

[MUSIC PLAYING]

- I'm visiting Derek Underwood. Derek is the assistant commissioner of agriculture for consumer protection. Derek, we think of agriculture-- which is our largest industry-- as growing crops in the field, and vegetables, and timber. But there's a lot that your agency is responsible for to make certain that it stays as viable as it can. What are some of the things that you look over and make certain are well done?

- That's right, Amanda, and you tuned into it when you said "consumer protection" division. We protect the consumers of our state. We have a food safety and compliance department that goes out and does inspections at food manufacturers and distribution centers. We have a consumer services division that goes out and checks weights and measuring devices, such as your gas station or such as your grocery store scales.

**AMANDA MCNULTY:**

And that's why the commissioner's name is on the gas tank.

**DEREK UNDERWOOD:**

That is exactly right.

**AMANDA MCNULTY:**

So now I'm getting a gallon.

**DEREK UNDERWOOD:**

You know you're getting a gallon.

**AMANDA MCNULTY:**

Good.

**DEREK UNDERWOOD:**

Getting what you paid for. We also have a metrology laboratory that actually has the state standards for weights and volume.

**AMANDA MCNULTY:**

So our manufacturing industry, do they sometimes come to you to check their instrumentation against the standard?

**DEREK UNDERWOOD:**

They certainly do. We have companies such as Boeing-- aircraft-- Bridgestone-- tire companies-- and a vast amount of others that come there to make sure that their weights and their measuring devices are calibrated to the state and national standards.

- That's pretty cool.

- And then our last department--

- Yes.

- --is, of course, the laboratory department, and that's where we are right now.

- And gosh, there is so much that goes on here, my head is spinning. But let's start with everybody's favorite, which is food.

- Food. Well, all right. We have five main laboratories within the laboratory department. The first one is our food lab. What do we do in our food lab? Well, we go out and we get samples of products such as ground beef--

**AMANDA MCNULTY:**

Mm-hmm.

**DEREK UNDERWOOD:**

--ground pork, ground chicken, and even a ground turkey. And we make sure that the product that you buy at the store has the right labeling on it. So for instance, if you bought a 93/7 pack of hamburger meat, you're expecting to get how much fat, and how much lean?

**AMANDA MCNULTY:**

Yeah, I want to lose weight if I'm--

**DEREK UNDERWOOD:**

That's right.

**AMANDA MCNULTY:**

--spending all that money.

**DEREK UNDERWOOD:**

So you want to get something that has a lower fat content.

**AMANDA MCNULTY:**

Mm-hmm.

**DEREK UNDERWOOD:**

Well, we check that to make sure that the fat content is accurate or within that tolerance. You want to make sure that an 80/20 pack of hamburger meat is not really 70% lean and 30% fat. We verify that. So the label claim that's made at the supermarket is what we test to make sure that the product is exactly what the supermarket or the distributors are claiming on their label.

**AMANDA MCNULTY:**

And it even goes with things that are packaged like ice cream, because ice cream-- I understand-- has to have a certain amount of fat in it to not be ice milk.

**DEREK UNDERWOOD:**

That's right-- ice milk.

**AMANDA MCNULTY:**

Yeah.

**DEREK UNDERWOOD:**

A lot of times, when you go to the restaurants, and you pull out the little lever to get some of that, mostly that's ice milk.

**AMANDA MCNULTY:**

Uh-huh.

**DEREK UNDERWOOD:**

Ice cream has to have at least 10% butter fat. The higher the butter fat, the better it tastes.

**AMANDA MCNULTY:**

Yeah.

**DEREK UNDERWOOD:**

So we check that as well, and we do different-- anywhere from PET, from Breyers, or store brand-- we bring them into the laboratory, and we have an extraction technique to be able to check to make sure that the fat level is

within that tolerance, as well.

- Within our state, there is a large agricultural animal division. And, of course, feed is involved, and we hear things about how important it is that they have pure food, and there are not toxins and contaminants in it.

**DEREK UNDERWOOD:**

Right.

**AMANDA MCNULTY:**

Do y'all got to control that, as well?

**DEREK UNDERWOOD:**

We do. When you hear about animal feed or pet food, sometimes it has the same type of regulatory oversight as human food. So we have a feed laboratory that brings in all sorts of animal feeds, from-- you mentioned-- from gerbil feed to livestock to poultry and to your companion pets, such as your--

**AMANDA MCNULTY:**

Even our dogs and cats.

**DEREK UNDERWOOD:**

Even your dogs and cats. So we check for the guaranteed analysis of that product. Any time you buy pet food or animal feed, you can look on the label, and it says the protein, the fat, and the fiber. Those are what's required by law to have on every bag of animal feed. We check that to make sure that that protein, fat, and fiber is exactly what the label claims.

**AMANDA MCNULTY:**

I toured that lab earlier, and was stunned at the precision and expertise that goes in there. I felt like y'all were manufacturing medicines for people. And so the quality that you hold these people to is remarkable.

