

RULE DEVELOPMENT WORKSHOP  
RULE CHAPTER 5B-58  
CITRUS CANCKER AMENDMENTS  
MIAMI, FLORIDA  
OCTOBER 10, 2001 6:00 p.m.- 9:50 p.m.

APPEARANCES:

RICHARD GASKALLA, Department of Agriculture and Consumer Services Director, Division of Plant Industry

DR. WAYNE N. DIXON, CHIEF Bureau of Entomology, Nematology & Plant Pathology Division of Plant Industry

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Thereupon: The following proceedings were had:

MR. GASKALLA: Good evening. My name is Richard Gaskalla and I'm with the Florida Department of Agriculture and Consumer Services and we'll be moderating this evening's workshop which is supposed to start at 6:00 p.m. and it's now 6:05 and I know we don't have many people present at this point but I'd like to go ahead and start on schedule and hopefully some more, the rest of the parties will show up as the evening progresses.

Again, my name is Richard Gaskalla. I'm the director of the Division of Plant Industry and this is Dr. Wayne Dixon here next to me. He's our chief of our technical bureau or our diagnostic unit.

The Division of Plant Industry is the plant protection branch of the Florida Department of Agriculture and Consumer Services and as such we are charged with the protection of Florida's native and commercial plants from injurious plant pest and diseases including such diseases as citrus canker. Therefore, the citrus canker eradication program falls underneath our purview, and the reason that we're involved in the citrus canker eradication program is very simple. It's to protect that segment of Florida agriculture. We produce about 80 percent of the nation's citrus supply here in this state and it is our job to protect that industry, both commercial and non-commercial, from injurious diseases such as citrus canker.

You should have been able to pick up an agenda on the way in and also a sign in sheet that indicates whether or not you would like to speak. The agenda indicates that we'll start off with a presentation on citrus canker epidemiology, and the reason that we're doing that is at our last workshop up in Fort Lauderdale in mid September there was a lot of interest in knowing more about the science behind the citrus canker eradication program. So in response to that we had a workshop this morning up in West Palm Beach and had a Power Point presentation presented by Dr. Dixon that covers citrus canker basically from A to Z. That presentation lasted about an hour and a half and this evening Dr. Dixon is going to trim it down and hopefully do it in less than an hour, but there's some good information within the presentation that will hopefully be important and meaningful to you to show the science behind the program.

The purpose of today's, this evening's workshop is to take comment on our proposed rule amendments to the citrus canker rule, Rule 5B-58.001. We're interested in receiving -- yes, sir.

UNIDENTIFIED VOICE: Could you tell us exactly what that is?

MR. GASKALLA: Yes, I'm getting to it. Did you pick up a copy of the rule amendments on the way in? Yes. But we're interested in our rules and regulations being as effective as possible but at the same time our rules and regulations have to be based on sound science, and what we need here this evening is information that has some validity to it. It can't be just opinion or supposition. It has to be based on some type of scientific foundation, preferably a scientific paper that's been written by an expert in the field or some type of peer review. Those are the type of documents that will be meaningful for us if we're going to deal with any changes in policy that are

science based.

If there's procedural issues that you're dissatisfied with, that's another matter. We'll take those comments into consideration and again make any changes that we can to make the process work as smoothly as possible. To go through the rule amendments and if you have the document in front of you the first change within our definitions section under C, the risk assessment group, that definition has been deleted and the definition of exposed has also been deleted.

The next change is in paragraph five and under control procedures it's been changed to read removal procedures and the following language has been inserted. It says: Removal of citrus trees. For the purpose of eradicating, controlling and preventing the dissemination of citrus canker in this state, the department shall remove and destroy all citrus trees that are infected or are located within 1,900 feet of an infected citrus tree.

Following that all references to risk assessment, risk assessment procedures have also been deleted.

In paragraph B under the immediate final orders we have changed the procedures for that as well. We discussed those in some detail at previous workshops. We are either going to deliver those in person by certified mail and that was a comment that we received at one of our earlier workshops. The immediate final order also contain the following information to the property owner: One, the physical location of the infected tree which necessitated destruction of the property owner's tree; the diagnostic report which resulted in the determination that the infected tree is indeed infected with citrus canker and, third, the distance between the infected tree and the property owner's tree with citrus.

Those are the changes that we are proposing under the rule at this time.

Before we move on -- yes, sir.

UNIDENTIFIED VOICE: Is this retroactive or if your trees are gone your trees are gone and you don't owe us any explanation?

MR. GASKALLA: I'm not sure I understand the question.

UNIDENTIFIED VOICE: You've already removed my trees without explanation so now are you going to explain where the citrus canker was to me?

MR. GASKALLA: I would be glad to do that if you'll give me your address, name and address before you leave this evening. Are there any other questions before we proceed?

UNIDENTIFIED VOICE: Other than the Florida Administrative Weekly when was this meeting publicly noticed and how?

MR. GASKALLA: It was noticed in the local newspapers, the Miami Herald, the Fort Lauderdale Sun-Sentinel and the Palm Beach Post.

UNIDENTIFIED VOICE: When?

MR. GASKALLA: Mark, do you know the specific dates?

MARK: For this meeting we had it last Friday and Saturday, both days.

UNIDENTIFIED VOICE: Not Sunday that everybody buys.

MARK: According to the Sun-Sentinel the best reach would have been Friday and Saturday.

MR. GASKALLA: Any other questions?

If not we'll move on to Dr. Dixon's presentation on citrus canker epidemiology.

DR. DIXON: For those of you over here if you want to move over please do so and you can sit in the back row if you want.

MR. GASKALLA: Wayne, I'll let this be your call but we have a small enough group here to which if there are questions would you like to field them during the presentation or after?

DR. DIXON: Well, if I'm going to use half the time that I did this morning I'm going to really be sailing but I'll try to get a sense of it. What I'm going to do is move backwards, try to establish a baseline of knowledge and then move us forward into specifically the study and results that came from that. At times you can hear me hesitate because I'm editing, I'm trying to cut out some words that I use to explain a fuller story. I'll get rolling in a few minutes.

All I'm showing with this map here is that we have several areas through the six years that either still have or have had citrus canker and they're indicated by these darkened areas. And the other thing I had mentioned at the meeting this morning was that I'm going to try to next week take this Power Point presentation and get it on a website so that you can go in and see what's written on these sorts of slides. I know people were trying to take notes this morning quickly, tried to figure out a way to relieve some of that handwriter's cramp that could take place. It's a very large file so I'm going to have to find ways to compress it and break it into small chunks so if you have a small modem and you wish to download it you can.

The distribution of canker is a distribution of citrus in part. We have citrus distributed through the world. If you could pick up the yellow coloration there's also a distinction here indicated with the bluish vertical stripes. The word canker has been eradicated in some areas up through here.

The blackened area indicates where it's currently under some sort of eradication program down in Brazil and Florida and this red, it's not really showing up well with this lighting, is just indicating where canker is present now.

UNIDENTIFIED VOICE: May I ask a question?

DR. DIXON: Yes, go ahead.

UNIDENTIFIED VOICE: I was just wondering when it's been eradicated, how long it's been.

DR. DIXON: I've got a slide for you.

Symptoms, you can have the lesion symptoms on the fruit, on the leaves and up on the twigs. Specifically the binomial scientific nomenclature for it *Xanthomonas axonopodis* pv *citri*. You might also see it abbreviated as XAC, ACC for short.

What can canker do? One is indeed it can cause blunt disease and if that's the level of the severity of the disease on the tree that's what it is, but also the severity is based on the host, the susceptibility, the climate that the tree is in, the health of the tree.

You can have further expressions of the disease leading to premature fruit drop. That fruit drop can range from five to 50 percent. The 50 percent was recorded with Valencia which is a moderately susceptible cult of our common one in Florida. This is from Parana, Brazil. Dr. Jim Graham who's one of the authors of the study just recently came back. They just finished up their season down there and with these three year old Valencia with the amount of canker that was present on the trees in this grove there was about a 50 percent loss of fruit.

The other thing when you have a high severity of disease on the twigs you can have a number of lesions such as

this twig and when you start getting levels of canker such as this then they'll result over time into branch or twig dieback. The leaves have fallen off and the branch itself will branch in, is dying. When the tree has a lot of branch dieback then you're looking at the condition of the tree being susceptible to secondary pest and diseases.

Can canker kill trees? There's recorded instances. How common is it? It's not that common but it can occur and the key thing about it in the sense of when will it occur is if you have as in the multi Valencia a highly susceptible cult, in this case lime, also called West Indian. You have a lot of high winds. That's important for massive distribution of the bacteria. Optimal temperatures, 70's, 80's and 90's for the bacteria to grow while it's in the host and then high levels of rain.

In this area we're looking at 80 to 100 inches of rain. That's a lot of rain. So it's very moist, very windy, a lot of bacterial spread, a highly susceptible tree and we had young trees and old trees dying under these conditions.

UNIDENTIFIED VOICE: Can rain cause that or people walking?

DR. DIXON: That is another way the disease can be spread, yes.

UNIDENTIFIED VOICE: I had a question on ten to 20 percent.

DR. DIXON: Of the leaf surface?

UNIDENTIFIED VOICE: Right. You said 80 to a hundred percent of those leaves die.

DR. DIXON: If a particular leaf -- for those particular leaves that had ten to 20 percent lesions 80 to a hundred percent of those fell.

UNIDENTIFIED VOICE: One to ten lesions.

DR. DIXON: Yes. Life cycle very quickly it's through the stomates and through wounds that bacteria get into the host tissues, be it the leaves, the fruit. The twigs as indicated here, lesions on these different structures of the tree, things like rain, irrigation can lead to the massive amount of bacteria that have developed within a lesion to erupt.

As they come out to the surface there are different ways that then the bacteria can be moved around. It's by rain splash, just crops splashing it. It is by rain and then wind picking it up as an aerosol moving it around. It is as people handling it. It is as equipment coming by and it contaminates that equipment and then that bacteria is moved some place else again. It can be a short distance, the next leaf down on that tree, that branch. It can be a long distance.

UNIDENTIFIED VOICE: What about the practice of taking the infected trees and shredding them into millions of little pieces and blowing it all over the place? Is that a good way to spread it?

DR. DIXON: Some specific work was done to see how much was going on in terms of aerosolyzing and then that movement it was found that there was some taking place. Richard, where are we at in the sense of any chipping?

MR. GASKALLA: Well, we chip because It's logistically the best way to handle a biomass of the amount of material we have to deal with. The information we got from the scientist was that there was some local aerosolyzing within a small perimeter around the chipper but not likely a means of long distance spread. So it was sort of a trade-off for us. If there was a better way to do it we probably would have done it.

UNIDENTIFIED VOICE: Aerosoling you're talking about, is that all the way down the road?

DR. DIXON: No, they were able to pick up a very small number of bacteria on air sampler 50 feet away. That was

the extent.

UNIDENTIFIED VOICE: 50 feet away.

DR. DIXON: No, it's only when the chipping is taking place.

MR. GASKALLA: Well the other thing is the stuff's being --

UNIDENTIFIED VOICE: That was at 900 feet physical --

DR. DIXON: I'll explain.

MR. GASKALLA: Proceed.

DR. DIXON: Other things can spread it around. The important thing is with having some sort of wound present is not a good thing in terms of the leaf being there. That wound makes that leaf much more susceptible to the actual successful colonization by the bacteria that are transported by one mechanism or another.

The question about where has eradication taken place, this is a listing in Australia. A number of times in a number of different places. There has been eradication in New Zealand, South Africa, Fiji Islands, Florida, Argentina. They did try it from 1972 to 1978.

They now are in a suppression program.

One of the major things that they've done in the sense of suppression is they've categorically changed the variety of the cult that they grow. They used to have a high percentage of grapes, grapefruit and lemons. Those are now down to levels where they're only -- of the total crops that they're growing grapefruit is about 2 percent level and the lemons are around an 8 percent level.

Uruguay, they've been trying to eradicate. These are current programs. Paraguay is trying to eradicate, Brazil. Depending on which state you're in there's either a suppression program or an eradication program and then for Florida it's currently an eradication program.

UNIDENTIFIED VOICE: So we're looking at 23 years of this process if you go back.

DR. DIXON: 23 years, it's hard to say. If we get out effectively I won't think so.

MR. GASKALLA: A factor in that program before they knew what the disease was it got into some citrus nurseries and they distributed nursery stock statewide so it took them a long time to trace it all down and find the last infected trees.

UNIDENTIFIED VOICE: So it may only be 20 years.

DR. DIXON: One of the important things in terms of disease is the time component. It's not just you take a snapshot and that you make decisions based on what you see immediately in front of you. You have to factor time in and what's going to take place over time. With disease you'll see these occur a couple of times is that the red line is a typical disease. If there's no sort of control it may reach the hundred percent level and that all susceptible host plants, be they trees or some other sort of plant, could be eventually infected. It doesn't speak of severity. It's just the fact that the disease is there or not.

The green and yellow lines are if you're trying to effect some sort of control program where you're removing trees or you're applying some sort of material to suppress the active growth so you don't have disease, and what that does is it means you have a lower level of disease incidence.

Ideally, particularly moving towards eradication, we like to end up achieving a curve that may increase a period of

time. Then as you get your program working, working consistently and effectively you drive that disease incidence curve back down to zero.

UNIDENTIFIED VOICE: So zero means there's no citrus or there's no canker.

DR. DIXON: Our preference is examples are out there in taking this sort of approach, either arborial or tree eradication.

Up in Pennsylvania there what they're removing when they have a find is about 500 meters 1,740 feet. It's done also to some differing degrees in Europe, Chile and Canada and California. They have the citrus virus.

UNIDENTIFIED VOICE: Excuse me.

Are you trying to compare a virus to a bacteria now?

DR. DIXON: There is a difference.

One's a virus, one's a bacteria and when they reach a certain percentage level of infection for the citrus greening virus they do remove entire orchards as well as infected trees. Citrus greening is a bacterium. It's not present here in Florida. We do now have the vector that has recently moved in. It's the equivalent for citrus canker being the vector of movement. At least one of the mechanisms in movement, citrus canker is in Brazil and Argentina.

Again, it has an infected vector.

In both cases what they do is they may take out large areas of trees or entire groves or orchards out.

One of the key things that was done in the study as we do in any place we end up going to look at canker, try to get some understanding of the epidemiology is we can age the lesions by looking at their appearance.

