
Committee Meeting

of

ASSEMBLY AGRICULTURE AND NATURAL RESOURCES COMMITTEE

“The Committee will receive testimony from invited speakers on the prevalence of ticks and their threat to human and animal health; including the East Asian Tick, which was previously nonexistent in the United States but has been sighted in New Jersey last year for the first time on a farm in Hunterdon County”

LOCATION: Committee Room 15
State House Annex
Trenton, New Jersey

DATE: March 18, 2019
1:00 p.m.

MEMBERS OF COMMITTEE PRESENT:

Assemblyman Eric Houghtaling, Chair
Assemblyman Clinton Calabrese
Assemblyman Ronald S. Dancer



ALSO PRESENT:

Lucinda Tiajoloff
Office of Legislative Services
Committee Aide

Martin Sumners
Assembly Majority
Committee Aide

Kristen O'Rourke
Assembly Republican
Committee Aide

Meeting Recorded and Transcribed by
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ERIC HOUGHTALING
Chairman

DAMIAN J. TALIAFERRO
Vice-Chairman

ANTHONY CALABRESE
MATTHEW W. MILAM
RONALD S. DANCER
MARKER SPACE

LUCINDA TIAJOLOFF
Office of Legislative Services
Committee Aide
(609) 847-3855
(609) 292-0561 fax

NEHA MEHTA PATEL
Office of Legislative Services
Committee Aide
(609) 847-3855
(609) 292-0561 fax

New Jersey State Legislature
ASSEMBLY AGRICULTURE AND NATURAL RESOURCES
COMMITTEE
STATE HOUSE ANNEX
PO BOX 068
TRENTON NJ 08625-0068

COMMITTEE NOTICE

TO: MEMBERS OF THE ASSEMBLY AGRICULTURE AND NATURAL RESOURCES COMMITTEE

FROM: ASSEMBLYMAN ERIC HOUGHTALING, CHAIRMAN

SUBJECT: COMMITTEE MEETING - MARCH 18, 2019

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The Assembly Agriculture and Natural Resources Committee will meet on Monday, March 18, 2019 at 1:00 PM in Committee Room 15, 4th Floor, State House Annex, Trenton, New Jersey.

The committee will receive testimony from invited speakers on the prevalence of ticks and their threat to human and animal health, including the East Asian Tick which was previously nonexistent in the United States but has been sighted in New Jersey last year for the first time on a farm in Hunterdon County.

Issued 3/13/19

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ASSEMBLYMAN ERIC HOUGHTALING (Chair): I'd like to welcome everybody to our hearing of the Agriculture Committee about ticks and the terrible problems that we have facing us; and listening to ideas of how we can face this challenge in a positive way, and how to be helpful to the residents of the State of New Jersey.

So if we can, we'll start with the Pledge of Allegiance; and then we'll start our meeting. (all recite the Pledge of Allegiance)

I would also like to thank the Assembly members who are here today with us.

Assemblyman Calabrese, would you care to say a few words?

ASSEMBLYMAN CALABRESE: Thank you, Chairman.

It's great to be here; I look forward to learning more about your concerns.

And that's it; I'm glad to be here.

ASSEMBLYMAN HOUGHTALING: Thank you.

And we also have Assemblyman Dancer.

ASSEMBLYMAN DANCER: Thank you, Chairman; and thank you for your leadership on this issue today about the East Asian tick; but in particular, Lyme disease -- the incidents and prevalence of Lyme disease in this state -- it's really debilitating. And I would imagine most all of us know somebody -- or even one of us -- who has been impacted and affected by that terrible disease.

So thank you for your leadership on this, Chairman.

ASSEMBLYMAN HOUGHTALING: Thank you.

You know, I just want to say I live in Monmouth County, and this kind of started for me with talking to the Monmouth County Mosquito

Control Commission; and having a conversation about-- They are one of the few counties in our state -- I think the only county in the state that does surveillance on ticks. And so that led to the piece of legislation that we have for a statewide Mosquito Control Commission to also include ticks in their Commission throughout the Counties.

So that Bill still has a long way to go, and a lot of things that need to go into that. But, you know, we're off to a great start; and we certainly want to find out all we can about tick control and how we can make our state better with that for our residents.

So with that, we'll have Dr. Manoel Tamassia; he's the State Veterinarian and Director of the Division of Animal Health.

Have a seat.

For the record, you just have to state your name before we start.

MANOEL TAMASSIA, DVM: Manoel Tamassia.

ASSEMBLYMAN HOUGHTALING: And thank you, and begin.

Thank you.

DR. TAMASSIA: So thanks for having me here.

I'd like to start by thanking you for this opportunity to come here and talk about something that has certainly caused a lot of anxiety and a lot of feedback from the public when we first came out with the news that this tick was found in the U.S.

The initial identification of the tick was done by the Center of Vector Biology at Rutgers University and the Hunterdon County Department of Health. It was confirmed by the National Veterinary

Services Laboratory in Iowa -- that's a USDA laboratory -- on November 9, 2017, that this was the exotic East Asian longhorned tick, or *H. longicornis*; also known as the *bush tick*. And it was found on a sheep on a Hunterdon County premise. I wouldn't even call it a farm, because it was one sheep on the one acre. It wasn't like a typical farm operation.

There are several aspects of importance for animal health on this, because the tick can cause an infestation; and that was the case, where the person that was shearing the sheep was found covered with ticks. And being one animal in this pasture, it was one of the only -- few food sources for the tick to feed on. And one peculiarity about this tick is that they can reproduce asexually, so it doesn't need to find a male to reproduce.

So when we first found this, steps were taken to try to eradicate the tick from the premise, only thinking that it was contained; if not on that one-acre pasture, on the surrounding area. And during that time, we also did several tests to see if those ticks were carrying any disease of importance to livestock or agriculture. We failed to reveal any disease, which is a good sign.

But we found out later that the tick survived over the winter; and then, later on, the tick was found in several other areas of the state. And as the ticks spread -- or we were finding the ticks in other parts of the state -- we also found that-- Along the way, we were testing for diseases that are of importance to livestock and agriculture; but we failed to find any. But we don't know how far widespread it was.

So last year, with the help of our State and Federal partners, we developed a campaign to facilitate not only the identification of the tick in the state, but in other states. So working with the laboratory in Iowa,

working with our labs in the state, we identified it in several other counties in the State of New Jersey. And now, if I'm not mistaken, the tick has been found in nine states, in several animal species, going from the initial sheep to a red tail hawk. So the tick has this ability to feed on different species, and it is spreading around.

