure, you know, a single user can set the trap up by themselves--

>> Oh, wow.

>> --in about 20 to 30 minutes as you mentioned. We've got a neat video on boarbuster.com if you go on there and check it out of three men setting up a trap in about six and a half minutes. So it's very easy to set up. You can move it from A to B just because you can throw on the back of a pickup truck trailer, you name it.

>> OK, and that was boarbuster.com, or anybody who missed it. If you want to find out more, I think there are some cool user videos on there as well as you can find out information about purchasing the BoarBuster.

>> And I would assume you guys are probably going to have and you've already had this out at some tradeshow and whatnot, haven't you?

>> Yeah, we've had it at two major--two trade shows so far. One was the National Wild Turkey Federation Conference in Nashville, Tennessee. That's where we caught the 16 hogs while we were watching and I think it was the darling of the show. I mean, we had set times, we were setting that--deploying the trap and doing a demonstration of it and it was literally--I mean, you couldn't walk around our booth because there were so many people. It was a really neat deal to have had.

>> For a manufacturer, that had to be exciting.

>> That was real exciting.

>> Yeah.

>> And then the other show we had it at, we took it right here at Oklahoma City to the farm show and not knowing what it would draw, but it--I think anybody that came to the farm show probably walked by our booth and had a chance to see the display. It was a really neat deal.

>> Gentlemen, let's talk a little bit about the partnership you have here because obviously, there was a mission to tie the ends together if you will between the three organizations, the Sam Noble Foundation and of course tied to the electronics and then WW Manufacturing. How did this all

happen? I mean, I know that OCAST and the Alliance have--had a hand in this, but tell us from your perspective how this all kind of evolved.

>> Sure, you know, obviously as we've spoken about on the show today, the most important thing to the Noble Foundation is that we produce solutions for farmers and ranchers and make their operations more efficient, more profitable. But if there was a second or a second most exciting thing about this product is the fact that it is really the product of three Oklahoma companies coming together. All of which was facilitated through OCAST and these agencies here in Oklahoma. As mentioned earlier, OCAST introduced the Noble Foundation to Tactical Electronics. The Noble Foundation is a nonprofit research organization. We don't make products that go out to the market. We help identify solutions for farmers and ranchers. So without that connection, thanks to OCAST between the Noah Foundation and Tactical Electronics, we really wouldn't have gotten off the ground. We wouldn't have gotten to a product that was as user friendly, and as effective as it is. Likewise, thanks to the Oklahoma Manufacturing Alliance putting the Noble Foundation in contact with WW, but for that relationship, we wouldn't have been able to take this great product and actually deliver it to the farmers and the ranchers. So, well, yes, the main story here is we've produced a technology that can solve some significant problems for farmers and ranchers and help with the financial implications. The background story is really that these three companies from Oklahoma have come together to create and distribute a project that's not just going to help farmers and ranchers in Oklahoma, but it's going to help farmers and ranchers nationwide and ultimately worldwide. Feral hogs are a problem not just in America, but worldwide so.

>> It's true.

>> It's very exciting.

>> OK. This has got to be an exciting time for you because you've dealt with a lot of different cases and guests you brought to the program, but this one's kind of unique with all these different cross platforms between the electronic technology, the manufacturer who normally, develops rodeo products and agricultural products and other kinds of traps and then dealing with the research company like Noble Foundation, it's kind of unusual in this arena?

>> Yes it is and it's been very exciting for me. When Noble Foundation contacted me, I was very flattered to be involved and to be able to help them because they are so prestigious in our state and in the nation and have a great reputation for being a research organization that helps farmers and ranchers be more productive and I think somebody mentioned a minute ago about this product also has been used for land management, which is really why Sam Noble developed the Noble Foundation back in 1945.

>> Interesting stuff. Well guys, I'll tell you what, you have brought us some really cool information here and I hope that whether you're a land manager, whether you're a farmer or a rancher that this is kind--if you don't know about this technology, that it's kind of gotten your attention. Tessa did you have a question?

>> So you guys are actively selling this product right now. It's available in the market, are you seeing sales being made to any areas that you're kind of surprised about like Alaska for say. Are you seeing a lot of sales going--

>> No, I have--not yet. The--We did sell one trap in the Kansas, but according to the USDA in the Kansas, there are no hogs, but they bought a trap.

>> OK.

>> So that one's probably the most surprising of all the traps that we've sold today.

>> Maybe they are trying that hunt something else.

>> Well, this just actually just launched, right?

>> Well actually, the first commercial traps haven't even been shipped yet. They won't ship until--begin shipping the first of June.

>> OK, cool.

>> So what are we left out gentlemen? From the Noble Foundation perspective, I mean, this is not a new territory for you, but it's a territory that's--could evolve into some other--lead into some other technologies? For agriculture?

>> Sure, you know, as technology continues to change and things just get a lot more easier, a lot easier for landowners to connect if you will, you know. I think, as technology changes, we're going to continue to look at those technologies and implement those things in BoarBuster as well as other things that we do at the foundation just to make those products, you know that we are [inaudible] say WW, just more user friendly and more effective--

>> I mean, do you see this being used--you know, one of the big concerns in Oklahoma right now is cattle wrestling. I mean, that was like an 1800s kind of thing and it's become a big deal in the news. I mean, wouldn't it be cool if we had a technology where we could just drop a trap and you catch the guys in action.

>> Well, I think dropping traps and catching guys in action is probably the police job but--

>> Yeah, but I mean you're out--way out in the middle of nowhere and you just going to take an hour for the sheriff to get out there, I mean, how cool would it be for a farmer to have this on his cellphone go. OK, buddy, got you.

>> Well, that is actually--you touched on a great point. That is actually one of the benefits of this great technology that camera created by tactical. It has a variety of other uses outside of BoarBuster.

>> Sure.

>> And we are looking at other opportunities for use of that product on farms and ranchers not just trapping hogs but because the camera actuates another tool, then we're looking at various ways that we can spread that out.

>> Absolutely. You had a comment Sam?

>> Yeah, and that he's got a great point there, but don't call me asking to buy just the camera because the camera comes with the trap or the trap comes with the camera.

>> Good point, good point there. Wow. Well, Tessa, we've--I don't know about you, but I've learned a lot more about the importance of being a farmer and rancher, some of the security issues and the devastation that's some--I had no idea.

>> And I think that it's awesome that the relationship that we've seen built here now and hopefully it sounds like some more collaboration may be coming in the future from these three.

>> That's right. Hats off to Sam Roberts Nobel Foundation and all of their partnerships with Tactical Electronics and WW Livestock Systems. We've got a great show this week. We hope you've learned a lot more and as you can see, you never know what you're going to here on when you tune in to *Oklahoma Innovations*. Have a great week.

[Music]

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