Probably one of the key things that we didn't understand in 1995 and we have gained an understanding of in the last two years is that difference of the behavior of citrus canker disease.

Prior to the citrus showing up in Florida the disease was characterized in one way.

Since we have looked at the citrus leafminer, looked more closely at the disease, we have found the influence citrus leafminers have on the ultimate disease dispersal, not bacterial dispersal, but the actual disease dispersal. What's going on in the citrus leafminer showed up in 1996 is as its name indicates. It's a leafminer.

Perhaps more clearly down here we can see these galleries. The caterpillars are just underneath the cuticle feeding on the leaf tissue. As they construct that gallery there's a number of breaks in the cuticle.

We now have a massively wounded leaf and in terms of bacteria of the citrus canker disease that's not a good thing. We would like to have whole leaves. We'd like to have undamaged leaves.

Ordinarily when the disease, when the bacteria get into a leaf it's because principally there's been a strong wind driving it in through the stomates of the leaf. It's been someone touching it, someone on equipment but at least with the winds if there weren't many wounds there it still had to come through the stomates.

With the high population leafminers taking place in South Florida that created a whole new vast buffet of susceptible leaf tissue to bacterial colonization.

What we have found with measurements is the difference between a tree leaf ordinarily infected by bacteria compared to one that's been first invaded by the leafminer is about 100 to 200 times more inoculum that has resulted. It just means more bacteria out there.

Another thing leafminer has done, this is down in Argentina, I'm sorry, down in Brazil, with specific studies that were done to look at the distribution of the canker is fairly clump, very aggregated. After they also had the leafminers introduced we lost that clumping. We had a lot more long distance dispersal.

Each of those black cells is indicative of a diseased tree and the white cells would be undiseased trees within that section of the grove that was being looked at.

For those on the math end of things it can be described mathematically. Before, without the leafminers negative exponential, with the leafminer and getting these jump outs, if you will, as the inverse power law.

Moving over to Miami, what did we have back in 1995 up in this section?

Each of these yellow areas would be a square mile. In this particular section it was thought that we had the oldest lesions, at least ones that can be seen on a particular tree.

With subsequent survey after this first find we found additional diseased trees within a 14 square mile area. So one of the questions may become, okay, how did we go from having these 14 square mile areas to -- and certainly the map's not to the same scale but this broad area of infection, these areas of infection, these groves and the groves up in Manatee County and then a residential area up in Hillsborough County.

Again, just in the study the appearance of the lesions was used to make assessments of the age of the infection.

Another thing that's done is you're trying to pick out your focal tree to make determinations of distance is to get back to this one you work backwards. You start trying to figure out and see where that infection is principally on one side of the tree and work your way back in.

The place where it's first found ended up with the name of the Duck House because there are ducks there. It was on a lemon tree. The tree was about five to seven years of age. The oldest infection was thought to go seven to eight growth flushes back.

So the symptom estimation was perhaps that infection first started about two to three years prior to 1995.

This slide does not show well enough but just simply I'm trying to get across that what they were looking at for those is the lesions that were showing up on the ground as well as finding this oldest area there, and this was in the spring.

As we continue to look in late summer we had some events taking place in terms of winds moving it around and we also found apparently a second possibly independent introduction of the disease had taken place in that time frame as well.

This area outlined through here is the original 14. As time has gone on we found that the disease was going to other sections.

One of the things that was key to that, not exclusively to it but key to it and that spread was a tornado that went through January 3rd of 1996 and with its path its picking up of the inoculum and pushing it around to the susceptible trees.

The key thing about 1995 if we look a little bit more closely what was going on with the spread of the disease is if we make a comparison, what happened in 1995 which is the reds to that which happened, what would be the ten year average as a comparison, that would be the greens, and then we see for several of these months the red bars are taller, meaning across a ten year average we were getting more rain.

What is key to canker success, if you will, is to have things like 60 to 65 or more inches of rainfall, to have things like 70 or 80 thunderstorms that take place, thunderstorms in that they're wet, they're winds and they can be high

speed winds particularly if they're reaching somewheres around 17 miles an hour.

That's the necessary wind velocity needed to drive the bacteria to the stoma.

That's excluding what would happen in terms of wounded leaves from leafminers.

Some comparison has been made to South America. I'll just go into it real quick and then try to bring it back to Florida just to make some comparisons.

South America, Argentina, Bolivia, Brazil, and Paraguay have canker.

If we look at Brazil first we have several states -- here we are -- Santa Rita, Parana, Sao Paulo. One of the things that we can do to show the influence of rainfall on the incidence of canker, if we look at it up here the 40, 50-inch rounds of rainfall versus the 80 to 100 is we see that down here canker is fairly epidemic. There's a lot of it. It's wet.

If we move up here we find less of it because it's dryer.

Just a simple statement of the relationship, the amount of rainfall.

UNIDENTIFIED VOICE: Is there an approach to wipe out all the citrus trees as well?

DR. DIXON: Depends on where you're at, and specifically Parana, they have made a switch over to using the less susceptible cult of ours. In other words, they've gotten away from grapefruit and lemons and those sorts of things. They are using, experimenting with wind breaks and they are using copper in Saint Paolo. Next state up they are eradicated. They go out to -- depending on the situation they can go out 33 meters or they'll go out and take out a block of 40 acres.

UNIDENTIFIED VOICE: 33 meters isn't 1,900 feet by a longshot.

DR. DIXON: Well, there's a difference.

UNIDENTIFIED VOICE: Our science is better.

DR. DIXON: No, the situation is different. What they have here -- besides they match us closer in rainfall here but they do not -- and as in Argentina, the three provinces is they have rolling hills to expose flat land.

Their weather pattern is different and when they get that rain -- we get our rains from the spring through the summer. Move into the fall we can have -- and if we're not in a drought condition successive days of rain once a day, twice a day, three times a day it stays wet.

What they have down there for their rainfall is fronts that come through where there are days or weeks apart. They don't have the same levels of wind speed compared to our thunderstorms and they don't have the same incidence of hurricanes and tornadoes.

So there are differences that drive the biology of this.

If we look at the average monthly temperatures of Argentina versus Immokalee and Fort Pierce we see they're basically the same.

If we look at the average monthly rainfall Argentina this area right here is indicating there's an influx of rain in the spring months, the fronts coming out of the Antartica.

With Fort Pierce and Immokalee we have more of our rain during the summer months. We've seen these curves before.

The question as time has gone on from 1995 up into 1998 was if we look at this curve of no control and growing disease incidence over time we could broadly describe 125 feet as achieving -- it was reducing some of the incidence from doing nothing but we knew we were chasing things. What we wanted to figure out was what did we need to do to again try to drive that curve back down to zero.

This speaks of spores, bacteria.

Citrus canker does not have spores but it carries a concept -- it's not the spores lost that are important but the few that reach their goal at the periphery of the dispersion zone and are still capable of infection going back to 125 feet wasn't working.

Some definitions. Up here what you're going to see are some statistical models. That's how epidemiologists talk. Models are simplifications, mathematical function. It is a simplification. Any good modeler will tell you no modeler has all the answers. We're incapable of doing that. We just try to get them as close as we can to the real world.

UNIDENTIFIED VOICE: Would that go with the same as the scientist as well?

DR. DIXON: What's that?

UNIDENTIFIED VOICE: So that these scientific bases we're using might not be right just like the models might not be right.

DR. DIXON: The manuscript that was developed, GPS Based, Spatio-temporal Analysis of the Citrus Canker Epidemic in Florida, Tim Gottwald, research, lead author. Tim Gottwald has received his Ph.D. in 1980. He's a GS-15 in the USDA-ARS system, agriculture research system. He's up at the top level that a civilian can reach, particularly as a scientist in the USDA system. He's given about 158 papers, I'm sorry, he's written about 158 papers. He's given over 200 presentations. Most of the time he's invited to come to different meetings and most societies and organizations pay for his costs to do so because they want to hear what he has to say, his opinions on things. He's received from the American Biopathological Society the highest award that they offer as has Dr. Jim Graham. Jim Graham is a full professor at the University of Florida, Lake Alfred, the IFAS Citrus and Research and Education Center. He's written about 50 research papers. He also received the highest award back in 1994.

UNIDENTIFIED VOICE: You're trying to convince us that these people are smart.

DR. DIXON: I'm showing you the credentials of these people.

UNIDENTIFIED VOICE: They're really smart, okay.

DR. DIXON: You can make up your opinion about that. Frank Ferrandino, he's an astrophysicist with the Connecticut Agricultural Experiment Station. He is a colleague. He collaborated with Steven Hawkins. These are not casual people.

UNIDENTIFIED VOICE: But it took a court order to get that report released.

DR. DIXON: It takes time to do the work, to do the analyses, to do the writing. In the abstract -- how many of you have seen the paper?

UNIDENTIFIED VOICE: We just got it.

DR. DIXON: Okay. There's an abstract. What the abstract tries to do is in a very few sentences, a paragraph, it will try to capture things. I'm going to try to move to some of the other aspects of it.

One of the things I keep trying to bring out is those distances that you see are conservative distances. They were used on the nearest neighbor principle. We try to go to the tree that was the nearest to what you are measuring so ultimately it always ends up being a conservative estimate.

UNIDENTIFIED VOICE: I guess could you explain why we're so afraid of citrus canker, you know? Is this the disease to end all diseases?

DR. DIXON: Let me go through that once I get through this.

In terms of putting this study together there are steps in terms of doing investigation. There are steps that are accepted, commonly followed. These were followed perhaps more in detail of what is a manuscript, what does it mean.

What the investigators did is they submitted this manuscript that you have labeled draft to the Phytopathology Journal, it's the world premiere journal of plant diseases. People try to write to -- they like to have papers appear there. The journal editor accepted. He read over the manuscript and said, okay, what I've read so far says that the journal ought to continue working a procedure.

That journal article, the draft was sent to two anonymous peer reviewers.

Bear in mind that this has already gone through peer review by a number of other fellow plant pathologists but they weren't anonymous.

Now at this point it goes to the anonymous reviewers to encourage them to say what they want to say, to write what they want to write.

UNIDENTIFIED VOICE: Who were the others? Can you identify them?

DR. DIXON: Well, there'd be people like Alfred. I could find out who that is.

UNIDENTIFIED VOICE: Would they be University of Florida people?

DR. DIXON: University of Florida, yes.

UNIDENTIFIED VOICE: You're hogging the whole scenario tonight. We don't have any other scientists.

MR. GASKALLA: Wait a minute. Stop.

You know, I'd like to ask the audience a question. The reason Dr. Dixon is making this presentation is at the last workshop there was great interest in having someone present the science but, you know, I just detect some disdain for this whole presentation.

If you don't want to hear it we'll take a vote and we'll move on to the comments.

UNIDENTIFIED VOICE: I for one would like to hear the presentation.

UNIDENTIFIED VOICE: I would, too.

UNIDENTIFIED VOICE: I would also like to hear the presentation as part of the reason that I think some of us came here.

MR. GASKALLA: And, you know, Dr. Dixon will entertain questions but I will just ask for some courtesy and respect.

UNIDENTIFIED VOICE: I did courteously ask who those people are because if they're not anonymous then you should be able to name them.

DR. DIXON: Right. For the peer review I can find out who those people are. Right here I can't tell you.

UNIDENTIFIED VOICE: But they belong to the University of Florida.

DR. DIXON: And also the agricultural research.

UNIDENTIFIED VOICE: So they're state people in Florida.

DR. DIXON: Yes. Larry Madden read through it. Anonymous peer review by two more reviewers and indeed it is for the anonymous peer reviewers to accept or reject the manuscript.

If they have accepted it, which is what's happened in this case so far, the anonymous peer reviewers have given their remarks, written remarks to the journal editor.

The journal editor read those through. He has sent all of that to Tim and Tim has at this point talked with him yesterday. He's going through answering the questions posted by the anonymous reviewers.

Those will then be in a final draft. The manuscript will be sent back to the journal editor. The journal editor will determine if those questions have been answered adequately and that the article will be published. So that's --

UNIDENTIFIED VOICE: When is it going to be published?

DR. DIXON: Well, with the science journals there is no one to tell them when to do something. They're on their own schedule.

UNIDENTIFIED VOICE: You're going to cut down every last citrus tree in the State of Florida with an unpublished paper.

DR. DIXON: I don't know what the time frame is. It could be six months, it could be eight months investigation.

UNIDENTIFIED VOICE: We'll take that as a guess.

DR. DIXON: It's a guess.

UNIDENTIFIED VOICE: A yes.

DR. DIXON: I don't think I can answer that question. Key components of the study. Results and conduct is the two key questions that were coming. What is the applicability of the work that was done in Argentina, 1977 and 1980 that led to the 125 feet. This was done out in the grove. Was that suitable to Florida's urban situation. These were the questions asked at the outset of the study.

UNIDENTIFIED VOICE: How long ago was the study done by Dr. Gottwald?

DR. DIXON: When was it done, '98 into '99.

UNIDENTIFIED VOICE: '98 and '99. That was -- now it's two and a half years later and they're now going to review that.

DR. DIXON: They've already reviewed that. First you had to do all the analyses.

UNIDENTIFIED VOICE: No. When he was finished with everything. My only question is he was finished with the article. Why is it two and a half years later where we're waiting for it to go to some kind of a publication when

about a year and a half ago it was told by everyone that it was going to be in February of 2000. That's my question. Do you have an answer for that?

DR. DIXON: Well, I think it was about three to four months ago that the draft of the article was sent to the journal editor.

UNIDENTIFIED VOICE: I'm aware of that. I'm asking why. Why when a year and a half ago they said it was going to be -- the problem is there aren't that many people here today. My question to you is an honest question. I'm not trying to be -- you understand my question?

DR. DIXON: Yes.

UNIDENTIFIED VOICE: My question, what's the answer?

DR. DIXON: He has other duties besides doing these duties.

UNIDENTIFIED VOICE: I'm asking you why did it take a year and a half. He has other responsibilities. Well, he sent three million dollars for the state. You've got the science and where is the science. So we wait another year till it's read or two years till all the trees are gone. Who are you kidding here?

Or give me an answer. I'm sorry, I don't want to editorialize. I'm asking you. Can you give me an answer?

DR. DIXON: It was Tim's schedule, his administration schedule, what work he would put into that manuscript doing the analysis, doing the writing to the point where it got on paper.

UNIDENTIFIED VOICE: Let me tell you something. \$300 million will build 10 schools and \$10 million for the two law firms you pay. I don't think he's making that kind of money a year. Maybe he should have done this and nothing else. That would have been reasonable.