Tick-borne diseases -- many applying to livestock here; I'm not going to dwell on the human implications here -- but ticks can cause a lot of economic damage to livestock and agriculture. Not only by the fact that they suck blood and they cause such a heavy infestation that the animals may become paralyzed, but also because of some of the diseases that they carry. Some of those diseases we have long worked on to keep it under control in our states, putting restrictions on animal movements and testing requirements so we don't bring it into the state.

And another factor that helps is that there are some diseases that are tick-transmitted that may even be around in livestock, but it's not passed around because we don't have ticks that are capable of transmitting it.

This tick has a long list of possibilities that it could transmit. So not knowing exactly where it is in the state -- all the counties, like you said, there's like-- We have found it in the central part of the state; and I think it's extremely important that we get a better understanding of this tick so we can adjust our agricultural practices to either try to eradicate it; or control our farm productions, and our regulations, and our -- whatever methods of control that we have, so we can either learn to survive with it or eradicate it. But without knowing where it is, how prevalent it is, we have our hands tied.

ASSEMBLYMAN HOUGHTALING: Would you have any idea of how -- what we can do to stop it from spreading? Or what would be-- It would be helpful to know where they are, right? -- which we don't know.

DR. TAMASSIA: I would certainly start--

ASSEMBLYMAN HOUGHTALING: On a statewide level.

But has anybody else been reporting issues with them being on cattle or deer? I think, right now, what would be helpful for me -- and maybe our Committee as well -- if you would, maybe, run us through how a tick would be -- come across so much disease, or what the cycle of that would be of -- before it actually gets on a deer or things like that. Because we always think about the deer tick--

DR. TAMASSIA: Yes.

ASSEMBLYMAN HOUGHTALING: --but there's a lot that happens to those ticks before they get on deer, right?

DR. TAMASSIA: Yes; so one good example is the U.S. eradicated the cattle fever tick; and it's still happening in other countries. So cattle imported from some countries, from the south, are all treated to eliminate this tick, the cattle fever tick, because it, can transmit anaplasmosis and babesiosis to cattle. So cattle being imported from, let's say, the southern part of the country, that might have been exposed to it can come to New Jersey and never transmit the disease because the vector is lacking. So the cattle fever tick was eradicated; we don't have it here now.

This tick has the potential to be spreading this same disease. So if a tick like this feeds on cattle that have a disease, and becomes infected, it potentially can transmit. And again, the unique thing about this

tick is that it doesn't need to find a mate to reproduce; it can reproduce easily on its own. So wherever that one tick drops, it can establish a population.

ASSEMBLYMAN HOUGHTALING: That's amazing.

DR. TAMASSIA: So that's very scary.

ASSEMBLYMAN HOUGHTALING: It is.

But how about with the regular deer tick, aren't the mice -- are they a big part of what happens with that; or are smaller animals--

DR. TAMASSIA: And again, I don't want to get into the biology of the tick life cycle; but yes, this tick is a three-host tick, where different life stages would be feeding on different species. And again, to get to the disease point is like a niche to feed them something that has the disease to pass it on.

But yes; so, to your point, if the early stages of development are feeding on mice, or other wildlife, or even birds, then you cannot -- it's very difficult to break that cycle.

ASSEMBLYMAN HOUGHTALING: Yes.

Do any other members have a question?

ASSEMBLYMAN DANCER: Sure.

Thank you, Chairman.

So the Asian tick can cause a severe fever in humans; is that correct?

DR. TAMASSIA: There are several diseases that can affect humans, yes.

ASSEMBLYMAN DANCER: And with respect to other animals and livestock -- so they're not-- They could be carriers, but could

they also become debilitated by infection from the tick as well, in addition to being a carrier?

DR. TAMASSIA: So yes; they can be -- the tick could cause debilitation, and economic impact, and life-threatening conditions; not only because of the burden that they cause by sucking the blood and making the animals anemic, but also by introducing parasites and disease agents during the feeding process.

ASSEMBLYMAN DANCER: Right.

Do you know if there are certain animals or livestock that would be more susceptible to having the disease? Are we talking sheep -- you mentioned; how about horses, cattle?

DR. TAMASSIA: It depends on the disease, and also on the tick. I'd say some of the tick-borne diseases that cause a problem for cattle -- young livestock, calves up to certain age -- they may be protected from the disease or they don't develop the disease until later on in maturity. But they are still susceptible to the diseases, even if it is to a lesser extent.

ASSEMBLYMAN DANCER: Thank you.

Thank you, Chair.

ASSEMBLYMAN HOUGHTALING: Thank you.

ASSEMBLYMAN CALABRESE: So the only case that we know of is the one in Hunterdon that you mentioned, with the sheep?

DR. TAMASSIA: No; I mean, we found the tick in several other counties in the state after that. That was the initial one.

ASSEMBLYMAN CALABRESE: That was the initial one. And when was that?

DR. TAMASSIA: In 2017.

ASSEMBLYMAN CALABRESE: Okay.

DR. TAMASSIA: In the fall, at the end of the year; and then that's when ticks go into diapause -- try to hide from the weather.

ASSEMBLYMAN CALABRESE: Underground.

DR. TAMASSIA: Yes.

ASSEMBLYMAN CALABRESE: And since that date, have there been any other cases of other animals or livestock that these ticks have killed because of--

DR. TAMASSIA: I mean, not only have we found it in several other counties in New Jersey, but we found it in several other states--

ASSEMBLYMAN CALABRESE: Yes.

DR. TAMASSIA: --affecting livestock and wildlife.

ASSEMBLYMAN CALABRESE: But it hasn't killed any humans yet; not that we know of? Or at least no one over the age of 60, who I know would be more susceptible to the disease that the ticks carry, but--

DR. TAMASSIA: To this point, no other diseases -- other than they have infestation--

ASSEMBLYMAN CALABRESE: Got you.

DR. TAMASSIA: --have caused a problem.

ASSEMBLYMAN CALABRESE: And which county is the most prevalent to have the ticks?

DR. TAMASSIA: I--

ASSEMBLYMAN HOUGHTALING: We don't know.

DR. TAMASSIA: I'll leave that to other people to talk about that. (laughter)

ASSEMBLYMAN CALABRESE: Okay; all right.

Thank you. (laughter)

ASSEMBLYMAN HOUGHTALING: So, Doctor, I have been raising some information about what other states are doing for surveillance of the ticks. And they are spending quite a bit of money, because the Lyme disease, in general, is such a bad thing; and the severity of tick-borne disease--

My daughter, actually, suffered from that many, many years ago; and I'm sure it happens often, and it's very common for people just to say, "She got bit by a tick," or-- It's very casual; we seem to be very accepting of the fact that this is something that we have to live with. But I don't think it is something that we have to live with. I think, as a state, we need to do a lot more than what we're doing.

Would you agree with that?