**DEREK UNDERWOOD:**

Right. We have certain standards and certain methods that we have to comply with. Our feed lab and food lab staff have close to 50 years combined experience in those labs. They know what they're doing. They know what they're talking about. The techniques that we use

are very precise. They're very time-consuming. Luckily, we get new-- I think we showed you a \$200,000 piece of equipment that we just got set up to help us expand what we're currently doing now.

But anything that could affect your animal feed or your pet food-- other than the protein, fat, and fiber-- may be some types of toxins. We hear about aflatoxin and products that are ground up to feed to animals, and there's a real strict level that if it goes over that amount, it could actually be harmful or actually fatal to our animals. And we've had some things that have happened in our state before, where animals and companion pets have died because of aflatoxin. So we check corn samples, wheat samples for different levels of toxins through our methods and our analysis to ensure that the raw products that's being used in animal feeds are free from those toxins.

- And also y'all have now added more equipment, so that you can have-- if there are questions that come up, we can help protect our manufacturers, because you can show that you have two different results from two different machines, not just one machine's result that could be questioned in court.

- Right. Legally, you have to have different methods to prove the same outcome, and now we have multiple equipments that we can use to validate the other. We have farmers, for instance, that bring their product in that they're going to feed to their animals, and we check it for them as a service to make sure that their product is safe to give to their cattle, because that-- in the long run-- keeps their animals safe, but also keeps the consumers in our state safe. But also it helps adjust the price per

pound or whatnot when it comes to consuming animal meat or whatnot, because one thing that we look at as consumers is making sure that we have an economical food source.

- That's true. And the other thing I said-- besides the 50 years of experience-- y'all are now pursuing a certification that could be quite important.

- Right. Every laboratory in the country-- I'll put ours up against them any day-- but in order for us to have that certificate in our hands, we have to be what's called ISO. It's an international accreditation body. They're going to come into all of our laboratories here in the division and bring us up through their methods, through their standards, to make us to where if an emergency response network federal lab needed us to do something for them--

- Oh!

- --we'll have the certification and the accreditation to be able to do that.

- We have even more reasons to be proud of agriculture in South Carolina.

- More reasons to be proud of South Carolina.

**AMANDA MCNULTY:**

And then pesticide residue-- a lot of people are concerned with this-- people with young children-- people want their food to be safe.

**DEREK UNDERWOOD:**

Right.

**AMANDA MCNULTY:**

You could help guarantee that.

**DEREK UNDERWOOD:**

We do. We do market basket surveys, where we'll go out

to supermarkets, and we'll get fresh produce, we'll get frozen produce, seasonal produce-- such as blueberries-- and we'll check. And we want to make sure that the pesticides that are OK to use on that type of produce is acceptable-- within that acceptable range. And then if there was any pesticide that maybe you can't use, or not official, or unapproved pesticides-- for instance, pesticides you use on corn, you might not be able to use that on strawberries or tomatoes. So we make sure that the pesticides used are within the tolerated level, and then there's no unapproved pesticides on the produce that we eat.

**AMANDA MCNULTY:**

And this is a great service to some of our organic growers, because--

**DEREK UNDERWOOD:**

Right.

**AMANDA MCNULTY:**

--they can come in and be certain that nothing has drifted onto their fields.

**DEREK UNDERWOOD:**

That's correct. We have some organic farmers that bring their samples in, and we'll do an analysis for them to verify that there is no pesticide levels that would cause them not to be able to claim their product to be organic.

**AMANDA MCNULTY:**

When it comes to fueling our cars, we know that y'all are responsible for seeing that we get a gallon if we pay for a gallon. But besides that, y'all also check the petroleum itself, I believe.

**DEREK UNDERWOOD:**

That's correct. We do for quantity, like you just mentioned. We also do for quality. So we'll take samples of the petroleum products-- gasoline, diesel, kerosene, whatnot-- and we'll bring it back to our laboratory that's located here. And we'll check for ethanol content, we'll check for the octane rating-- make sure it's 87, 89, or 93-

- and we also check for any type of impurities or any type of contamination that might occur, such as water or wrong fuel in the right container or vice versa.

So we actually have a laboratory here on-site that actually checks for that. So when you go and buy premium gas, you're getting premium gas. If you want to purchase something that does not have ethanol in it, we want to make sure that the labeling of that fuel dispenser is accurate when it states no ethanol.

- And the distributors themselves use you a lot, because they want to be certain that what they are giving to people who come and do business with them is exactly as it should be.

**DEREK UNDERWOOD:**

That's right. We have a real good relationship with our petroleum industry, and they'll bring samples in here periodically as submitted samples-- they're not official because we have to collect them ourselves--

**AMANDA MCNULTY:**

Certainly.

**DEREK UNDERWOOD:**

--for official, but we'll check it for them and make sure that there is no impurities, that they got the right blend. And we'll do things like that to ensure that, again, that when you purchase the fuel, it's going to be the best quality that you pay for.

**AMANDA MCNULTY:**

So although y'all do serve as a watchdog agency, you do have a very close and congenial relationship, because you are there as partners, too, to make certain that everybody's working towards the same goal of consumer protection.