MR. GASKALLA: Dr. Dixon is not in a position to really speak for Dr. Gottwald. I suggest that you let him finish the presentation and then if there are questions that you have when you come forward.

DR. DIXON: Study sites, three in Dade County, two in Broward. They were differing size. And Broward County an infected tree was found, it was removed. In Dade they were not. This is just details on their locations.

We had 16 specific people out there doing the inspections on study sites to find diseased trees. One of them was a plant pathologist so that we could have continuity and consistencies of assessment of the lesions.

All found trees were examined by him. All together there was close to 19,000 trees that were worked. They recorded a number of variables, first and foremost just simply the position of the tree, latitude and longitude, species of tree, severity of infection and no where on the tree was it found.

They had a couple of different day sheets that they used. Down at the bottom it's not easily readable but it's the coding that was used to identify the cult or variety of tree size, disease severity and the age of the oldest lesion.

For each tree that was found with disease they established a birth date for it and this was based against the oldest lesion found across all the five study sites and so then they could rate everything in terms of birth date against that.

They used a widely available Yardam recorder instrument to determine the distances and they had plus or minus 7.5-meter accuracy.

That was the best that could be done because of the deliberate fudging, if you will, of the signals sent out through the global positioning satellites. The Department of Defense has since relaxed that so that accuracy is a little bit better nowadays.

What they did then is they took the latitude, longitude based on the world is a sphere. They made the conversions to put into another mapping system, universal transverse mercator because it flattens things out and was an attempt to give them a little bit more accurate measurement of the distance between trees.

By using the ITM and the way the scale is set up on a map they can then if you would imagine, we have a tree here, a tree here and then with the grid marks on the map they could make these measurements of the size of a triangle and using the formula figure out the hypotenuse.

What they did as they were making determinations of birth dates over the frame of the study because of that oldest lesion and the date it moved things back to and then when the study was discontinued they were able to set up 25 boxes, if you will, of 30 day windows. Yes.

UNIDENTIFIED VOICE: As lesions were found on known trees with canker were they being taken out at that time or were they allowed to continue to spread canker further?

DR. DIXON: In Broward they took them out. In Dade they did not.

UNIDENTIFIED VOICE: And a time period of how long this study lasted? I mean from the moment they first started taking samples till the end of the study what kind of time period are we talking about?

DR. DIXON: It would be -- what they did is I got the dates.

UNIDENTIFIED VOICE: From the Duck House, from the moment the Duck House was found was the duck tree removed?

DR. DIXON: The duck -- let me show you a table for the dates. There were 25 time slots. By looking at the oldest one and by the start they put it as October 26, 1997 up to November 15, 1999.

UNIDENTIFIED VOICE: So they left those infected trees there for two years.

DR. DIXON: No, because they actually didn't go in that start date, is that they aged the lesion back to that date. They weren't there when that first oldest lesion showed up.

UNIDENTIFIED VOICE: Excuse me. The statement on the bottom of the screen we do not know specifically which focal tree led to a secondary infected tree. Couldn't the DNA study have been done on it?

DR. DIXON: No, I wish we could but the unfortunate thing, the best we can do right now is say there are three genotypes of canker. There's Miami, there's a manatee and there's (unintelligible). What we can't in any place we find and identify, hey, this is a manatee, sorry, Miami genotype or manatee general type. We can't because one came from one city, one came from another city but they're both Miami. There is no known distinction of anything in that fingerprint to say you're different. All we can say is you're a Miami.

The very last figure I'll show you is where particularly a special point pattern as a tool that was used becomes evident.

These are the five study sites earlier. You have seen disease incident curves. These are the curves for each of the five sites then also and we found that the disease incidence was peaking out about 540 days after the course of our measurements into that time period.

Measurements -- I should say it's thought that the dry weather occurring at that time was key to that.

The next slide blows this one up showing that within the 25 time windows this is D1 I'm tracing through. We actually have three peaks of disease incidence taking place and there's a lot of lines in there. The same can be followed through for D2, D3, D1 and D2. B's being Broward, D's being Dade.

UNIDENTIFIED VOICE: The horizontal axis is what, time?  
DR. DIXON: That's time.

UNIDENTIFIED VOICE: The vertical axis?

DR. DIXON: This is the changing disease over change in time.

UNIDENTIFIED VOICE: The rate?

DR. DIXON: Yes, this is the 540 day mark here.

UNIDENTIFIED VOICE: So what this shows is the progression of the disease comes in discrete events. Is that what we're seeing?

DR. DIXON: Particularly a significant rain event.

UNIDENTIFIED VOICE: Those peaks are associated with rain.

DR. DIXON: Well, not just ordinary rain but heavy rain with high winds. This is just a different visualization of if we had a focal tree and then we had these secondarily infected trees being found and being marked in this particular graphic and then the distances, just some examples.

UNIDENTIFIED VOICE: Could you go back to that previous?

DR. DIXON: This one here?

UNIDENTIFIED VOICE: You just said you can't do a DNA test. So there was no way to prove that that center point had anything to do with that point or that point or that point.

DR. DIXON: No.

UNIDENTIFIED VOICE: That would be guess work again.

DR. DIXON: That comes back to why we use the nearest neighbor, because we couldn't and never will have that preciseness.

UNIDENTIFIED VOICE: These aren't scientific. This is just a kind of maybe.

DR. DIXON: These are scientists making some estimates. We broke this into taking different time windows, different sites and just using some frequency distributions what sort of numbers of trees that we were finding.

Say in site D1 with the second 30 day window where were those newly secondarily infected trees showing up, and if you were trying to capture 90 percent or 95 percent or 99 percent what was that distance required. In the sense of 125 feet what that was achieving for simply this time window, it was catching 22 percent. We had these other trees out there.

Certainly we had short distance clumping as you can see in each one of these but also what we had is something that was occurring some distance out.

UNIDENTIFIED VOICE: But you don't know for sure if that was from the original point. Again, this is a guess.

DR. DIXON: In terms of the discreteness that could be determined the nearest neighbor was that distance away. Now we were trying to stay away from figuring out what the furthest one away was. As the neighbor we were trying to find the nearest one.

UNIDENTIFIED VOICE: And it could have been transported by a gardener.

UNIDENTIFIED VOICE: I have a question. If you could refer back to your previous slide, I'm intrigued by that graphic. Is there any way to structure this as a repeatable or controlled environment where you can actually reproduce that?

DR. DIXON: In a field setting?

UNIDENTIFIED VOICE: By sort of considering the introduction of the variables of the disease and then more or less try to recreate the vector as it were.

DR. DIXON: Well, the difficulty -- it's a good question but the difficulty would be doing it in the field and with the day-to-day vagaries of what happens with the environment how do we recreate that. There's so many variables there.

UNIDENTIFIED VOICE: It seems using an estimate the consensus is leading strongly that it's a wind and rain event.

DR. DIXON: Wind and rain event and long distance dispersal, but what I'm not trying to say is exclusive. We were trying to gain an understanding of what wind was doing but we could not categorically route out something prepared in --

UNIDENTIFIED VOICE: So at this stage we're fundamentally working on an observational causal relationship.

DR. DIXON: Yes.

UNIDENTIFIED VOICE: You don't have D1 compared to B1. B I think you said you removed the trees upon finding the canker, am I correct, and that's what you explained. D's you left the trees in to see how important dispersal was and B's you removed them.

DR. DIXON: D they were left in more to be reflective of what actually happens when trees aren't removed.

UNIDENTIFIED VOICE: I'm asking again. The B's, you removed them?

DR. DIXON: Yes.

UNIDENTIFIED VOICE: Do you have a comparison chart now with dispersal so that we can see how effective it was?

DR. DIXON: Probably. I hadn't looked at it that way.

UNIDENTIFIED VOICE: Okay, thank you.

DR. DIXON: There are a number of tables in the chart. Just to pick out some things for the first one -- well, I'll move it on is we have the beginning time period. It was put out greater than 25. This captures the 30 days. At that time there were four focal trees. Over the next 30 days, ten more, ten more infected trees were found. If we were trying to capture 90 percent of them, I'm sorry, that's marked up a little bit that line, that's 1,127 meters the maximum distance of dispersal and D1 was 1,159 meters.

UNIDENTIFIED VOICE: How do you know that was done by the wind?

DR. DIXON: Specifically was there a wind event that did that? I can't answer that. But we can say we had those distances.

UNIDENTIFIED VOICE: You do not know it was done by the wind.

DR. DIXON: Specifically, no. As time went on that distance nearest neighbor which was a long distance at the beginning of infection on the site became shorter. What is happening is as the number of diseased trees in the site increases they are occupying more of that area and they themselves are leading to increased disease short distances away from them and long damages away from them. So the word that's used is infilled. At the beginning of the overall infection for an area you have one place and it's clumping and then spread. Then each of those newly spread areas, they start filling in immediately around. They have shelves and also leading to long distance dispersal from them. So as you keep measuring nearest neighbor it keeps shortening up. As there's more -- as the density of infected trees becomes higher it can't go any other way.

UNIDENTIFIED VOICE: Did it skip any trees?

DR. DIXON: Sure, yes. There would be trees through this time period through study site D1 for this time period. In D there were trees that were not showing disease.

UNIDENTIFIED VOICE: Is there an explanation for that? I mean if it's exposed shouldn't it -- how can it skip?

DR. DIXON: At the time a blast of inoculum was coming from one tree to another and it skipped a tree. That particular tree may well have had bacteria pushed on it, landed on it, didn't have flush, it didn't have a wound, all sorts of things which then have to be there for infection to take place and they were momentarily not present. Constant change.

UNIDENTIFIED VOICE: Did anybody go back to see if ultimately these skipped trees

DR. DIXON: The study's been stopped. I don't know what the status is even of D1 at this point to know what's there and what's not there.

UNIDENTIFIED VOICE: This is Miami-Dade. Do you have a companion one for Broward?

DR. DIXON: A table for Broward, yes.

UNIDENTIFIED VOICE: Dr. Dixon, that was a good question but the operative word being momentarily display the disease. I've heard canker likened to the HIV virus in human, that is what canker is to a tree in that it may take awhile for certain trees to manifest the disease.

DR. DIXON: I was trying to make a distinction of the disease symptoms which I skipped a point.

UNIDENTIFIED VOICE: And you already answered that question. Did anybody follow up to see if ultimately it skipped trees?

DR. DIXON: No, that hasn't been done. They would have to go back to the study sites to see what trees are there. That would be another study.

UNIDENTIFIED VOICE: I have a question.

In some of the old areas that have been infected with citrus canker overseas or elsewhere, is there any evidence that natural selection is producing trees in these infested areas that resist disease? I mean are there disease resistant trees that are occurring through natural selection or are all citrus trees exposed doomed? Do you have any idea about that?

DR. DIXON: In the sense of whether there is --

UNIDENTIFIED VOICE: Is there evidence of disease resistant trees having occurred in areas where canker has pretty much run its course?

DR. DIXON: I don't know whether it's the chicken or the egg syndrome. If you look at like tangerines and so forth coming from the old areas of Asia, they have far less susceptibility to canker.

UNIDENTIFIED VOICE: So they may have been through multiple episodes of canker in the past and what you have left is a disease resistant strain.

DR. DIXON: Over a geological time frame.

MR. GASKALLA: There's some morphological differences in those trees, too, at the cellular level. The stomata aren't as big that, may allow the bacteria to get in as easily.

UNIDENTIFIED VOICE: That's an example of the kinds of thing you'd get through natural selection.

MR. GASKALLA: True.

UNIDENTIFIED VOICE: If you allow them to live.

UNIDENTIFIED VOICE: Excuse me, one question. Let's say two years ago, whenever, a tree was cut down and then the 1900-foot rule was given however. Has anyone gone back to go up to 1,900 feet from an eradicated tree to see if it had spread in those 1,900 feet let's say in Dade County?

DR. DIXON: I don't think so.

MR. GASKALLA: Yes, we have an ongoing survey. Do you want an answer to your question or not?

UNIDENTIFIED VOICE: Let me just finish, sir. I'm asking him. He's the scientist.

DR. DIXON: I don't know. Richard is more into operations.

UNIDENTIFIED VOICE: All right. Richard, let me ask you this. Wouldn't it seem logical to me anyway and we're just talking -- we don't have a gigantic crowd here, we've been through the gigantic crowds -- my question is wouldn't it be logical to go back to the areas where all the trees were condemned to be eradicated, the 1,900-foot from the focal tree and see if in effect in the last year, year and a half whether those trees in that 1,900-foot radius have been infected? He says he doesn't think that was done. Has that been done or has it not?

MR. GASKALLA: Absolutely.

UNIDENTIFIED VOICE: It has been done.

MR. GASKALLA: Yes.

UNIDENTIFIED VOICE: And you have found in those 1,900 feet, you have statistics showing which trees were infected in the last year and a half that were not infected prior to the focal tree being cut down?

MR. GASKALLA: Yes, we would have data on the survey results from those areas.

UNIDENTIFIED VOICE: Do you know right now, do you know what percentage of these other trees were infected, weren't infected? You must have some idea.

MR. GASKALLA: Don't know the percentage. I just know as we've gone back and resurveyed these areas we found multiple infected trees but that's a good question.

UNIDENTIFIED VOICE: It would seem to me, because obviously I'm on the other side, okay, as we all know -- my question is to show the people here that are vociferously against what you have been doing and the way you

have been doing it, shut us up we know, let's forget about it, the science hasn't been shown yet, it may never be shown, let's put that on the side. It would seem to me if I'm sitting over there I would say, you know, what, I'll go to all the editors of all the newspapers and say here's our proof, we had the focal trees in June of 1999. Those courts in Southeast Florida, the courts have stopped us and that's why it is spreading. You know what? Here, I'm going to show you. Here's the focal tree all within 1,900 feet all the way around in that circle. Look, we have a 50 percent increase, we have a 30 percent increase, we have a 90 percent increase. Then if you can prove that and you can show that and we can get other people to go in and say, okay, yeah, they're right, all our people, everybody, they're all wrong, our guy is right, we got to throw in the towel. Why don't you do that?

MR. GASKALLA: Excellent suggestion. We'll do that. I think we already have the data. I'll just need to pull it up.

UNIDENTIFIED VOICE: Is this the last workshop that we're going to have?

MR. GASKALLA: This will be the last workshop on these rule amendments, yes.