DR. TAMASSIA: Yes, I do.

And I would like to take the opportunity to say that it's not just this tick -- the Asian longhorned tick -- that is of concern. There are a lot of ticks that are already here that we need to learn more about and take precautions.

So this would be a new addition to the list. And because it has the potential -- at least in its native countries -- of transmitting a diversity of diseases, we should continue to at least look where it's spread, where it is, and continue to test and find out if it's transmitting diseases here. We know that people go hiking in the woods; they take their dogs. They have their livestock, and people travel across the globe. So if somebody is

harboring a disease, and this tick feeds on it, there is a potential for spreading it. So not letting our guard down is extremely important.

So, yes.

ASSEMBLYMAN HOUGHTALING: Well, thank you for your testimony today.

I'm sure that we're going to try to do all we can to be helpful; and I'm sure you'll take a big part in that as well.

DR. TAMASSIA: I want-- One more thing; you mentioned about-- For the public -- we do have, on the Department of Ag website, instructions on how to collect and submit samples. We're working with the Mosquito Commission, and other partners in the state, to facilitate the collection of samples and have them collected here. We will send them to the National Veterinary Laboratory in Iowa to get them identified and tested. So we're continuously trying to help the population.

ASSEMBLYMAN HOUGHTALING: Educate them.

DR. TAMASSIA: Yes.

ASSEMBLYMAN HOUGHTALING: All right; thank you very much for your testimony.

DR. TAMASSIA: You're welcome.

ASSEMBLYMAN HOUGHTALING: Okay, next we have Monmouth County; we have Chris Merkel, Victoria Thompson, and Andrea Egizi, from the Monmouth County Health and Mosquito Control Division.

Do you all want to come up together?

C H R I S T O P H E R P. M E R K E L: Good morning, Mr. Chairman.

I was going to do introductions, if that's all right, Mr. Chairman; and then allow the experts to come up, if that's--

ASSEMBLYMAN HOUGHTALING: Okay; that would be perfect.

MR. MERKEL: Great; thank you.

ASSEMBLYMAN HOUGHTALING: Very good.

MR. MERKEL: Good afternoon, Mr. Chairman, members of the Committee.

We appreciate the opportunity to speak to the Committee today about a very important topic, which is ticks; ticks and tick-borne diseases.

I'd like to first thank you, Mr. Chairman, for your leadership on this issue. This is a very important topic, not only in Monmouth County, but across the State of New Jersey.

I know the Committee is very interested to hear about the Asian longhorned tick. I can tell you that, as the Doctor stated before me, there is a lot of research that's going into studying the Asian longhorned tick; there's a lot we don't know about it yet. And my counterparts in the Monmouth County Mosquito Division can talk more specifically about what those efforts are.

But as the Doctor also stated, there are currently tick species here in New Jersey that we should be very concerned about; not only the blacklegged deer tick, but also the American dog tick and the lone star tick. The lone star tick actually is becoming the most -- if I'm not mistaken -- the most prevalent tick here in New Jersey. And it's very aggressive; so it seeks out a host. I can tell you I found numerous lone star ticks last summer on

my children as we were out in the woods hiking. So prevention is very important.

I just wanted to throw out a couple statistics for the Committee, so they have an understanding of the enormity of this situation.

In Monmouth County alone, tick-borne diseases have increased more than 200 percent since 2007; 200 percent. Twenty-four percent of all tick-borne diseases in 2017 were in children.

There is a figure out there of 4,000 cases of Lyme disease in New Jersey annually. And actually, the Centers for Disease Control thinks that's a very, very underreported number; and thinks that the amount could be tenfold that number. So if that's even close to accurate, we're looking at 40,000 cases of Lyme disease in our state alone. That would be more than all flu cases in the state, which is very troubling. It's estimated that Lyme disease patients pay an average of \$3,000 in medical costs throughout the course of their treatment. That's only treatment; that's not other associated costs.

Preliminary studies indicate that Lyme disease may cost as much as \$1.3 billion -- with a *B* -- per year to treat in the United States.

So those are just some figures that I wanted to bring to the Committee's attention -- the importance of this critical issue.

ASSEMBLYMAN HOUGHTALING: Those numbers are staggering, by the way.

MR. MERKEL: They are.

ASSEMBLYMAN HOUGHTALING: In Monmouth County, your portion for tick surveillance -- is that covered through the County? I

mean, it's not a Federal grant or-- It's just covered strictly through the County?

MR. MERKEL: We are very fortunate, in Monmouth County, that our Board of Chosen Freeholders recognizes the importance of this issue, and funds a good portion of our Mosquito Control Division for not only mosquito, but tick-borne surveillance activities.

That is not the case in most counties in New Jersey. And in fact, if we're talking about funding, your bill -- that is in draft now, Assemblyman -- is very important to further surveillance and activities that would get at tick control. Because again, as the Doctor said, we don't really have a good idea where the ticks are; the species, the prevalence. And ticks are pretty much ubiquitous; meaning, they are everywhere. Unlike the mosquitoes that need water to grow and hatch as flying adults, ticks are in all different types of environments, which is really challenging to get at the core of controlling them.

ASSEMBLYMAN HOUGHTALING: Any of our members have any questions?

MR. MERKEL: We have our experts who can answer--

ASSEMBLYMAN HOUGHTALING: Yes.

MR. MERKEL: --the more specific questions; I'd love to introduce them.

Vicky Thompson, our Superintendent of Mosquito Control, and Dr. Andrea Egizi. Dr. Egizi was actually on the initial team that discovered the longhorned tick on that sheep in Hunterdon County.

ASSEMBLYMAN HOUGHTALING: Okay.

Thank you, Chris.

MR. MERKEL: Thank you.

A N D R E A E G I Z I, Ph.D. Hello.

ASSEMBLYMAN HOUGHTALING: Welcome.

DR. EGIZI: Thank you for inviting us to speak about this important issue.

In Monmouth County, we have a tick surveillance program, as Chris mentioned. We are the only county that has a tick surveillance program currently; and what we do is -- we have sites throughout the County where we collect ticks annually. And I run the lab where we test them for pathogens, so we can understand what pathogens are present, and how abundant they are, and how they're distributed.

And I wanted to point out -- along the issue that we have spoken about so far -- that ticks are an important issue for human health, as Chris gave you those amazingly scary numbers.

ASSEMBLYMAN HOUGHTALING: Yes.

DR. EGIZI: They're an issue for animal health; not just for livestock, but for pets as well. Lyme disease and babesiosis -- dogs can get them, and they're actually on the rise. And ticks are also an issue for wildlife. So it's really a widespread, multi-faceted issue.