**DEREK UNDERWOOD:**

That's right, because if you're a filling station or a gas station, and if you're selling bad gas or you're not doing

something that's accurate, it's going to come back to hurt you as a business owner too. So it's one of those things that we're protecting the consumer, but we're also protecting the business and the industry too, because that's what we're all about. We're trying to promote South Carolina agriculture and South Carolina business, and we do it through all the legal means that we have, but we do it with common sense.

- And getting back to agriculture, we are sitting in the seed laboratory.

- That's correct.

- And there's a lot that goes on here. Tell us what y'all are doing here to make certain that--

- Wow.

- When we get seeds, they're going to grow in the garden, and they're going to grow the right thing and not a weed.

- That's correct. We have a seed lab here, and we have four staff members here in the lab. And we bring in samples from-- official samples that we check for Clemson University. We go out and collect seeds at the different stores and farm and garden places.

**AMANDA MCNULTY:**

Little garden centers.

- Right. Or big box stores.

**AMANDA MCNULTY:**

Yeah.

- We'll go collect seeds. And we also have farmers who will submit samples of seeds before they plant their acreage. We want to make sure that they're going to

have the germination that's going to be profitable.

**AMANDA MCNULTY:**

So before they run their tractor for five days with all of those fuel costs--

**DEREK UNDERWOOD:**

Right.

**AMANDA MCNULTY:**

--and labor costs, they want to be certain that the exact correct seed is going in the ground.

**DEREK UNDERWOOD:**

Right. If they planted corn, and only 50% grew, they wasted 50% of their profit or their potential for growth.

**AMANDA MCNULTY:**

So what are the things that happen when you receive seeds? What are the steps that you through?

**DEREK UNDERWOOD:**

Well, the first step is we receive the seeds, and we check for purity. Our purity lab is where we actually go through to check if there's any seeds that are not supposed to be there. So if you get corn seeds, you don't want to have any soybean. You don't want to have any tomato. You don't want to have any other seeds that would not be part of that package.

We also check for any type of other impurities, such as rocks or stones or inert material. We also check for noxious weeds, because if you get, say, an invasive weed in your product and you plant it alongside the others-- you fertilize it, you water it, you take care of it-- it's liable to take over your entire crops. We make sure that there's no noxious weeds that are located in the seed packages that would that would take over your garden or your large 1,000-acre farm.

**AMANDA MCNULTY:**

And I was fascinated to see y'all have a complete and extensive library-- a collection of seeds.

**DEREK UNDERWOOD:**

We do.

**AMANDA MCNULTY:**

And you have people who are trained to actually look and tell the difference between different types of seeds, and they can identify noxious weeds. They can identify different types of soybeans--

**DEREK UNDERWOOD:**

Right.

**AMANDA MCNULTY:**

--different types of millet-- an incredible knowledge base here.

**DEREK UNDERWOOD:**

It is an incredible knowledge base that I have not been able to tap into now, because not only do you hold them in your hand, you have to look under a microscope or a magnifying glass for a lot, because you have some seeds that are so small it looks like a dust speck on your finger.

**AMANDA MCNULTY:**

So once we know that we have the seeds we want--

**DEREK UNDERWOOD:**

Mm-hmm.

**AMANDA MCNULTY:**

--then we want to see if it will germinate?

**DEREK UNDERWOOD:**

Right. So we look at the purity. Next thing we're going to do, we're going to germinate it. So what do you do before you germinate something? You plant it. But we don't plant it in the ground like a farmer or a hobbyist or a home gardener, but we plant them on different types of sheets or different types of paper that simulate growth in the ground. So we plant them on our papers, we put them in our little Petri dishes, and then we send them over to our germinator room.

**AMANDA MCNULTY:**

Where you, again, have to have a great deal of knowledge, because some of them have to have cold treatment. Some of them have to have warm treatment.

**DEREK UNDERWOOD:**

Mm-hmm.

**AMANDA MCNULTY:**

Some of them would have to have different aspects of treatment in order to break dormancy and cause the seed to germinate. Some of them have to have light, some of them have to have darkness. What a lot of knowledge you have.

**DEREK UNDERWOOD:**

It is. And certain things with the germinators you have to set, like you said, the right humidity, the right moisture, the right amount of light versus non-light, the different temperatures. And all those are based on the standards that we use for certain seeds. So based on the climate, based on when you plant things, we can adjust our germinators to simulate the growing conditions in our state to allow us to have a very accurate and very straightforward answer.

- I will certainly shop with more confidence than I ever have before. I want to thank you for all the things that you do to make certain that the consumers of South Carolina are protected.

- Well, just like what Commissioner Weathers states, you want to regulate with common-sense. So we know that agriculture is a number-one industry in our state that we want to promote, but we also want to make sure that the regulatory component is a vital part of that too, to keep our consumers safe in our state.

- If people would like to explore a little more in-depth, where is a good place to do that?

**DEREK UNDERWOOD:**

Our website, [agriculture.sc.gov](http://agriculture.sc.gov). You can go under consumer protection, is the icon. Click on that, and it brings up all the different departments under consumer protection, and if you click on each one of those

departments, it'll give you a very good explanation of what we do and a bunch of different resources that are available.

- Thank you again.

- All right. Thank you.

[MUSIC PLAYING]