UNIDENTIFIED VOICE: Why didn't we have any opposing scientist maybe from our side? It would have been nice.

MR. GASKALLA: You could have invited him. Proceed.

UNIDENTIFIED VOICE: May I say I'm under the impression that this is the only hearing that's been held in Miami-Dade.

MR. GASKALLA: That's correct. It's not a hearing. It's a workshop.

UNIDENTIFIED VOICE: Understood. With all due respect to Mark and the Sun-Sentinel, I mean Miami-Dade is Miami-Dade, it's not Broward, and I have followed this off and on for 11 months and I only found out by accident that there was a meeting tonight.

UNIDENTIFIED VOICE: No, it wasn't the Herald. I saw it a couple of days ago.

UNIDENTIFIED VOICE: I'm not disputing that, it probably was, but I'm saying broader public coverage in Miami-Dade County I think you would have many, many people here.

MR. GASKALLA: I don't know what to say other than to say we've had three workshops.

UNIDENTIFIED VOICE: Only because we've --

MR. GASKALLA: We've had the workshops. The rule will be noticed for adoption. There'll be an opportunity for an administrative hearing on the rule during that phase so there'll be a chance for additional input.

UNIDENTIFIED VOICE: Can we hear the rest of this presentation?

MR. GASKALLA: Yes, thank you. How much more have you got, Wayne?

DR. DIXON: Just a few more. I'm trying to hit the high points.

There were questions made specifically of the Broward one. Here's one here and again starting out with two trees over this period of time we have 266 focal trees. The comparison with if we were using the 125 feet what of those we would have captured the 10 percent, the 44 percent, 71 percent. The maximum distance that was observed in terms of spread 3,000, well, the feet 11,398 feet. Another Broward one, increase of one to 113 trees, the maximum spread 1,308 feet.

UNIDENTIFIED VOICE: Are these trees being removed at the time?

DR. DIXON: Only the diseased ones in Broward were.

UNIDENTIFIED VOICE: I mean the focal trees are gone as soon as you detect them?

DR. DIXON: Yes.

UNIDENTIFIED VOICE: But not in Dade.

DR. DIXON: Yes.

UNIDENTIFIED VOICE: More than two years.

DR. DIXON: One of the things they did also is they tried to look at the correlation if there was one between when meteorological events took place by using a wind/rain index which was gust of speed and rainfall and looked at the distribution for when the disease was being picked up and they saw there was an offset of about 107 days. That just gives us a handle of when the disease from when a wind event took place. The results of that wind event with high winds generally took about 107 days to start showing up. The other thing they did is they said, well, let's look at it instead of being the nearest neighbor approach which is a conservative approach of the distance spread let's try to look at it the other way, what could be the furthest distance. And the way they did this is they put all trees -- they measured all trees against all trees rather than just the nearest neighbor and be done with it. They measured all trees against all trees and then just for convenience of computation they put them into hundred foot classes. So we end up with these distributions per study site.

On this one we had as it was almost three -- we had two hybrids in this one here, this one here. The distances are indicated in terms of maximum frequency 2,100 feet, so forth. The distances converted from metric to feet, 11,000, 7,000, 2,000, 15,000, 4,000.

Probably one that's the core of the manuscript with all the other things that were there as well this particular graph as an example of one time frame with one study site. I believe this was B1.

What they did is if you look at this dotted line right through here this is what we describe in measuring the distances of all trees against each other in a population of the study site. The dashed lines top side. The bottom side of 95 percent confidence intervals because we do know that this is a model.

We do know that this line right here is not precisely a hundred percent accurate. It's just a mathematical equation trying to describe something. They then also did the calculations for this basically squiggly line and this was of all the trees within all the diseased trees making their nearest neighbor measurements.

UNIDENTIFIED VOICE: The squiggly line is the data?

DR. DIXON: Yes, all the diseased trees. In terms of this Ripley's K analysis spatial point pattern all these computations were made boils down to where does this squiggly line cross the dotted line and that's termed the range of spatial dependency.

And in the theory of Ripley's K what that says is those trees that are diseased and within this distance which is we got the solid line a little less than one kilometer, that's the long distance spread that we were trying to figure out what it was compared to the 125 feet.

They brought in a new term, the RSD, the effective range of spatial dependency, by saying, well, let's be even further conservative, conservative on conservative using where this line crosses the 95 percent confidence interval.

Another thing that they can determine from this is what's called simply the maximum spatial difference, and that's

the spot right here.

What that means by due calculation this is the furthest away in terms of random value what is the likelihood, the likelihood of trees that are diseased that are within a little less than half a kilometer of each other are related and it's not likely a random distribution of those trees being there.

So we have two measures with this example, if you will, my language of strong aggregation, at a little less than half a kilometer and then of the little less strength to that aggregated value somewhere around nine tenths of a kilometer.

Anything found out beyond by virtue of this relationship with two populations that cross suggest if it's out here it's not related if it's out one and a half kilometers. If it's out two kilometers it's not likely related to this group in here and that is probably the essence of why 125 feet wasn't working.

We were finding that it's some distance beyond that.

What this one does is takes you from this, which is a one time frame, one o'clock to let's look at what happens over time, and what they did is they plotted out for each of the different ones you saw earlier, range of spatial dependency, the effect of the difference and the maximum is and these are the time frames T1 through T5 running here and this is your various values of the RSD is again back to verbal description.

You first have the disease and you have limited beginning focal trees and as you have wind events you can easily see and pick out what that long distance dispersal was by the wind. But what happens as each of these new out layers it becomes progressive. It creates its own aggregate of trees and in a sense if the wind is in the right direction and so forth it starts throwing back in the middle. So if you start doing your distance measurements with the infilling your distances get shorter and so that's why we always see these rises up and then down, rises up.

Now in this case with a couple of them from the initial infection to when actually the disease started spreading around there's delay. So we see a delay in that curve.

My graphic will show you.

Next we'll bring that out a little bit. All these are showing is was there in an urban setting a relationship of host density in terms of did host density have anything to do with disease severity in these incidents, and the answer surprisingly was not really. They weren't quite expecting that but that's what they found in these populations that they looked at.

This is what's called the kriging Ripley's K of the spatial point patterns and that which I've tried to describe several times I hope will become more evident here. Let's pick this one here because it has a nice central point to it and then you can start applying it to the others. And also bear in mind, if you will, if you're an artist, whatever, the cool colors are lower disease incidence and your warmer colors are your higher disease incidence.

So what we have at the beginning is lower disease incidence, I'm sorry, disease severity so it's actually a combination of other factors. It's not just disease incidence. It's also host condition and susceptibility and so forth into it. So it becomes an index.

We have a low index of disease severity in this spot and it kind of sits there in going from the fifth 30 day period to the tenth 30 day period. Not much change. As it gets into the 14th and the 18th, 30th day period we see growth of the amoeba, growth of the disease, more trees are infected and you might also see that in terms of using the index to express the severity of the disease we've progressed from a cool color. Now we're starting to pick up warmer colors.

UNIDENTIFIED VOICE: Are these individual plots of a geographical area?

DR. DIXON: Yes.

UNIDENTIFIED VOICE: If you look on the ones on the right where the disease appears expressed over a larger area to the southwest, does that mean that perhaps there was a wind event from the northeast to the southwest?

DR. DIXON: Could be, yes.

UNIDENTIFIED VOICE: That was the possible agent.

DR. DIXON: To accurately answer the question we'd have to specifically look at and it could be looked at if that was the case driving that particular one but that is a possibility that is what happened.

So what we have is D1, D2, D3, B1 and B2 over the four different time periods and again a few spots that get started.

As time goes on that one tree in any one particular place, that is now bacteria going out infecting nearby trees, some short distances and some long distances, and as these new ones show up they start creating their infill so what over time particularly such as this one D1 you can see how much more and more is less white space which means there are more and more diseased trees.

Now similar observations were made back in another grove where we had dooryard tree. We were able to backtrack this with some fair accuracy. A diseased dooryard tree was where the canker got started. It was brought in and then there was a nearby grove and with survey the disease was picked up through that grove and we saw movement to what would be point A from the beginning of 754 feet, B1, 300 feet, C, 2,600 feet and D, 2,000 feet.

MR. GASKALLA: Wayne, just a point on that slide that makes it significant is the dooryard tree was there and infected before the grove was planted so it pre-dated the grove.

UNIDENTIFIED VOICE: And why is that significant?

MR. GASKALLA: Well, one person could say, well, the grove was infected and the dooryard tree became infected from the grove.

DR. DIXON: As a conclusion in the paper the 1,900-foot radius strategy for identifying the location of newly infected trees does is not the shortest distance as was measured from focal trees in the study. It also becomes a balance of resources in minimizing disease spread.

UNIDENTIFIED VOICE: Was the key word balancing of resources or minimizing the disease spread? Which one was the key?

DR. DIXON: It was both. We had found that the urban environment differed from the commercial plantings. In many regards citrus plant age, density varies. It was thought that the picture would be different but it's turned out not to be.

We have applied the 1,900 feet in the residential area up in Hillsborough County. We had several foci of the disease. The different circles are there to capture and indeed overlay each other 1,900 feet. We're I think at 20 months now since we did tree removal there and we have not found canker in the outlying area.

UNIDENTIFIED VOICE: I'm very glad you just showed that -- therefore -- with the circles 1,900 feet.

DR. DIXON: We continue to survey.

UNIDENTIFIED VOICE: Therefore, the question I asked before to Mr. Gaskalla vis-a-vis where you found the

focal tree and now you went back. Did you do the same thing and go back the 1,900 feet and see if it was eradicated or if you got an increase?

Have you done that? Have you done it on the other ones where you haven't taken it out?

MR. GASKALLA: I understand your question. In this case there were no trees to look at in the 1,900 foot radius. They were all removed. But there are areas in South Florida where those circles still have trees and I'll get that data.

UNIDENTIFIED VOICE: When will we have that?

MR. GASKALLA: I'll have to check with my data section. It shouldn't take them too long to pull up, maybe a week.

UNIDENTIFIED VOICE: Where will it be sent to?

MR. GASKALLA: We'll post it on our website if you'd like.

UNIDENTIFIED VOICE: So this actually shows the possibility that the 1,900 feet might be effective.

DR. DIXON: We can say that for 20 months in the surrounding area citrus canker has not been found. Is it on 30 days still?

MR. GASKALLA: Yes.

DR. DIXON: So it's still being looked at. The surrounding area is still being inspected every 30 days.

UNIDENTIFIED VOICE: Within the circles when you initially did it it was only 1,900 feet from the focal tree?

DR. DIXON: Yes.

UNIDENTIFIED VOICE: So somewhere on the outer edges of these circles --

DR. DIXON: There are citrus trees and you're looking at all of those.

UNIDENTIFIED VOICE: And it's only from 1,900 feet from the focal tree of a specific area and this one being ten or 12 focal trees.

DR. DIXON: Yeah, there was clumping. There was actually four centers and this was reflective trying to grow all the 1,900 feet circles but there was clumping so we tried to create overlays.

UNIDENTIFIED VOICE: My question is if there's trees on the outer edges and the inner circle were infected --

DR. DIXON: Right here on the edge?

UNIDENTIFIED VOICE: Right here on the edge, if those are infected would you now when you go in there and survey 1,800 feet this tree is infected, we determined that.

DR. DIXON: There are no trees.

UNIDENTIFIED VOICE: Initially when you're doing this --

UNIDENTIFIED VOICE: If you count the number of circles that should equal the number of focal trees and therefore this is the best case where there aren't any -- aren't very many trees infected.

MR. GASKALLA: We inspected at least once all the trees that were there and the only trees that we found symptoms on were in the centers of these circles.

DR. DIXON: But all together it was 57 trees. That's what you can't see with this drawing. There were 57 trees. I think there was four specific --

UNIDENTIFIED VOICE: This shows you the advantage of getting there early.

DR. DIXON: Yes.

UNIDENTIFIED VOICE: And during a drought probably.

DR. DIXON: Mother Nature helps us.

What I tried to get out through different aspects of this is the long and short distance dispersal. Indeed there is short distance dispersal but there's also the long distance and that's what was not working for us when we were using the 125 feet and that any time you talk about disease it would be good to always factor in time. It's not just when you look at it try not to just take a snapshot what you see right then and there. Recognize there could be subclinical infections and so forth which would change that picture.

If we could magically have time pass and jump forward we see what's there. We have been removing trees.

What has taken place is we had seven counties with citrus canker. Cumulatively over the past six years as we have done the removal and commercial groves in Collier and Hendry with some small residential Manatee and Hillsborough, they have depending on when we went in they're either several months to 20 months. Now we have no new canker showing up. Hendry had given us like eight months with no canker and then a grove did reappear and as far as Palm Beach, Broward and Dade are concerned, we have had a shrinkage of the amount of disease there but certainly not the absence.

UNIDENTIFIED VOICE: Can you go back to that?

DR. DIXON: The amount of disease being found is less.

UNIDENTIFIED VOICE: But is that new cases in the last six months or the same old trees?

DR. DIXON: It's all trees broadly represented that are still --

UNIDENTIFIED VOICE: 1,900 feet trees, uninfected trees?

DR. DIXON: No, this is just representing the general area. If we tried to interpolate a plot all around the boundary where we know infected trees are still sitting --

UNIDENTIFIED VOICE: Why are they still sitting?

DR. DIXON: Because they're not being allowed to cut.

MR. GASKALLA: Wait a minute, wait a minute. Dr. Dixon has got the floor. If you want to ask that question when you come to the podium he'll answer it. Proceed. Let's finish this up.

UNIDENTIFIED VOICE: I'm trying to identify what trees these are.

MR. GASKALLA: Those trees are all infected trees that have been found by county area.

UNIDENTIFIED VOICE: Why haven't they been cut?

MR. GASKALLA: We are cutting them.

UNIDENTIFIED VOICE: Why are they still there?

MR. GASKALLA: They're not still there. That's where they've been found.

UNIDENTIFIED VOICE: Why haven't they been cut? That's the question.

MR. GASKALLA: I'm sorry. I guess you didn't hear me. We are cutting them. We're cutting trees, infected trees every day.

UNIDENTIFIED VOICE: You are?

MR. GASKALLA: Yes.

UNIDENTIFIED VOICE: How come it didn't shrink more than that in the last six months?

MR. GASKALLA: Because we continue to find more.

UNIDENTIFIED VOICE: You haven't brought any proof here that you found more. We're taking your word for it.