In our surveillance data in Monmouth County, we also have a passive surveillance program in addition to our active surveillance. And this program solicits submissions from the public. So when someone gets bit by a tick, they can bring it to our office and get it identified as to species, stage, and engorgement level. So we collect that data; and we recently published a report in the Public Library of Science journal, *PLOS One*, showing that, over time, the submissions of lone star ticks have actually, sharply,

significantly increased in Monmouth County. And so, currently, lone star ticks are actually the most commonly submitted tick, more often than blacklegged ticks, the ones that transmit Lyme disease. And this is concerning, not just because 40 percent of our submissions are from children, ages 0 through 9; but also the majority-- The ticks that are coming in on children are more likely to be partially engorged, meaning that the ticks have had time to start feeding, which increases the risk for disease transmission.

So this is a big concern, especially concerning -- given the prevalence of these ticks coming in, and coming in engorged on children.

ASSEMBLYMAN HOUGHTALING: Now, being unchecked -- a tick -- on an animal, or-- How long will it take before they've actually had enough and they drop off?

DR. EGIZI: Ticks-- It depends on the life stage and the species for exact numbers; but a few days, generally.

ASSEMBLYMAN HOUGHTALING: A few days.

DR. EGIZI: They'll be attached for a few days to a week.

ASSEMBLYMAN HOUGHTALING: I know I pull a lot off my dog, my pet dog. It's not very pleasant either. (laughter)

DR. EGIZI: No.

ASSEMBLYMAN HOUGHTALING: Any members care to--

ASSEMBLYMAN DANCER: Thank you, Chairman.

So with respect to prevention and treatment, do you have any insight of-- I know you're collecting them.

DR. EGIZI: Yes.

ASSEMBLYMAN DANCER: But obviously, prevention is-- I know with humans, the clothing and things like that. But I didn't know -- is there a natural predator; is there some spraying that can be done -- things like that?

DR. EGIZI: Yes.

So first, I'm going to start by just making a distinction between controlling ticks on animals and controlling ticks for human health; because they're actually very different, in terms of the way you execute that control.

When you're controlling ticks on animals, you can treat the animal with a preventive product. Like you might, if you have a pet, you can use spot-on treatments, or a flea collar, or something like that.

And whereas, you know, you can't really tell people to wear a flea collar (laughter), there are preventative measures that work -- wearing repellents, and permethrin-treated clothing, and doing tick checks, and stuff like that. But we actually -- the surveys that have been done show that, even among people who are aware that they need to take these precautions, it's something like half of them report that they know that they should take these precautions, but they don't. So something's breaking down between when you -- between the education and then causing them to take an action.

And it's understandable, when you think about it. If you look at the situation, for example, in our County, a lot of these people are being exposed to ticks in their backyard, and that's something we know from our surveillance data as well. And so people are much more willing to take precautions when they're going hiking, for example; but if they're just stepping out in the backyard for a few minutes to let the dog out, or water

the garden, or whatever, they're not thinking, "I better put on repellent before I go outside for a minute."

So that's where this really becomes difficult -- to advise people to take these precautions. And that's why, perhaps, having some kind of environmentally managed solution might be helpful.

ASSEMBLYMAN DANCER: Chairman, just a follow up.

ASSEMBLYMAN HOUGHTALING: Yes.

ASSEMBLYMAN DANCER: But, again, about natural -- any natural predator? I wasn't clear on that.

DR. EGIZI: Yes, sorry.

So I'm sure there are things out there that eat ticks; but I'm not aware of anything that eats them often enough to make a dent in the population.

ASSEMBLYMAN DANCER: Excuse me; have you heard that possums--

DR. EGIZI: I have heard that, yes.

ASSEMBLYMAN DANCER: --consume a lot of ticks? I don't know; that's what I've been told.

DR. EGIZI: Yes, I have read those papers; and it does seem like they do groom off a lot of ticks from themselves. And so, that's good for the possums.

ASSEMBLYMAN DANCER: Right. (laughter)

DR. EGIZI: But I'm not sure that the research really shows that they're able to reduce the tick populations in the environments where they live, in a way that would help people.

ASSEMBLYMAN DANCER: Thank you.

ASSEMBLYMAN HOUGHTALING: Chickens, I hear-- Do chickens eat ticks as well?

VICTORIA C. THOMPSON: And guinea hens.

DR. EGIZI: I've heard that, yes; and guinea hens.

MS. THOMPSON: But again, not to the extent that they can provide control; similar to bats eating mosquitoes. Yes, they do eat a lot, but they don't necessarily control it for public health purposes.

ASSEMBLYMAN HOUGHTALING: Assemblyman Calabrese.

ASSEMBLYMAN CALABRESE: What is currently the budget for the Division of Mosquito Control in Monmouth County? How much is allocated towards--

MS. THOMPSON: Our operating budget -- and that's just for, primarily, supplies for the field and for the laboratory -- is about \$190,000. That does not include the full-time salaries and benefits of two research scientists.

ASSEMBLYMAN CALABRESE: Yes.

MS. THOMPSON: That would be, probably, more than double that.

ASSEMBLYMAN HOUGHTALING: And that's just for the surveillance?

MS. THOMPSON: Right; that is just for surveillance and testing of the ticks. So we're talking surveillance -- not only collecting the field collection of ticks, but testing all species of ticks for all pathogens of disease for humans.

I don't believe we've covered every disease that might be livestock. Do we have that ability?

DR. EGIZI: We test for pathogens of human health concern; not the livestock concerns.

MS. THOMPSON: Right now.

So yes, we're very blessed in Monmouth County that the Freeholders support this.

And my understanding, too, is that the Department of Health is looking into expanding their ability to test ticks at the State Department of Health as well.

ASSEMBLYMAN HOUGHTALING: Victoria, did you have testimony you wanted to add as well?

MS. THOMPSON: Yes; basically, I think building on what the colleague from Agriculture said -- that until we have that surveillance, we really don't know where to apply the control. And we'd need to have a good understanding, even on a micro scale, of where the ticks are in one park, you know, where we can do selective control in a park that's going to reduce the encounters with humans. That I think can be done, but there's no way you could treat the whole park. So you would have to do very, very diligent surveillance to come up with where you're going to use your resources to do any kind of chemical or even property management control -- because you have such limited resources -- where you want to make the biggest bang for your effort.

So without knowing what you're dealing with-- I think there are studies, on a small scale, that when you do that intense surveillance at a campground or a park you can make a difference. But, you know, it's also something that has to be done over a number of years. You're not going to see, like, in mosquito control, where you can quickly eradicate or kill the

flying insects, and it'll make a difference; people will see a difference. It's not that way for tick control, because the life cycle of a tick is two years. And you have to hit it at precise times in their life cycle for any kind of treatment or intervention to be effective. And you're not going to see that, how that plays out, for another year, or two, or three.