MR. GASKALLA: We'll post that on the website. I know nobody here believes me, that's a given, but we'll post it.

DR. DIXON: We can make maps specifically from the date of this.

So coming back to dispersal, it's not the millions of bacteria lost that are important but the few which reach their goal and the periphery of the dispersal zone, and what we've learned through wind driven events, the bacteria have long distance dispersal and then with the introduction of occasional citrus leafminer it used to be that the bacteria got thrown long distances and it didn't matter, it doesn't matter how many bacteria get thrown long distance if they can't colonize.

But with the leafminer being there and creating all this wounding that which didn't used to be there is now there and the bacteria colonize successfully, colonizing at that long distance and that will be that.

MR. GASKALLA: Thank you, Dr. Dixon.

Again, I apologize for the length of the presentation. It's just a lot of material to cover. Let's move into the interested party comment.

Again, I would just ask everyone to be courteous and polite to the presenters and if you have questions that you want to ask Dr. Dixon or myself from the podium we'll do our best to answer them within the best of our ability.

If you could keep your comments brief and to the point. We've got 15 or 16 people that have signed up to speak. The workshop's due to conclude at 9:00 but we'll stay later if we need to. Try to keep your comments to the specific rule amendments that were read earlier. Yes, sir.

UNIDENTIFIED VOICE: I have a question. Do you have any concept of what the original source was for the canker which has infected South Florida? Is this something you've ordered on fruit that wasn't inspected?

MR. GASKALLA: Well, the USDA at the Port of Miami intercepts in passenger baggage fruit leaves, small citrus plants every day that are infected with diseases including citrus canker. Likely it was smuggled in on passenger baggage.

The fact that the original find was within a few miles of the airport, significant probably but the exact source, no, we don't know.

DR. DIXON: And there's no genetic way of tracing it back to a source country or anything like that.

MR. GASKALLA: Elizabeth Hayden, first speaker. Elizabeth Hayden, going once, twice. Bill Kelly.

MR. KELLY: That presentation makes me feel I'm too dumb to put my pants on. What I was wondering is you haven't heard any proof that the wind does this, it's just a theory and you've gone through great lengths to prove your theory but you really don't know.

DR. DIXON: It is observational data.

MR. KELLY: You could do the same thing with birds, couldn't you? I mean you could say birds travel this far, birds drop this and prove a point by saying it's the birds just like you do with the winds.

DR. DIXON: If you go through a study, yes.

MR. KELLY: So you really don't know. What do they do in groves? They disinfect themselves, trucks, everything. I understand they have to spray themselves.

MR. GASKALLA: Yes, most of the big companies have spray loops at their entrances that go on and off automatically with an electric eye. All their trucks and equipment are sprayed off.

MR. KELLY: Trying to keep the disease out of there. I mean what do the inspectors do when they come in my yard? They come up and down the street. Might find an infected tree and then come into my yard. Do they spray themselves? Do they clean themselves up? Do they drag this bacteria with them and --

MR. GASKALLA: Our procedures are to spray in between properties.

MR. KELLY: Well, they don't and you know that.

MR. GASKALLA: I don't know that.

MR. KELLY: I've watched them. They don't do it. They walk down the street, jump in this yard, come in my yard, climb back in the vans, go down the street and start over again. Now couldn't that be where all this stuff started by spreading so fast?

MR. GASKALLA: Well, it could be.

MR. KELLY: Well, wait a minute. It could be but --

MR. GASKALLA: Let me answer your question. The first 15 square mile that we found infected we had no inspection for property there. How did the disease spread?

MR. KELLY: I have no idea no more than you do but they're not disinfecting themselves when they go from house to house, block to block, neighborhood to neighborhood. If a breeze can blow this bacteria and infect my trees why can't these people clean themselves up? They bring the bacteria into my property. It's not the breeze. It's not the breeze and it's not the birds.

Inspectors do it.

Now what better way would it be to spread this infection than to send these people out wrestle around in these

trees, find infected ones and go down the street and handle some other trees. Now could that be the point? Is that where the spread comes from?

DR. DIXON: In our opinion, no.

MR. KELLY: You mean that breeze can infect my tree but a man wrestling around an infected tree and then coming around, he couldn't infect my trees? How could that be?

DR. DIXON: That's why they have decontamination.

MR. KELLY: But they don't do it.

DR. DIXON: I guess back to Richard if he wants but it comes down to if you have those observations it would be helpful if a phone call was made so we can track that crew.

MR. KELLY: I'll ask you this. If I see them coming down the street can I stop them from going to my property till they are disinfected? Can I do that?

MR. GASKALLA: Sir, you can witness the disinfection.

MR. KELLY: And if they don't do it I can say you can't come on my property?

MR. GASKALLA: Sure. If they don't have any disinfectants with them you need to call me because that would be my last day of employment.

MR. KELLY: You're telling me I can stop them from coming on my property if I don't see them spray this disinfectant?

MR. GASKALLA: You could request them to spray in your presence. That would be fair enough.

MR. KELLY: See, what's happening is they're going all over the county not spraying themselves. You ask anybody. Watch these people come down the street and ask if they spray themselves and they don't.

That's definitely got to be more detrimental to my trees than the breeze or the birds or anything else and you haven't proven that the wind does this. It's all smoke. You have not proven a thing. Wonderful presentation but what did it prove? Nothing.

DR. DIXON: That's your opinion.

MR. KELLY: But I do believe that the inspectors are doing your job for you. They are inspecting and infecting. Thank you.

UNIDENTIFIED VOICE: Can I ask a question?

In the best case scenario if an inspector is going onto a property disinfecting prior to going on the property and disinfecting as he's coming out, would it be each property that he needs to come in and out of that he needs to disinfect prior to and then exiting?

MR. GASKALLA: Yes.

UNIDENTIFIED VOICE: Best case scenario that's the way it's written and that's the way he should be doing it.

What about if an inspector goes to a lawn crew. Does he need to disinfect prior? I mean when he's doing an inspection of somebody cutting grass and he wants to go up there and ask them if they've been following procedures and they say, yes, does he take it at face value or does he need to see disinfectant spray on the

vehicles themselves because they're supposed to disinfect prior to and then actually exiting the property also, best case scenario.

MR. GASKALLA: We witness them and certainly when we stop them we ask to see their equipment. We test it to make sure it's the proper strength.

UNIDENTIFIED VOICE: And then when they go up there to the equipment and check it the inspectors themselves would decontaminate afterwards just in case.

MR. GASKALLA: Only if they're handling the equipment. I mean if they're just going up there and looking at it, probably not.

John C. Van Leer.

MR. VAN LEER: Well, I'm personally delighted to actually see some data and some idea about what this is based on. It's been a little difficult to comprehend what the basis was without the ability to see the actual figures and I appreciate your coming down here and edifying us on this since with the wide variety of maximal distances that you think these may spread.

I'm mystified as to why the 1,900 feet should work as well as it apparently did in your western counties where you had practically complete eradication and in many cases you would think that there would have been -- was this just luck because you happen to have the drought -- or is this an indication -- it doesn't seem that your statistical data is that exact on the 1,900 feet. I mean if you were to take a worst case scenario it seems like it ought to be more than 1,900 feet and why should you -- I'm curious as to why it seems to have worked that well in this particular case.

DR. DIXON: More or less than 1,900 feet captures 19 out of 20 times a hundred percent of the diseased trees. It would encompass a hundred percent of the diseased trees.

MR. GASKALLA: We did have an instance in Collier County in a residential area to where we drew almost like a Figure 8, two circles, took the 1,900 feet removal process and then about six months later we found a single tree about 2,000 feet out, just outside of one of the circles. We took another one the full 1,900 foot and haven't done anything else. So it doesn't always work but it seems to work most of the time.

MR. VAN LEER: Thank you very much.

MR. GASKALLA: Steve Wolfman.

MR. WOLFMAN: Thank you for coming here and giving us an opportunity. A couple of things before I read what I've written.

I just came back from Australia and specifically inquired there about citrus canker and I was informed that they have removed basically all their groves and are buying their oranges and orange juice.

They decided, number one, it wasn't economical for them to even grow it so they pretty much eradicated their growth. So using that as an eradication I don't think that's really germane to the issue.

But be that as it may, just based upon what we just mentioned before I go into my paper, if they use sprays to disinfect entering and leaving groves then why can't these sprays kill the canker bacteria on the trees? It's the same canker bacteria.

And my second point, are you presently testing sprays for effectiveness in controlling canker?

MR. GASKALLA: I'll defer to Dr. Dixon.

DR. DIXON: When you spray some things like on equipment would be a topical application just on the surfaces and you would indeed kill some bacteria in an instant of time. You walk up to this type right now, you spray this lesion and on the surface you'd kill those bacteria but it may be that at that same time they've already gotten into the stomates and they're multiplying.

That typical chemical simply sits on the surface. It's not systemic. There is no known systemic bactericide that can go into the plant tissue and get the bacteria which are in the interior of the leaf. So you get a surface disinfection but the problem is the bacteria inside.

MR. WOLFMAN: Again, what I've read is it's not systemic as you so state.

DR. DIXON: No systemic action of the chemical.

MR. WOLFMAN: I understand but you said bacteria, the chemical, okay. Well, one of them, we discussed it before but oxidate claims it's systemic in the leaves. It will get below. Again, you didn't answer the question. Are you presently testing sprays?

DR. DIXON: Dr. Jim Graham is the person who's been designated as the one to look at chemicals and he has, I can't tell you, I forget how many candidates but he has a number of candidates that he's looking at.

MR. WOLFMAN: Now I'm going to read one page that I put together. It's based on -- it's an addendum to original data supply Florida D.O.A. with comments today. I presented it to Mr. Gaskalla in Broward County when you were at the library and I haven't heard from anybody. I don't know if anybody paid any attention to it but I have empirical data based on my study from my citrus trees which are presently standing and I also indicate, you'll see what I mean, I have no infection but they're 628 feet from what you claim is an infected tree.

The Florida D.O.A. does not have an honest relationship with the legislature nor the public. Mr. Gaskalla's answers to Attorney Silver at the public workshop held at Broward County Library indicated substantial errors were made in the presentation to the legislature in order to obtain the emergency status with regard to the canker problem.

This workshop 10/10/01 to hear discussions on the 1,900 foot rule is as dishonest as the statements made by Mr. Gaskalla at the 9/13/01 workshop. The D.O.A. wants to mandate a 1,900 foot clear cut around the tree found with XAC and has already filed to publish this as a final rule on October 18th.

The public has been asking for release of the scientific investigation by Dr. Gottwald that is used as the justification for this 1,900 foot rule since the full study by Dr. Gottwald has never been released except for today.

We got a draft, the public, including a substantial number of scientists have justified the merits of the document whereto the attached which was presented to Mr. Gaskalla at the workshop held at Broward County Library 9/13/01.

I submit the following: Since my seven citrus trees are claimed to have been exposed to XAC 628.38 feet discovered on 3/14/00 the total rainfall from that date to the present in Fort Lauderdale, and I looked at the NOA site for that, is 97.94 inches. I didn't get the wind specs but we do have substantial winds in Fort Lauderdale to back this up. The question is in 20 months -- the question is in 20 months would that be sufficient time for citrus harboring XAC to have manifested the symptoms. All my trees are healthy producing fruit. How can the D.O.A. justify cutting my healthy trees after being exposed for 20 months and still XAC canker free?

Conclusion: This program is not based on valid science. It is solely designed to benefit the Florida citrus industry. Not only did the D.O.A. use erroneous information when making their presentation to the legislature, the Florida citrus highly inflated numbers when placing values. The D.O.A. does not have the temerity to admit their policy is fraudulent and wishes to continue to slash and burn. They refuse to acknowledge other treatments may be viable

because they have already taken too many healthy trees, and I challenge you, I have seven citrus trees 628 feet from what you claim is an effective tree on March 14, '00 and my seven trees were inspected on 3/14/01, that's a year to the day from the tree that the state claims was infected and those trees they found on 3/14 could have been infected six months before that so my exposure could have been even longer and I still have no canker.

Your data doesn't correspond with my data.

How do you explain it to me?

DR. DIXON: Well, what I didn't show in the data that all trees were infected within that study period. So that yours aren't showing the disease I don't find surprising.

MR. WOLFMAN: Twenty months isn't sufficient time to have manifested the symptoms.

DR. DIXON: What we tried to do in determining whether we are reaching that point of indeed having removed the disease from an area we use as a general rule of thumb two years. So you're fast approaching that.

MR. WOLFMAN: I'm probably there. I will state that the last time I checked that one household was the only household that had an infected tree in my 1,900 foot circle and when they did a reinspection on 3/14/01 I asked the inspectors and they said they haven't found another citrus canker tree in my 1,900 foot circle. So I can't see the justification in my particular circumstance for cutting the trees.

MR. GASKALLA: Thank you. Carol Seligman and Paul Thompson on deck.

MS. SELIGMAN: Okay. As far as I'm concerned, the Department of Agriculture lost its credibility when it destroyed 1.8 million mostly healthy trees in South Florida and all of this was predicated on Dr. Gottwald's so-called scientific paper which was never published. Later by administrative judge in Tallahassee this rule was found to be illegal. Now what I wanted to bring out, you had that chart up there on the even a few percentage points of the bacteria that can get through could be lethal to the trees. Now I have here Judge Fleet's courtroom, this was back on November 17th when this was issued, Dr. Bailey, he's a plant pathologist from North Carolina State. Now Dr. Bailey's concerns was the department's decision to embark upon a program which he knew would not eliminate citrus canker, according to Dr. Bailey, by allowing 5 percent of the infection to escape the department is not engaging in effective eradication since the 5 percent of the infection which escapes would continue to spread and infect other trees and, you know, that was interesting about the chart. Now what is your opinion on that?

DR. DIXON: There's been confusion about the 5 percent, the 95 percent. What we tried to say is that when we used the 1,900 feet 19 times out of 20 when we do that we actually get all of the diseased trees.

MS. SELIGMAN: 19 out of 20?

DR. DIXON: 19 out of 20 times. One time out of 20 -- we do it enough times so that we have a population to work from -- we have one or more trees that are missed because they're further than the 1,900 feet out.

MS. SELIGMAN: I know the tree that you said was infected my 1,900 foot area it was clear across the barrier. There's a water plant over there clear across canals and I went over there and there was only a swimming pool, no citrus trees. That was over a year ago.

Now also I wanted to bring this out.