So that's why any kind of program that we want to look at and explore -- it has to be more than two years. It has to be a few years to see, like, "Okay, we are making a difference." So that's what I would add.

So we are all available at any time to discuss further what you would like to see.

ASSEMBLYMAN HOUGHTALING: I think the-- I mean, the tick itself -- I mean, in general, just getting on you -- it's designed to do that, right? Isn't it, like, laying in wait--

MS. THOMPSON: Right, right; and that's-- Chris alluded to the lone star tick; that's a little different. Like, my understanding, for the dog tick and the deer tick -- and I'm not sure about the new Asian longhorned tick -- but they basically ride up the vegetation during the day and wait; and they sense the carbon dioxide, if something's coming near, and they put their arms out and basically latch on. The lone star tick will actually go seek and move towards. So they're the one tick--

ASSEMBLYMAN HOUGHTALING: Aggressive.

DR. EGIZI: It will follow you.

MS. THOMPSON: Yes.

DR. EGIZI: They're scary.

MS. THOMPSON: And as a point of mosquito control versus tick control -- or surveillance, actually; don't even go into control -- when

we do surveillance for mosquitoes, we can just set the traps to catch the mosquitoes during the course of an evening, or late afternoon to dawn. And we just set the trap quickly, leave, done, come back the next day, and then bring the other mosquitoes back to look at.

For the ticks, you actually have to go out and flag or drag a cloth through the environment to collect the ticks; so it's a lot more labor-intensive. So just a little contrast -- that it is not an easy job to do.

The lone star tick might be the one tick that we could actually set traps; that you could put CO₂ traps out, and then they would come to it. But other than that, it's kind of labor-intensive.

DR. EGIZI: And we've also had some success using dry ice CO₂ traps for the longhorned tick, the exotic species. They seem to respond to CO₂, similar to the lone star tick, although maybe not as extreme.

ASSEMBLYMAN HOUGHTALING: You know, when we went to -- we were banding the baby eagles. And we went to South Jersey, along the powerline; and we had to park off road, and we walked quite a ways through a lot of tall grass. And we went through it with a utility truck; the utility was there as well, because they had to climb up that power line to get to the eagles.

And they dragged -- we had a lot of people there with us, and they dragged -- everybody was dragging canvas bags through there. And by the time we got to where we were setting up, these bags were just literally covered with hundreds of ticks. And I had a hood on -- a hooded sweatshirt; but when I went back to my car and shook myself out-- And I'm driving now, on the Turnpike, heading home; and something-- I had to pull

over; I had a tick crawling up my back. And somehow or another, they managed to get around, and--

So there are, out in-- It is a hassle, when you're out there. And if you're not really prepared for it, if you don't even know--

DR. EGIZI: And if you do know, it can keep you -- make you afraid to go outside--

ASSEMBLYMAN HOUGHTALING: Yes.

DR. EGIZI: --and enjoy this beautiful environment we have in the state.

ASSEMBLYMAN HOUGHTALING: Yes.

Well, I want to thank you; thank you for your testimony, thank you for being here.

MS. THOMPSON: Thank you.

DR. EGIZI: We do appreciate you opening up the dialogue; thank you.

ASSEMBLYMAN HOUGHTALING: And we look forward to working with you in the future.

Thank you.

ASSEMBLYMAN DANCER: Chairman?

ASSEMBLYMAN HOUGHTALING: Yes, we have one more question.

ASSEMBLYMAN DANCER: Just-- Thank you, Chairman.

Just quickly -- you had mentioned a two-year life cycle. During that two-year life cycle, is there a period -- and I'm just thinking, maybe, the cold of winter -- is there a dormant time for the tick? They survive, but do

they become dormant? And does a real cold winter decrease the population of the ticks?

DR. EGIZI: So during the winter -- except for the adult stage of the blacklegged tick -- they will go into diapause. The adults actually don't fully go into diapause, because they can come out if it warms up a little bit over the winter. So watch out, whenever there's a warm spell.

But the other stages they can go into diapause; and this means they'll be inactive until the temperature warms up in the spring.

So having a cold winter -- it depends, is the answer. There's not really good data on this; but actually, in some ways, I remember reading a study that having a lot of snow cover on the ground -- because they're in the leaf litter, and the snow kind of insulates the ground -- can actually increase their survival. So, to some extent, the answer is really, you know, it depends, and we need better data on that. But it's not always straightforward that a colder winter will necessarily mean a smaller population or anything like that.

ASSEMBLYMAN DANCER: Thank you.

Thank you, Chairman.

ASSEMBLYMAN HOUGHTALING: Thank you for your testimony.

DR. EGIZI: Thank you.

Next we have Dr. Toledo and Dina Fonseca, from Rutgers University.

And just for the record, when you speak, could you just state your name and where you're from?

DINA M. FONSECA, Ph.D.: I'll start.

I'm Dr. Dina Fonseca; I'm the Professor of Entomology, Ecology, and Evolution. I'm also the Director of the Center for Vector Biology.

And I would like to start by saying that New Jersey actually has an exceptional program for interaction between different institutions that are involved in vector-borne diseases. We have -- we basically are the beginning of organized mosquito control, which is why we have 21 counties and 21 mosquito controls.

It was my predecessor, John Smith, in the 1900s, who demonstrated that you can control mosquitoes by controlling the salt marsh mosquito in our coastal counties; and basically proved to the legislators that you can have organized mosquito control that can be effective.

And, basically, we're now standing here, at the beginning of the tick surveillance and, potentially, tick control programs. And we have really exceptional partnerships with the 21 county Mosquito Control programs, the Department of Agriculture, the Department of Health, even with Homeland Security, because we have monthly meetings where we all share information, share our concerns and our findings, and are really able to work together.

So, for example, the discovery of the Asian longhorned tick was a group effort that involved the County; a student at Rutgers University Center of Vector Biology; and then a Professor at the Smithsonian Institution, previously at the Armed Forces Pest Management Board.

So it really is important to bring all these different institutions together, and partners. And the nice thing about New Jersey is that we already have that in place. And so I think we can build from that; we can

build-- We have -- there's a lot about tick surveillance and tick control that requires a lot of research. There are a lot of questions for which we don't have answers. And this is not about New Jersey; this is about the United States, this is even about the world. Ticks and tick-borne diseases are becoming a problem all across the world. Europe is also finding large increases, in fact, in tick-borne diseases; so it's not just about us.

And although Lyme disease is definitely a problem -- a particular problem here in the Northeast; so New Jersey is at the epicenter of the Lyme problem. And when somebody says there are 40,000 cases of Lyme disease in -- sorry, sorry -- 300,000 cases of Lyme disease across the United States, we have 40 percent; so we have 40,000 (*sic*) of those. So that's a very large proportion, considering the size of our population.

ALVARO TOLEDO, Ph.D.: Hi, my name is Dr. Alvaro Toledo, and I am an Assistant Professor in the Department of Entomology at Rutgers; and I am also a member of the Center for Vector Biology.

And I just wanted to highlight that, although it was stressed that the Asian longhorned tick has (indiscernible) more interesting ticks and tick-borne diseases, and particularly in New Jersey, since it was discovered two years ago; the main problem in New Jersey is still native species that transmit tick-borne diseases and bite people quite frequently.

ASSEMBLYMAN HOUGHTALING: Thank you.

Any of our members have any questions?

ASSEMBLYMAN CALABRESE: I guess, you know, we obviously take our cues from you, because you're the industry, and you know best. What can we do, as a legislative body, to help alleviate the problem -- to help find a solution for you?

DR. TOLEDO: Well, I think we should start from the beginning; and the beginning is to do some surveillance. Because we don't know how big the problem is--

ASSEMBLYMAN CALABRESE: With central surveillance?

DR. TOLEDO: Surveillance.

ASSEMBLYMAN CALABRESE: Oh, just surveillance; right.

DR. TOLEDO: Tick surveillance. We don't know how bad the problem is, because we don't have such a surveillance program in place at the State level.

So it's hard to control, or implement tick control when you don't have a way to measure if that control is even working. So that's why it's so important to have a good foundation in order to move forward and control ticks in the future.

DR. FONSECA: And if I may add -- so starting from the beginning, it also requires us to have a better understanding of how to do it. So for example, we just published -- last month it came out -- *The Ticks of New Jersey*. There had not yet been a list; an annotated, careful assessment of all species of ticks that actually had ever been found, ever, in New Jersey. And we just did that; that's the beginning for surveillance -- is understanding what's there.

And then the next step is, really, having a better understanding of when we say, "We need to control them, we need to survey them," how do you do that? How do you actually have measures that are repeatable, that can be comparable with other states? And then, if you're going to be controlling them, should we be focusing on -- how much of it is really engagement of the public? Andrea mentioned education, and how we're

sort of failing to have people do some basic behaviors that can really ameliorate the problem of tick-borne diseases. So better education; and more research, in terms of understanding what are the best strategies for controlling and surveying the ticks.

ASSEMBLYMAN HOUGHTALING: You had said that you work with all 21 counties now, with the Mosquito Control Commissions that they have. At this point now, what exactly does that mean -- that you work on tick-borne diseases with these--

DR. FONSECA: I'm glad you asked. (laughter)

The reason we have those 21 counties' Mosquito Control programs is because of Rutgers; because we created the need by the legislation. So John Smith -- a lawyer by trade, before he became an entomologist -- was able to speak to the legislators, like yourselves, and be able to explain the need for having localized, professional mosquito control -- county-funded mosquito control -- with the support from the State. So I actually failed to mention -- we also work with the Department of Environmental Protection, which actually, at this point, oversees the 21 -- the funding for the 21 county Mosquito Control programs.

The Center of Vector Biology, before 2006, was called the *Mosquito Research and Control Program* -- or even *Laboratory* -- and so we meet with all representatives of all 21 counties' Mosquito Control programs every month. I just came, last week, from the New Jersey Mosquito Control Association meeting, which actually is the predecessor of the National American Mosquito Control Association. I should emphasize it all started here in New Jersey. So we respond to queries; if somebody discovers a new species in Sussex -- which happened last year -- we confirm, using our fully

equipped-- We have a molecular laboratory at the Center of Vector Biology, and we also do research experiments in the lab, and also in the field. So if they want to know what species it is, and they want to understand why is this species now present there-- On the one hand, we can provide that information; on the other hand, if they want to -- we provide information on which insecticides are approved for public health applications; changes in the legislation. We also can try to test the different approaches for control and provide that to the counties. We provide accreditation; we provide teaching for mosquito biology, mosquito identification, mosquito control. So we're sort of the center for New Jersey of mosquito control and surveillance.

ASSEMBLYMAN HOUGHTALING: Right.

DR. FONSECA: Ticks, however, are one of our more recent things. So Dr. Toledo just joined two years ago now; he's an expert in -- he mentioned that he is an expert on *borrelia burgdorferi*, the Lyme disease pathogen, and how it interacts with its vectors, and also with people.

And then the tick-borne diseases program from Monmouth is located at the Center of Vector Biology. So we interact very closely with Andrea Egizi, and Vicky; and also with Dr. Bob Jordan, who is an expert -- a world expert in tick surveillance and control -- in each part of the Monmouth County tick-borne diseases program.

ASSEMBLYMAN HOUGHTALING: But on a statewide level, through all the various counties, I mean, they don't really concentrate on surveillance at all; strictly on mosquito control?

DR. FONSECA: So for mosquitoes, surveillance is part of the Integrated Pest Management. So they do surveillance, on a weekly basis,

which is actually then tested. Depending on the species of mosquitoes, they're tested at the State level for things like West Nile virus, or Zika, Chikungunya, etc. And then information is provided to Rutgers, and we create -- summarize and provide reports -- weekly reports back to the counties.

So they're doing surveillance on a regular basis, and as needed; and also, based on research developed at Rutgers and across the country, they then implement control as needed.

ASSEMBLYMAN HOUGHTALING: But, I mean, as far as ticks, they have no -- they don't do surveillance for ticks. I mean, it's not part of what they do.

DR. FONSECA: Except for Monmouth County.

ASSEMBLYMAN HOUGHTALING: Except for Monmouth County.

DR. FONSECA: That's right.

ASSEMBLYMAN HOUGHTALING: So Monmouth is the only one in the state that shares that concern?

DR. FONSECA: However-- You're absolutely right. There are other counties that are -- they have expressed interest in starting to do surveillance.

One thing we did last year -- funded by Northeastern IPM -- we developed the *tick blitz*, which was an experiment -- Andrea and I were both co-PIs on it -- it was an experiment on trying to understand what would it take -- and this was a \$20,000 award -- to have the counties be able to do tick surveillance. So we had a workshop, on May 4, where we provided lectures. We also had information on tick identification, tick-borne

diseases; you know, hands-on surveillance. And after that one day event, the next week we had a simultaneous -- the only time anybody has ever done this; and we're actually quite proud of it, as you can probably see (laughter) -- we had a simultaneous surveillance across all 21 New Jersey counties for a particular tick, the dog tick. We're interested in Rocky Mountain spotted fever, and that's considered to be the primary vector. That's a deadly disease; we wanted to really have, for the first time, an evaluation of how dangerous that pathogen is, that bacteria is, to New Jersey residents.