The scientist Dr. Whiteside also spoke up. His observations established as a reality almost every commercial citrus grove in Florida is periodically sprayed with copper bactericides in order to control the spread of canker.

I have a friend, they have big huge orange groves and they have infected trees. So I mean it's okay for them as long

as it's the citrus industry to have infected trees and we have to lose ours.

MR. GASKALLA: Excuse me. What grove is that? Who's the owner?

MS. SELIGMAN: Well, I just don't want to bring it up because this I'm going to keep to myself.

MR. GASKALLA: Then you shouldn't make that statement if you're not willing to tell us.

MS. SELIGMAN: I've been there, okay.

As Dr. Whiteside sees it the only way to reliably determine the source of the infection is through genetic or serological testing, a process not utilized as a means of intelligence gathered and reported by Dr. Gottwald.

Now this is a conflict because I tried -- I called the various labs and they said by order of the Florida Department of Agriculture they're not allowed to do it anymore.

So I mean that's not really right that you can get them tested and he believes -- see, what Dr. Whiteside says -- he believes every leaf of a citrus tree must be inspected to properly determine whether or not the tree is infected with canker. He also stated it is very difficult to detect canker by visual inspection since canker pustules can be as small as one millimeter in diameter.

Now you get these kids that just start working for you, half of them don't speak English. They traipse through the yard. They drag or they do cut the trees down. I've seen it in my neighborhood, the leaves are flying all over the place and they spread into other yards. So it's really not right the way you're handling this whole thing.

Now one other thing that I did want to bring up Albertsons yesterday -- kind of puny -- I did try and pick the biggest one. 89 cents for one lemon. This is really not right. We are living -- we're living day by day down here. A lot of people I know as well as myself were laid off due to the tourism and it's hard when you're laid off, you hardly have money to feed your family, to lose your fruit trees and to have to go to the store and see a lemon for 89 cents. Two weeks ago it was ten cents and it's really not fair.

MR. GASKALLA: You know why that costs ten cents? Because it's an imported lemon.

MS. SELIGMAN: Okay. I'm glad that you brought this up because I have a friend that's lemon tree was taken. Her lemons were this big. It made almost a cup of juice. They were that big. We used to freeze the juice. No more. So when you go to the store it hurts, 89 cents for lemon, and this is Exhibit A. I just want to let you keep this because I personally am boycotting all of Florida citrus. I buy California and that's what I'm doing right now. I think really in view of the fact that we've had all of this terrorism, a lot of people are out of work, we don't need state sponsored terrorism and this is all this comes to, and I just wanted to bring this up because, you know, it's a time that we all should be Americans and stick together. So maybe you could help us. Thank you.

MR. GASKALLA: Implying that we're not all Americans? Are you implying that we're not all Americans?

MS. SELIGMAN: Well, I said I hope we're all Americans and maybe we can help each other out. I think it's a time to stop this foolish nonsense and let us keep our citrus. We don't have much. Let us at least do that. You know what it is for an elderly person and I've shared my citrus with a lot of old people. To go to the store and see the price for one lemon so it's nice when you can share.

I think it's very important. I mean this is a different -- you know, as of September 11th we're never going to bring those days back again. This is a different time and I think we all should be supportive of one another and forget this and work around it.

MR. GASKALLA: Thank you.

DR. DIXON: Can I ask a question just for clarification on the gene typing? I'm not sure what you were trying to get at determining the genotype or the serological test.

UNIDENTIFIED VOICE: Yeah, because I called up the labs and they said that they're no longer allowed to do private homes anymore because of the Department of Agriculture testing for the trees.

DR. DIXON: We have a lab up in Indiana which does the secondary testing.

UNIDENTIFIED VOICE: How come down here I was told I was not allowed to do it anymore?  
I called a few different labs. Are you aware of that?

DR. DIXON: No, I'm trying to put that in some context.

MR. GASKALLA: The only lab that we have now that is willing to do samples for is up in Elkhart, Indiana. I can't force these --

UNIDENTIFIED VOICE: AGLA.

UNIDENTIFIED VOICE: AGLA will only take the sample from a certified pathologist so an individual cannot take a sample and mail it to them because then it's got to be --

DR. DIXON: What we want the inspector there for is as a witness. What should happen is the inspector would make an appointment or the homeowner, in fact, usually it isn't an inspector, it's actually probably our lead pathologist Dr. Schemer. He would make an appointment to meet with the homeowner so that the homeowner and a representative of the department can both agree that they are taking a sample, that sample is going into the envelope and is getting properly addressed and everything else. It's just a witnessing event that needs to take place.

UNIDENTIFIED VOICE: Right, and I guess the dilemma that I encountered was the homeowner or the host property would not allow them to come on their property to have that person meet them there to do this joint sampling, and then when I offered the homeowner that I would pay for it, it could only be done by the homeowner. So my hands were tied.

DR. DIXON: Yes, I understand.

UNIDENTIFIED VOICE: So it was a little frustrating. So I never was able to get an independent sample because it wasn't my property.

DR. DIXON: With cooperation of that homeowner.

UNIDENTIFIED VOICE: Right. That's part of the difficulty that you have had is because you are dealing with individual homeowners who may or may not be willing to cooperate with you.

MR. GASKALLA: Paul Thompson. Mary Crew. Is that you?

MS. CREW: My name is Mary Crew. I'm from Broward County. I was at the Love Fest this morning conducted by the state Department of Agriculture. There were six public members who spoke and 15 growers or industry people who spoke.

It was clear to me as an objective observer that the people from the industry were favored. They were listened to. They were given attention. And the six people from the public were disparaged at points, they were not treated in the same way and I just wanted to make that comment for the record that I noticed that Dr. Gaskalla, you did smile and listen to the growers and when the public came up and spoke you would cowl at times.

MR. GASKALLA: Wait a minute. Stop right there. For the record I do not agree with that statement.

UNIDENTIFIED VOICE:

MS. CREW: You allowed me to be heckled by an audience member about three times. He kept interrupting me and you allowed that to happen, yet when a subsequent speaker came and talked directly into my eyes on the podium and I responded to him you chastised me. So I just would like to put that on the record as well.

MR. GASKALLA: My response is that when you were interrupted I corrected the audience and I tried to treat everybody at that hearing with the same degree of respect and if that wasn't your impression I'm sorry.

MS. CREW: Well, I just wondered why he interrupted me three times and once wasn't enough for him. I understand you have a job to do and it's not a pretty job. It's obvious that there are a lot of people who are angry at the program and the anger unfortunately gets directed to you people who are performing the job. But I just would like to say that. And I do have some comments to make on the 1,900 foot rule but I would like to say that in response to the person this morning, I don't know who it was, one of the growers asked me to look at the big picture. I think that we, the people, are looking at the big picture. We're looking at our Bill of Rights. That is the biggest picture here. The big picture is not the interests and the economics and the financial status of private industry in the state, one fiftieth of the union. We are looking at the big picture which is our constitutional rights and this program, this 1,900 foot rule even with the revisions, and I do have two questions about those revisions, violate our Bill of Rights and I'd like to know at what point this program superseded the constitution and it's been allowed to become the protector of big business instead of the protector of the people.

This morning I also mentioned the word boycott. It didn't go over well obviously but I do have a proposal if this program is allowed to continue the way it is with the 1,900 foot rule that all the people who have lost healthy trees, and there are many, many, many more healthy trees being lost to this program than sick ones, I suggest that you form some kind of a program because the state loves vouchers, give all of those people vouchers and they will have free citrus for two years during the quarantine time for as long as it goes on because apparently it's a minimum of two years so it could go on for much longer than that.

So I would suggest that the state look seriously at compensating people who have lost healthy trees with giving them free citrus. I think that money should come from the citrus industry and not from the taxpayers. Also this morning I mentioned there was no correlating study done to the 1,900 foot study where you studied the healthy trees that were still standing and counted them and made some kind of a separate study that contrasted the healthy trees to the infected ones. That was not done and I've already asked you if it was and if there is a tree count and you've already answered that within the negative. So we have no idea how many healthy trees were out there that were susceptible that did not catch the infection and are potentially trees to study that we could have learned from and there are trees still standing such as my tree that was allegedly exposed for more than a year to two infected trees, one of which was finally removed in March of this year.

My tree is healthy. It is producing the most beautiful key limes I've ever seen and many, many key limes and it is protected by wind break. I have a 30-foot high tree on one side, on the east side, and on the south side a 20-foot high bush protecting the tree, and I'm going to refer to that when I get to the rules, the rule change. I just want to comment briefly on the HIV virus mentioned from someone in the industry here tonight. Can you elaborate on that comment? Can you put that to rest? Is citrus canker like an HIV virus that stays dormant in the tree and will be there forever?

DR. DIXON: No, it won't be there forever. The plantologists call it a subclinical base where there is successful colonization of whatever host tissue is, the twig, the leaf where it could be there not expressing visible symptoms for a period of time.

Certainly the fruit is probably the most limited because fruit don't hang around forever. Eventually it's picked or dropped or whatever. Leaves can hang around for a period of several months to over a year and so there may be that delay that's there. Twigs are there a long time.

Principally it comes back to working with our limitations of what we can see visibly. We work with a two year time frame.

The current thought is if no new disease which really doesn't address that there are bacteria but no visible disease is found then usually the State of Florida would request from the USDA lifting of the quarantine for that

particular area.

There's a little thought that is two years sufficient time. We're trying to reflect back in that it was there in the 80's and then declared eradicated and then it showed up again and it was more than two years and it comes down to ultimately is the decision made that that was a reintroduction, which is possible, or was it that it lingered for more than two years and then we finally found it again. So that two years, it's not set in stone. It's something we're trying to reflect on in terms of the actual biology.

MS. CREW: I thought it was a bacteria though on the surface. I mean this is not a virus. It's not systemic from what I have been reading.

DR. DIXON: There's a problem with the word systemic. More of just -- let me describe. The bacteria aren't on the surface. I'm sorry. They can be on the surface of the plant tissue. They can be on top of the leaf but with exposure to sunlight it can be a few hours to a couple of days those bacteria remain alive.

In order to survive and then reproduce they have to get inside the tissue and then that's where we don't see them until enough growth has taken place, enough multiplication of bacteria and the resulting dysfunction of the host tissues. We finally get the lesions to show up so we go there. It was inside for a period of time before we can see it.

MS. CREW: How long is that period of time because I've seen 107 days used as a benchmark.

DR. DIXON: Right. It can be -- with our Florida conditions what we were finding was a matchup of a high correlation that 107 days from a known specific identifiable strong wind event typically took 107 days where if we looked at the path of that wind event like a tornado, 107 plus or minus something we would start seeing the disease showing up within that path.

MS. CREW: So if a healthy tree existed for at least 107 days without the host tree being there present then wouldn't you say that that tree effectively is not infected?

I mean it's almost as reasonable a statement to make as this 1,900 foot.

DR. DIXON: It's a sliding scale because they found values more than 107 days and they found values less than 107 days.

MS. CREW: Same thing with the 1,900 feet. You've also talked about trees that have been infected outside of that which would go toward 2,400 feet I imagine.

DR. DIXON: The difficulty is that if we try to capture what could be identified with our understanding of the distribution a hundred percent we probably would be going in distances of 2,700 feet, of 3,500 feet, something like that, and we didn't want to do that but at the same time it was a principle of we need to remove enough diseased trees to drive the whole population over a large area down to zero and that's where we started going.

Do we try to remove 90 percent, 95 percent 99 percent? And that's where the pathologist says, well, we need to shoot for something like 95 percent but because this is biology there's that indefiniteness that's there and that's why always as a biologist when I say 95 percent in my mind I'm always going it's plus or minus something because that's the reality of the biology of it.

MS. CREW: I understand that but if you use that kind of reasoning then you can't accept this program as a blanket program for the entire region because there are mitigating circumstances such as my tree which is protected by a wind break and that goes back to the rule change on number five under removal under A.

You're now saying that for the purposes of eradicating, controlling and preventing the dissemination on citrus canker the department shall remove and destroy all citrus trees which are infected or are located within 1,900 feet

of an infected citrus tree. Then A ends there. You've crossed everything out that follows which allows for mitigating circumstances.

If I look at my paper work from the department my tree has been misidentified twice. I have two sets of paper work on two separate days. Neither one is correct in identifying my tree which is a key lime which I don't understand how difficult that could be, but one paper work says that it's a sour orange and another one says its number 11, and when I called the state and asked what number 11 was they said, well, we only go up to nine.

So nobody knows what type of tree I have according to my paper work, which I question.

If my experience with this program is that no one is being accurate or can identify the tree, then removing all this mitigating circumstance that could support me in my appeal to save my tree is completely unfair.

MR. GASKALLA: Well, the reason we removed that language was because there had been an administrative hearing. The judge viewed it as unbridled discretion on the part of the department to be able to make those decisions. That wasn't our decision to remove that language.

MS. CREW: So you're saying the judge removed it because it allowed you to make decisions. Is that what you just said?

MR. GASKALLA: He felt it gave us too much authority, it was too broad in scope.

MS. CREW: I look at it differently. I look at it as something that supports me in court when I go to defend my tree.

MR. GASKALLA: Well, that's a point that we agree on.

MS. CREW: Well, on B under the same removal number five, the immediate final orders, it says that you shall issue an immediate final order stating the removal quarantine and you crossed out many things following that.

Does this mean that we are going to all get new IFOs which will be my fifth IFO for my single key lime tree? How many IFOs do I have to fight here because I've already filed -- I've paid \$250. I have a live court case number.

What does this mean to me after I invested my \$250?

MR. GASKALLA: A legal question but my guess is it would not change your appeal.

MS. CREW: Because it sounds to me like you're going to issue all new IFOs because you've changed the content of the IFO itself.

MR. GASKALLA: Yes.

MS. CREW: So I guess I answered my own question. I have to shell out another \$250.

MR. GASKALLA: That's a legal question. I personally would think that the appeal would stand regardless of the IFO.

MS. CREW: Okay.

UNIDENTIFIED VOICE: Excuse me. I've been through that and it does not because when I called they said one case has nothing to do with the other. \$500 I paid in and I had to do it again. So this is 700. Let's see, that 500, \$750.

MR. GASKALLA: Well, again I'm not an attorney but I'll research that and provide an answer.

UNIDENTIFIED VOICE: Well, ask the 4th District Court of Appeals because that's what they said.

MS. CREW: Then I'll go back to my first point which I failed to make. Is this a rule development workshop?