So we obtained over 600 specimens of the American dog tick, which, then, Jim Occi, my Ph.D. student, tested for the pathogen. And we're just preparing a manuscript right now; again, for the first time.

And this was simply an effort that took us a couple of days; and we were able to do it by working with mosquito control programs across New Jersey. These are professionals; they know how to do surveillance. We were able to obtain ticks, and then we were able to -- because of our research side at Rutgers -- test them and provide a report. So it can work.

ASSEMBLYMAN HOUGHTALING: Okay; thank you.

Any further questions?

ASSEMBLYMAN DANCER: Yes, Chair.

ASSEMBLYMAN HOUGHTALING: Yes.

ASSEMBLYMAN DANCER: Thank you, Chairman.

So, really, compliments to Monmouth County. They're a trailblazer in the surveillance and some of these initial studies.

What about other states; and is there anything else nationally? I don't know whether the Federal government has taken initiatives here; but

what about other states? We know what Monmouth County is doing; we know it's a national problem.

What can you tell me?

DR. FONSECA: That's a wonderful question.

So I just heard, last week, that Pennsylvania -- their legislature has just provided funding for tick surveillance in Pennsylvania. Delaware has now, also, as of last week; and in fact, we just met the new tick guru for the state of Delaware -- this gentleman, coming from Tennessee, who is going to be developing their tick surveillance program.

And in New York -- New York has kind of-- None of these states has organized mosquito control the way we do. Pennsylvania has a center, centered in Pittsburgh, and they have small groups of people across all 64 (*sic*) counties, I believe, in Pennsylvania. And it's all very centralized (*sic*), so it's a little -- it's going to be difficult. I know Mike Hutchinson, the head of the program in Pittsburgh, and he told me that he's delighted that funding seems to be forthcoming; but they don't actually have a specific set of strategies to do it.

Delaware, as I mentioned, much smaller -- a two-county (*sic*) state -- just hired somebody to start doing surveillance; they have the funding. Connecticut has the Connecticut Agricultural Experiment Station, it's a separate entity; as opposed to the New Jersey Agricultural Experiment Station, which is part of Rutgers, and is actually the funder of the Center for Vector Biology. So we're both Rutgers and NJES. They do -- they're developing, basically-- It is really a research program.

We just joined the Center of Excellence -- the Northeast Center of Excellence, sort of, formally, with CDC funds. And we are really starting

to realize how *patchwork-y* the tick control -- sorry; I shouldn't say that -- the tick *surveillance* is across the Northeast; even though we all are under the same Lyme disease problem. But this is all just starting to develop.

ASSEMBLYMAN DANCER: Thank you.

DR. TOLEDO: And I would just also add that, like, around 60 to 70 percent of cases of tick-borne diseases in the United States happen in the three-state area; and coincidentally, New Jersey is the only state that doesn't have any type of tick surveillance.

ASSEMBLYMAN HOUGHTALING: I was just reading here that Pennsylvania started -- it's a five-year tick-surveillance program, statewide. So that's pretty big. So that means there is a huge concern in Pennsylvania--

ASSEMBLYMAN DANCER: Right.

ASSEMBLYMAN HOUGHTALING: --which we should start having here in New Jersey.

DR. FONSECA: You can put it that way.

I mean, Pennsylvania-- The interesting thing about this Lyme disease-- And it's not just Lyme disease; the same tick, the blacklegged tick -- also called the deer tick -- transmits Lyme disease, anaplasma -- help me out -- powassan--

DR. TOLEDO: Babesia--

DR. FONSECA: Babesia--

DR. TOLEDO: --powassan; yes, same tick.

DR. FONSECA: So these are the big ones. And it really started -- it's a tick that-- Ticks are part of-- These are native ticks. They primarily feed on white-footed mice, and deer, and other animals. But

there's something about the northeastern states, and also the Minnesota and Wisconsin border, where the blacklegged ticks started biting people. And that's really what has led to this big increase in Lyme disease cases in people.

And there's been an expansion we're seeing-- If you look at maps 10 years ago, it was much more concentrated on New Jersey, New York, a bit of Connecticut. And we're starting to see it expanding, and it started expanding into eastern Pennsylvania, and also into Maryland, and it's more north. We're starting to see cases even in Maine.

And so Pennsylvania is starting-- They really saw a big increase in cases in the last few years, mostly in the eastern part of Pennsylvania. And that's basically what has led to this resolution, which frankly, I think the fact that we -- and I'm saying *we* -- have been keeping the-- We had a new tick, an exotic tick introduced. And as you know, a big increase in the concern by the public and, sort of, a push for, in a country like the United States, to have organized surveillance and good research on the best ways to control ticks in general; not just exotic ticks.

This exotic tick might simply be a wake-up call. We are actually developing programs, with the USDA, to try to figure out ways of preventing the next exotic tick from arriving on our shores.

ASSEMBLYMAN HOUGHTALING: Do you think with the-- One of the issues we have in our state is an overabundance of deer population. It seems to be exploding; and they're doing quite well, expanding their population in our state. And, you know, they are a -- they do spread ticks. I mean, I've heard they found deer with upwards of 200 to 300 ticks on one deer. And we have a huge deer population; it is no longer

just in the woods. They are in our developments now, and they're actually, you know -- you can almost literally find them walking down Main Street. I've seen one, in the wintertime, walking down Ocean Avenue in Deal like--

So it's an issue of bringing that environment into our-- You know, we have worlds colliding now--

DR. FONSECA: Yes.

ASSEMBLYMAN HOUGHTALING: --and I think that's something as well.

Do you think that that would contribute to some of the issues that we're having?

DR. FONSECA: Do you want to take it?

DR. TOLEDO: Yes; definitely deer is very important, in terms of maintaining the high population of *ixodes scapularis*, which is the deer tick. Because it's the last host that they use for feeding, and it's the host that they also use for mating. And on top of that, deer can walk long distances, so they can transport ticks. And a high abundance of deer also increases the chances that those deer will enter people's backyards, drop off ticks, and so people will encounter ticks more often.

So deer are a key factor in maintaining high populations of the deer tick.

DR. FONSECA: And I would just like to add that I like that -- the *worlds colliding*. That's precisely a good way to describe where we're seeing the deer coming to our homes. We're also seeing New Jersey developments, kind of, building into what is now secondary growth, which are areas of trees, which are areas where deer are doing very well. So we have -- we're getting it from both directions.

So, yes, it's clear that-- And there are some studies showing -- and, again, this is some of the studies being done, primarily in New York state -- doing things like controlling -- trying to control deer; remove -- deer removal, often working with hunters. We're seeing a lot of difficulty in doing that. While hunters like to hunt, they don't want the deer to be that uncommon. And you really would need to bring the numbers to below what a hunter would be comfortable -- you know, sitting too long waiting for a deer to show up. So that's not going to be-- It's too expensive, so we're needing to start to think about other ways to control -- not just the blacklegged tick, but also, now, the lone star tick, which also exploits deer; in fact, even more so than the blacklegged tick.

ASSEMBLYMAN HOUGHTALING: Well, if there are no other questions--

ASSEMBLYMAN DANCER: One more question, Chairman.

ASSEMBLYMAN HOUGHTALING: Yes.

ASSEMBLYMAN DANCER: What about pesticides? I don't know if there are any that may help in diminishing the population of the ticks.

And then there's also some concern about the neonic-type of insecticide that could potentially -- I'm thinking of the beekeepers, for example -- if you have any thoughts or knowledge of that.

DR. FONSECA: So there are a couple -- this is actually a really important question.

Let me just say a couple of things.

So as Dr. Tamassia mentioned, we know how to control ticks on livestock; and that, basically, is done by dipping -- literally, dipping the

livestock into insecticide in a, sort of, insecticide vat. There is some really interesting research on the best ways to do that. And that is approachable; and that's how -- in fact, that's how the cattle fever tick was originally eradicated from the southern United States -- from Texas, and Arizona, and all those areas.

And when the Hunterdon detection was first found, we acted quickly. And in fact, I should mention this was Hunterdon's Mosquito Control program that actually did the application of insecticides. Because all these are professionals, with insecticide licenses. They did the application; and one of the things I remember Todd Woerner, the Superintendent, mentioning was what an enormous amount of insecticides he had to apply; because, for mosquito control, we use ultra-low volume applications. So when people get upset about insecticide applications for mosquito control, they have seen nothing compared to what you would need to do, theoretically, to control ticks the same way -- which, really, we're not proposing to do. We need to have enlightened ways to control ticks from the environment; we need better education, we need better ways to understand what are, sort of, the Achilles heels of the ticks, if you will.

The other side of it -- and this is, sort of, a very practical thing -- for tick control, insecticides can only be used if they actually list the name of the species of tick on the label. And as of right now, there are no insecticides with Asian longhorned tick actually listed on the label, because it's a brand-new tick in here. And so that's one of the first things we need to start -- we're going to be testing -- and I mentioned that we did obtain a small amount of funding from CDC to start doing that. We just got the

funding, and we're going to start looking at different products, trying to figure out what will work.

As of now, there is no evidence of insecticide resistance. So basically, any of the common insecticides that are being used for other ticks should work on the Asian longhorned.

But those are all the kinds of basic research programs that -- questions we have to answer so that we can then move forward.

ASSEMBLYMAN DANCER: Thank you.

Thank you, Chair.

ASSEMBLYMAN HOUGHTALING: Thank you for coming.

DR. FONSECA: Thank you for having us.

DR. TOLEDO: Thank you.

ASSEMBLYMAN HOUGHTALING: Thank you.

And our last speaker is John Abdill, from the Associated Executives of Mosquito Control Commission of New Jersey

J O H N D. A B D I L L, Jr.: Good afternoon, and thank you very much for having me here to speak to you.

As the slip says, I am here representing the Associated Executives of Mosquito Control work in New Jersey.

ASSEMBLYMAN HOUGHTALING: Could you, for the record, just state your name?

MR. ABDILL: Sure; I'm sorry.

ASSEMBLYMAN HOUGHTALING: I messed it up.

MR. ABDILL: John Abdill.

ASSEMBLYMAN HOUGHTALING: Okay.

MR. ABDILL: So I'm currently the President of that State organization; I'm also the Superintendent at the Atlantic County Office of Mosquito Control.

So I'd like to start off-- I echo the sentiment that we definitely need to look into tick surveillance. Hopefully, that can become an activity that is widespread across the state.

We also need to think about how much it costs. Monmouth County is well-funded; Atlantic County, a little bit less so. So one of the great things about the legislation that you have proposed is, there's a price tag there that can get us started looking at what surveillance techniques are effective; how to possibly better our outreach efforts to our residents; and then, somewhere down the road, hopefully we can find a control measure that is effective and, hopefully, can be used throughout the state, and possibly throughout the country.

So that financial aspect is one thing that I need to emphasize; that the smaller mosquito control agencies across the state -- while we will gladly participate in surveillance efforts, like the tick blitz, having control put on to us as one of our responsibilities, will greatly affect our ability to continue the mosquito control work that we've been doing for over a hundred years. And it is very important for the health of our residents and their quality of life.

That's pretty much all to my statement.

If there are any--

ASSEMBLYMAN HOUGHTALING: Well, I just want to make it clear that, you know, when we did this-- It's an unfunded mandate that -- I would never really pursue. But it's something to get the ball

rolling, and to get all the counties thinking about tick control. Because apart from that, I don't think there was very much conversation; so this really is a conversation starter -- this piece of legislation -- and it's going to evolve. But eventually we're going to get something where we're going to do something on a statewide level to really combat what's going on; because right now, we're not doing that.

And we have way too many people getting sick from Lyme disease; and we just seem to think that it's okay. But there are long-term repercussions from that, and I think just the State itself needs to step up. And we're not letting any of the counties, or anybody -- it's not about that at all. It's just about -- statewide, we have neglected this issue; and we have to really start stepping up to try to do something to combat it.

And it's not going to be easy, we know that. These little things are very pesky, and they're hard to control. But, you know, we have to -- I think we have to do something; and somewhere along the line we have to start. So I think that's what we're doing here today, and this piece of legislation is a start. But it's going to evolve into where we -- like I said, we're going to have something that would be beneficial for our state.

MR. ABDILL: Absolutely. I'm more than on board with moving that forward, and helping all of our residents.

ASSEMBLYMAN HOUGHTALING: Thank you.

Any other questions?

ASSEMBLYMAN DANCER: Good job, Chairman.

ASSEMBLYMAN HOUGHTALING: Well, thank you for coming in today.

MR. ABDILL: Thank you very much.

ASSEMBLYMAN HOUGHTALING: So that's it for our testimony today.

And I want to say thank you to everybody who came in to speak with us, and to share.

And as we move forward, hopefully we will all come together and come up with a game plan for the State of New Jersey, so we can get moving in the right direction to try to do something to help with the spread of Lyme disease; which, right now, is really on the rise, with nothing -- no means to control it.

So do any of our members have any closing comments? (no response)

All right; well, I hope we have everybody's information; and we will definitely be in touch.

And again, I want to say to you, thank you for coming in today.
Thank you very much.

(MEETING CONCLUDED)