MR. GASKALLA: Yes.

MS. CREW: At what point are you going to use our comments because I understand you've already filed this rule that we're discussing here tonight, the rule has been filed, it's frozen, it's gone. What effect are our words going to have on that?

MR. GASKALLA: Well, if they're substantive comments issued at this morning's workshop or this evening that would change the provisions of the rule or the rule amendments, we'll withdraw and we will refile again.

MS. CREW: Well, I am asking you as a representative of me because you work for the people, please change this IFO so that I don't have to spend another \$250 to file another appeal under a new IFO. I want my original IFO to be valid.

MR. GASKALLA: Okay. I'll check into that.

MS. CREW: Thank you.

MR. GASKALLA: Dr. Melvin Greenstein and Anne Skully is on deck.

DR. GREENSTEIN: Hi. I really don't have that much to say because I've been to all these workshops and all the town council meetings going back the last year, year and a half, lower district court, appellate court, intervenor, administrative court, et cetera, et cetera, which I know you're all aware of.

There aren't too many people here so I guess this really doesn't make any difference. I know and you know that whatever rule legally obviously you had to have this done and unfortunately I'll issue the word I don't want to repeat myself but you may fool some of the people some of the time and some of the people all the time but you can't fool all the people all the time.

But quite frankly we really don't care. The tide I believe hopefully has turned with Judge Lanagan and we'll find out and in the other courts and now the depositions, I was supposed to give a deposition today with Adorno and Zeder along with ten or 12 other people and of course we're not fools, we know exactly why that's being done, to try to halt the class action suits.

So I don't want to get into a whole bunch of stuff because you're not listening to me anyway. We're just here so you legally have had this meeting. So I don't think anybody here really thinks anything is going to happen here tonight.

I was a major in chemistry and a minor in zoology and biology back in the ice age and it was very, very nice everything that you put up there but, you know, really it really is irrelevant.

The thing that I asked before which I would like you to -- and I'll give this for the court reporter here -- my e-mail is D-U-S-I-N-C, Dus, Inc. at Bell South dot-net and all I would like to do -- and I was serious before when I said that if you go, go back -- I'm a reasonable person, if I'm wrong -- once I thought I was wrong but I was mistaken -- that's a bad joke -- if you have found these focal trees year two years ago, whatever it is, I think it's only fair not that I believe that the Department of Agriculture is fair because I don't, I believe that it is only fair for yourselves and for us and I would like statistics, and I don't like it, I demand it, okay. I demand it and the people in South Florida demand it that all of these 1,900 -- the 1,900 foot rule all the trees that were 1,900 feet from the focal tree which is what I asked before, let's find out how many are.

I have seven trees, they're beautiful, they're great and I believe if you would just give us that information if you've done it.

If you have not done it obviously you won't have that information. I just want to be on record that I have requested it and your refusal to give it to me is tantamount to saying that, you know, the hell with you people, we don't have to give it to you.

You represent the State of Florida and the people so I assume that you're going to do it. I'm going to make that assumption.

I believe that a lot of good people, a lot of bad stories have come down the pike over the last year and a half. We all know that there's a half billion worth of class action suits possibly out there. In case the people don't know already \$1.8 million has already been spent with Greenberg and Traurig, Adorno and Zeder. I wish I had some stock in their company, in their law firms and I know them pretty well. At least I know Greenberg pretty well.

I just feel as a citizen and as a resident of Florida since 1960 that this kind of is like the Taliban of the citrus industry. That's what the deal is as far as I'm concerned.

You know you're wrong.

MR. GASKALLA: Wait a minute. Stop right there. I resent that comment.

DR. GREENSTEIN: That's fine. You can resent it.

MR. GASKALLA: I just want that in the record.

DR. GREENSTEIN: Put it right in the record. I believe this is the same type of PR that they're using right now that we're hearing now on TV from the Middle East.

You've been caught I think with your pants down because Gottwald has not given that, has not published it. You know it, I know it.

In my opinion, everybody's else opinion that's here, it's been done on purpose for \$300 million that have already been spent on a failed program. It would seem to me that Gottwald could have been put by himself in a closed room for a few months or whatever it takes and could have done that a couple of months ago, a couple of years ago or a year and a half ago.

That has not been done and it has not been done on purpose and you and I both know that it will not be published.

I want to be proven wrong, by the way, because I'm tired of all this. I really would like to be proven wrong on this. I would like to be proven wrong that 94 percent of all the citrus in the State of Florida is for juice and citrus canker doesn't mean beans to that. I would like to be proven wrong. I'd like to be -- let's not follow the money and find out who is doing this and it's not just the people of South Florida, it's the small grove owners that I feel sorry for also and I know a lot of them in Homestead and around the state.

They call me, okay, and they've been hurt very, very badly by the big citrus industry by a small amount of the large companies in the state. We think we know why this has been done.

Of course you can't turn back now and you will continue keeping this in court and, by the way, as Mike will say a little later when he gets up, this all could have been averted a year and a half ago in the attempt to make the South Florida residents blame us for keeping this in the courts and stopping you from eradicating everything. It's just the opposite. It's just double talk.

And basically all I'm asking tonight is to have that. I'd like for my own purposes I want the light to open. I want to

say you guys are all right. I really do. I really do. So I'd like if you have that information, please, if you would e-mail it to me. I'll let everybody else get up there.

I'm sorry. I really don't think you're the Taliban, it just came to me and I apologize because I lost some people in the twin towers.

MR. GASKALLA: We will get that information to you as soon as possible.

DR. GREENSTEIN: Thank you very much.

MR. GASKALLA: Anne Skully. Arch Sturaitis on deck.

MS. SKULLY: Hi. I just wanted to come here and thank you personally for something because I did speak at the Broward meeting and I specifically asked for this gentleman to be here and he's here. So I was very pleasantly surprised to see you here and thank you for your presentation.

I truly wish that you had been here a few years ago to educate people. I'm going to let the courts decide on this 1,900 foot rule.

You know, I'm just one person here so I'm not here to say the data is right, wrong, whatever. But, you know, this is a workshop on the rule making procedure and, you know, it's not here to come and bash and frankly you guys have been taking a beating for the department as a whole so and I'm sure that's very hard to do.

But in terms of the rule making procedure as a homeowner if there is a way to incorporate -- and let's say that ultimately this 1,900 foot rule does stick and it is made a rule, which I hope it doesn't but let's say it is -- I would like the right as a homeowner to have somewhere in the rule that I as an individual can hire from an approved company, landscaping company and if you guys could come up with a list of people and give them the authority because right now nobody wants to touch.

My own personal gardener, he came and removed an avocado tree a few years ago. You know, if I called him up tomorrow and said, hey, can you come take out my key lime tree he wouldn't touch it with a 10-foot pole.

But giving that license so to speak to certain companies, approved companies and enough of them to where if a private citizen calls up, you know, we can have it done because again as a homeowner, and I think what a lot of people here don't like is the fact that we don't know necessarily when you come to our property.

You know, I work and I can't be there all the time but if I do lose my tree I want the right to be there or either to be able to hire my own person to take it out. You understand what I'm saying? And, you know, give me that right because right now I have no rights for my property when it pertains to this one particular tree and that's all I'm asking is that I can hire my own company, that it's already on this pre-approved, you know, list from the state, that they'll get reimbursed from the state and I can be there, I know when they're going to be there, et cetera, et cetera, and that's all I ask is let me be able to homeowner and monitor what's happening in my own house and that's it. Thank you.

MR. GASKALLA: Thank you. Lisa Backman on deck.

MR. STURAITIS: Hi. I'm Arch Angelus Sturaitis. I'm not qualified to be much of an expert on anything and I feel a little embarrassed being up here and addressing you.

These are essentially mostly my comments and I don't mean them to be impolite and I'd appreciate if you would indulge in homeowner venting as it were more than really making suggestions for proceeding with your rule making ability.

There is nothing more suspect in the minds of all the citizens sitting here tonight than the appearance of a bullying

government, sacrificing the backyard citrus trees of South Florida homeowners, to the expedient and spurious claims made in the name of junk science, for the sole benefit and interest of big agriculture and the citrus industry lobby.

South Florida citizens insist on the asking of difficult questions, and will not bow to the blind acceptance of sweeping unjust orders issued forth from the shadows of vested interests masquerading as public service.

We are entitled to challenge the department's cleverly packaged PR styled claims and exhortations against the so-called, quote, "perils of the citrus canker". Claims cloaked in dubious science, justifying an irresponsible and unreasonable regimen that has felled more than 800,000, 1.800 thousand, million, whatever, healthy citrus trees to date cannot stand without scrutiny and debate.

The Florida Department of Agriculture is wrong to expect a quick contented popular capitulation and ready overall acceptance of their ill-conceived program of wholesale eradication for what has so far been revealed to be the state's chronically defective analysis of the problem, tentative inconclusive hypotheses, irreproducible variables, and rather peculiar self-styled methods of control based on just one faintly scrutinized, unverifiable, formerly secret, lopsided government paid study that's based strictly on observational data.

The issue of a possibly serious statewide phytopathology, with so many far-reaching implications, cannot be the sole investigation and conclusion of a single scientist, employed at the will, discretion and behest of a department that guides and is ultimately charged with the concomitant responsibility to enforce those very same conclusions.

This entire eradication program was initiated on the strength of one scientist's summary of his unpublished study before it was held up to peer review by other scientists. It is not science when one person's conclusions are held as definitive findings and proof. This is not how science is done.

Publishing irreproducible results is irresponsible and contrary to the tradition and spirits of science. Audaciously holding up a just summary of these so-called findings as bona fide scientific fact is something that approaches negligence or fraud.

It stands as a self-evident truth that science by definition relies heavily upon the use of numbers, data, quantitative assessments, precise and accurate levels of qualitative analyses, and statistical treatment of those data.

As in any science, there is always the need to demonstrate that the results observed were and are reproducible. For without evidence of reproducibility, there is no longer science but rather the subjective realm of art, where it is expected that everything is unique cannot easily be reproduced. In any scientific endeavor then, one must present at the very outset evidence of repeatability, replication, reproducibility, accuracy and precision. A scientific paper should not be permitted to be published, let alone sponsored by the state, without such evidence of at least repeatability in one's own laboratory, on a given day, with a particular piece of instrumentation.

However, repeatability or precision of analysis done in one laboratory by a single individual on a single day with a particular piece of equipment does not constitute science. For a scientific undertaking, there has to be, not only repeatability in one's own hands and laboratory, but also repeatability from one analyst and laboratory to another, from one instrument to another, from one day to another.

At the very least, good science requires a good demonstration of repeatability across the board. Good science demands a demonstration that results and findings are at the very least repeatable if not reproducible.

Disastrous claims made under the guise of science can only be fully avoided if the original investigator practices good science in this fundamental way. It is only my opinion but there is scant evidence of the primacy of good solid science in the summary of the department's sponsored investigation.

Why then do people continue to publish work that has not been suitably demonstrated to be repeatable, much less fully reproducible?

My impression is that scientists have human needs and impulses, and the highest among these is a desire for recognition, fame, success, honors, funding, and of course the Nobel prize. But I sincerely doubt that the citrus study, flawed as it is here, can ever aspire to any of that and not for heaven sake anything approaching the Nobel prize.

What is the danger of publishing something that will not be fully reproducible in other people's hands and laboratories?

First of all, one should never publish something that is wrong and that cannot be reproduced and that may have been strictly an artifact, an accident, an incorrect observation simply, creative thinking or an imaginings, or something worse. Science must be reproducible or it is not science; it is art or fiction or some self-serving exercise in deception. The literature must not waste people's time and effort or take them down roads that are dead ends, the result of something in the text that was incorrect and could not be reproduced. People may actually believe what was published, and in that basic assumption veer off on a course of research that cannot possibly work because it was founded on an incorrect premise: Namely, that a particular piece of the literature was valid and correct when in actuality it was not. Hence, publishing things that are not reproducible in one's own hands, especially without indicating so at the very start, is a waste of other people's time, effort, money, materials and even reputation. The question is how then does a piece of work like this get published, even in a reputable journal, if it was never reproducible? It is not just an originator of the publication, but the reviewers, editors, publisher, and others involved in the publishing cycle that become part of the mishap. The editor and the reviewers were not demanding enough, not rigorous enough, not suspicious enough, not scientific enough. They allowed something to appear in print as truth when indeed it has never been shown to be so. As the saying goes, when all else fails just lower one's standards. If it is really a matter of standards, where do we set the bar? It is a chain of events: The author never included reproducibility evidence, the reviewers never asked to see it, the editor and the publisher went along with the reviewer's comments and, voila, an irreproducible piece of work gets therefore published.

In my mind, it is completely preventable from the start. If we go along with the author's results without demanding further evidence like repeatability, reproducibility, statistics and repeat analyses on the same and different samples, we will see incontrovertible rubbish manage to make its way into a good journal.

I'm not a scientist so therefore I can't be sure if this study is an example of complete rubbish, but it stands without question, to any intellectually curious mind, that the fact that there have been many respectable, honest journals, often of the highest repute, that have published work that was never shown to be reproducible, that in fact have been entirely irreproducible, think only of the disaster and the controversy using questionable science with the example of cold fusion in a test tube.

The answer to this dilemma, of course, is to beseech all authors, scientists, reviewers, editors and in-house editorial staff members with an interest in this topic to be responsible and alert in their profession.

That means demanding to see, in every single paper received for publication and every report, evidence of repeat analyses, that is number of repeats, greater than three, reproducible results, at least two different analysts, two different laboratories, two different instruments, two different days, and tabulation of all that data on several samples with statistics applied, valid statistics and validated statistics, and different statistical treatments, including confidence limits, standard deviations, relative standard deviation, coefficients and so forth.

It's incredible how many otherwise excellent papers are published in each issue of the very best journals without any evidence of number of repeats, reproducibility, statistical treatment of data, tables of data and verifiable real numbers with real controls and controlled variations. As you admitted, there really wasn't any of these incorporated in this particular study.

DR. DIXON: No, I disagree. I did not admit to that. There is repeatability. I had five study sites to give that replication. That is replication.

MR. STURAITIS: And there was --

DR. DIXON: There was five study sites.

MR. STURAITIS: That's included in the report.

DR. DIXON: Yes, the report is of the results. It got handled many different ways, particularly taking each of the five study sites, clearly showing what happened with each of the five study sites alone so you could separately see the differences as well as see the similarities and then to take all five where appropriate and compress them together so you could get the one.

MR. STURAITIS: I understand that the way you answered a question to me when I asked was that there wasn't an induced --

DR. DIXON: Okay. I'm glad you brought that back up. What I thought you were trying to describe, I may have misunderstood it, was could we go out of a laboratory setting. This is out in the field, six square kilometers. Could we go in a laboratory and recreate this and I couldn't imagine how we could make a laboratory to recreate this.

MR. STURAITIS: Well, of course many things are recreated in laboratories. It's not science fiction that I'm presenting.

DR. DIXON: But the scale of six square kilometers, how can we conduct the --

MR. STURAITIS: It depends on the model. With rigorous and systemic investigation for verification, all but absent in what I could detect in the state sponsored summary, the study necessarily falls flat and worthless, in my mind lacking intrinsic credibility. Simply by acting responsibly within this basic purview, the state can by sponsoring authenticated and scientific valid research regain once again the respect of the public, funding agencies, commercial interests, academic colleagues, students and eventually the entire citrus eradication effort might become better understood and even justified.

But perhaps nothing is quite so damaging to science and to all of us as to see published as unequivocal truth something that was never shown to be reproducible, and forgive me if I'm mischaracterizing what you just described but it hasn't been generally available, this study and. I have only been able to retrieve it as a summary through a court.

DR. DIXON: As a dialogue reproducibility your preference would be if I'm in the right area is to have another group of plant pathologists go out and run five more study sites and see if they come up with similar results or --

MR. STURAITIS: That's what I would assume but, of course, this is only from the mouth of a grade 12 science graduate.

DR. DIXON: That's how it's commonly done in the biological sciences, particularly when you're out in the field it's uncommonly done. I don't want to say it's not done but it's uncommonly done.

MR. STURAITIS: All right.

As I was saying, perhaps nothing is more damaging than seeing -- nothing is so damaging to science and to all of us as to see published as unequivocal truth something that was never shown to be reproducible and that others then show was wrong, damaged or something perhaps never even actually observed but merely hoped for which in essence turns out to be negligent, or even fraudulent.

Many instances of the negligence results from investigators' laziness in not properly reviewing research related data or articles constituting prior art and previous scientific work on the topic in question, sloppiness in not managing the experiment or improperly completing the necessary documentation, or ignorance due to a lack of research training or scientific awareness on the part of the assistants of field staff.

Commonly investigators and their staff simply make errors in the conduct of the study, such as omitting a significant adverse event from the case report or log form document. When the errors are caught, investigative site personnel usually describe them as, quote, "protocol deviations". All deviations should be seen, and are in fact violations that constitute negligence. The distinction between negligence and fraud rests distinctly on whether an action is taken with the intent to deceive or mislead, i.e. when there's an adverb to describe behavior such as deliberately, purposely and knowingly. The motive for investigative fraud is almost always financial, although career advancement is a close second. The Code of Federal Regulations requires that researchers disclose any proprietary interest they have in any project under their supervision.

In addition, that disclosure must include reports of any, quote, "significant payments of other sorts," unquote, such as funds provided for consultations, speaking engagements, advisory board memberships and appointments to boards of directors. I'm not qualified to allege fraud but I certainly would like to have a disclosure on the issue of how the State of Florida researchers may be tied to their sponsors through proprietary interest or significant payments of other sorts.

It is generally up to the courts to address charges of fraud, but negligence is a direct and first responsibility of the department, after the scientific community and as a last resort the press.

We the public of South Florida depend on the press as our representative to provide a certain level of oversight.

In the present instance, over the course of the coverage of the citrus eradication fiasco, there have been glaring gaps that give the public pause. Just one example --

MR. GASKALLA: Excuse me.

MR. STURAITIS: I'm wrapping it up. This is the last point.

On July 29th -- I think this in a nutshell says it all -- on July 29th, '01, Miami Herald, Interim Editorial Pages Editor Joe Oglesby penned an editorial entitled, quote, "A Lime Tree Without Fruit Isn't Worth the Fight" in which he presented a singularly erroneous false assumption from amongst his extraordinarily impossible points of views. He wrote that citrus tree removal is supported by more than a dozen respected scientists, unquote. A statement that begs the question, who are these dozen scientists? Where is he getting this information? Is the department aware of a dozen scientists in agreement with its policy?

Curiously, such a prodigious number of scientific expertise as he so characterizes have neither been identified nor reported by the Herald reporters over the course of their past coverage, nor by the department as far as I could see. Does he presumably have access to his own special list or is he referring to a secret selected Department of Agriculture list?

The point is this. The question of eradication is far from being presently decided by the scientific community at large, and remains a seriously contentious issue. It is important to note that the current controversy hinges on just this very discrepancy; the palpable dearth of scientific consensus on the existing policy promulgated by the Florida Department of Agriculture. In fact, a review of the recent legal record, Broward County versus the Florida Department of Agriculture --

MR. GASKALLA: If you could wrap it up, please.

MR. STURAITIS: I will, last two sentences -- reveals that among the rather limited presentation of scientific testimony at the hearing presided by Judge Fleet, there remained outright contradiction, confusion and inconsistency throughout. This is what science is all about. There are certainly more questions outstanding than would be suggested by the editorial coverage so far, and more than enough questions beyond which the Department of Agriculture's infuriatingly self-serving findings and presentations have led us to believe.

But because there are questions I can't understand why there's such a wholesale full speed ahead until some of

these questions have been resolved why there weren't these workshops prior to the felling of the trees. It just seems it didn't quite make sense to me then and as this unfolds it seems to shed less light. Those are my comments.

MR. GASKALLA: Thank you very much. Lisa Backman, then Gregory Diaz.

MS. BACKMAN: I want to comment on something the gentleman before me just said. Actually having been a former reporter, the fact that the editorial writer could not find any reports in the Herald did not quote a scientist, that's the reporter's fault for not tracking down the scientist.

I have been involved in this program on the industry side since I went -- started working for the citrus industry in early '97 and I have participated in citizens' committees down here. I have participated in a couple of workshops. This has been going on for the last five years that I've been involved so the department has made every effort to invite public comment, and as I said just now, your comment about the Herald editorial mentioning that there was no scientist that they quoted in any of their published reports of this program, that's the reporter's fault for not finding any because in all the workshops that I've been to Dr. Tim Schubert, Dr. Tim Gottwald, Dr. Jim Graham and they were mentioned in Dr. Dixon's lengthy presentation as participating in this study so.

MR. STURAITIS: That's four though.

MS. BACKMAN: There was a half dozen names there.

MR. STURAITIS: What I was led to believe was there was dozens of scientists who agreed with the policy. I'm not going to quibble.

MS. BACKMAN: And I don't want to quibble either but I guess the point I'm trying to make is these guys are the world's leading authorities in this plant disease and they are the ones who have made studying it a life long career.

So I take issue with you describing their report as being junk science or dubious findings, especially after watching Dr. Dixon's exhaustive review of Dr. Gottwald's findings.

So with that my name is Lisa Backman.

I am executive director of Polk County Farm Bureau.

First of all, I want to thank you folks for taking the time to come down here. I realize everybody works, everybody has families that they need to look after and coming down here at night and spending this much time to learn about the program says a lot about your level of interest and I just want you to know that I appreciate that and certainly when I go back to talk to my board of directors and the times I've been here I've gone back to tell them the level of interest that folks down here have in the program and we really appreciate your cooperation and your understanding.

I know it's difficult. We don't like having to go through this program any more than you guys do but it's a reality that we face and I have to point out I represent in my active membership -- I represent -- there's about 800 active farmers in my membership. Most of them are citrus growers.

In case you don't know where Polk County is, it's in the center of the state between Tampa and Orlando. Citrus is our biggest crop.

In fact, just to kind of drive home the point of what Polk County citrus means to you, there's a good chance you probably drank it in the juice that you drank this morning because Polk County processes into juice more citrus than any county in the nation.

UNIDENTIFIED VOICE: Maybe like most of the people here many of us are drinking pineapple juice.

MS. BACKMAN: Point's taken.

So as you can imagine the citrus industry is a big employer in Polk County. In fact, it employs 23,000 people and takes up the lion's share of our biggest industry which is the production and sale of fiber. In fact, two out of ten Polk County residents work in that industry in Polk County.

UNIDENTIFIED VOICE: Do you care about us?

MS. BACKMAN: Absolutely.

MR. GASKALLA: Miss Backman has the podium, please.

MS. BACKMAN: What I want you to know is do not kid yourself that if citrus canker is allowed to continue to spread that it won't have any impact on the citrus industry, it could cripple it, and as Dr. Dixon's report showed losses could mount to over 50 percent.

The juice yields and juice oranges could drop 10 percent or more which could wipe out the sliver of profit that growers are realizing now, and don't kid yourself that what does or doesn't happen in South Florida doesn't affect us, doesn't affect my citrus grower members and the tens of thousands of people they employ, because it does.

This program has gone on long enough, as Dr. Dixon pointed out that it has had some successes with the 1,900 foot parameter and the Hillsborough County case is an example of that because residents and growers in Hillsborough and Manatee County I might add cooperated with the program. They haven't found disease there in months and years and in Manatee County in fact they're about to lift the quarantine restriction on moving fruit there. So it does succeed.

But the program continues here and, in fact, now it has moved up into the Indian River growing area of the state and now has been found in De Soto County within the last week.

It is creeping into the heart of the citrus growing regions of our state and it scares us to death. That is what my growers talk about. Those are the questions they have of me when I talk to department officials. It could wipe out this industry quite literally and quite quickly once it gets going.

So I guess in closing what I want to say is what's at stake here in South Florida is the -- if you still are drinking orange juice it's the wholesome orange juice you drink in the morning and it's the healthy Florida economy that you are used to.

What's in stake in Polk County and around the state are the livelihoods of the hundreds of citrus growers I represent and the tens of thousands of employees that they employ and then statewide the thousands of citrus growers who earn their living from the land and the hundreds of thousands of people that they employ and the ripple effects would reach you guys here, too.

UNIDENTIFIED VOICE: It's a serious problem. There's no question about it.

MS. BACKMAN: It's a serious problem and it's not something we take lightly. Thank you for your time. I thought your questions tonight were great, you know. Several of them were very well said and I learned an aspect of the program that I hadn't before so.

UNIDENTIFIED VOICE: Because it's serious we need to be very vigilant and I think that's the only reason why we're taking up our time to be here and why in our very limited capacities that we are not the front line. We are depending on other experts out there who really have a better handle.

MS. BACKMAN: So are we.

UNIDENTIFIED VOICE: And yet we see that there's kind of a blind leading the blind and it scares us even more than it scares you.

MS. BACKMAN: But I think you should have faith in the scientists who have made this a lifelong study.

MR. GASKALLA: Wait a minute. Stop. Let's try to keep things back on track. If you guys need to talk, you know, after the meeting or want to step outside.

UNIDENTIFIED VOICE: Why are there opposing forces? You have the scientists all on your side tonight and even the newspaper have opposing views.

MR. GASKALLA: Well, that's why we're here tonight and if there was an opposing scientist that had a study that contradicted Dr. Gottwald's study or anything else on this program I would like to see it.

I mean believe me that's what I've got to rely on. I've got to rely on hard data. Whether it's published or not I don't care but I've got to have --

UNIDENTIFIED VOICE: But it is on record. Dr. Whiteside is on record.

MR. GASKALLA: Show me Dr. Whiteside's study about this disease. He has a paper that was published in the early 1990's, late 1980's. That was an opinion paper in a non-peer review journal.

UNIDENTIFIED VOICE: But what does Dr. Got --

MR. GASKALLA: Dr. Gottwald has a study that was done over two years, has been reviewed by an Ohio state professor, a professor of epidemiology in Eden, Scotland plus peer review in the state.

UNIDENTIFIED VOICE: I've been to the library so many times to see something published by him, nothing, and they said that there just wasn't enough proof in his work.

MR. GASKALLA: Gregory Diaz going once, going twice. Barry Silver. And thank you, Miss Backman, by the way, and David Lord on deck and that is the last card I have and if you wish to speak, Jack. You want to speak?

UNIDENTIFIED VOICE: Yes, please.

MR. GASKALLA: Anyone else after Jack? Okay, Mr. Silver.

MR. SILVER: Since you're anxious to hear from Dr. Whiteside, he hasn't done a study but he did review the study and his synopsis was something to the effect that he found the study of Dr. Gottwald to be mathematical gobbledygook and scientific nonsense. There you have Dr. Whiteside's opinion.

MR. GASKALLA: In other words, he didn't understand it.

MR. SILVER: No, I think he understood it very well but I take it then that anyone who disagrees with the findings of Dr. Gottwald you would say didn't understand it? I mean he understood it. He analyzed it, he reviewed it and he said in his deposition under oath that was his conclusion. He had a lot of reasons why he gave the conclusion. It's very well substantiated.

MR. GASKALLA: Well, I'd like to hear a little bit more than he thought it was gobbledygook. I'd like to hear some specific criticisms of the paper.

MR. SILVER: Have you read Dr. Whiteside's deposition?

DR. DIXON: I listened to Dr. Whiteside's deposition.

MR. SILVER: I'm talk to Mr. Gaskalla.

MR. GASKALLA: No.

MR. SILVER: I can't imagine for the life of me why you haven't read it if you're so interested in what he has to say. Ask the attorneys who are spending all of your money for a copy of Dr. Whiteside's deposition and you'll see an analysis.

MR. GASKALLA: Well, your characterization of gobbledygook was just interesting to me.

MR. SILVER: That's his word. That word I remember. I wanted to ask you a question.

How will the behavior of the Department of Agriculture change under the new program if it's approved as opposed to how the Department of Agriculture acted under the past citrus canker eradication program?

MR. GASKALLA: Is that a question?

MR. SILVER: Yes.

MR. GASKALLA: We have hired a public relations firm to provide some customer service training for all of our employees, some training on how to deal with people that are angry or under stress or duress.

We've also provided some in-house training on the same subject area and have basically told our employees that they must be kind, generous and understanding when dealing with the public and if they are not then this is no place for them to be employed.

MR. SILVER: Is that the only way that the program would change under the new rules that you're proposing now as opposed to the old rules?

MR. GASKALLA: Well, the IFO delivery procedures have changed as indicated in the rule amendments but basically we want to do all we can to work with the public and not against the public, but at the same time carry out the program.

MR. SILVER: And how would the IFO change?

MR. GASKALLA: It will be delivered either by certified mail or if that's not possible it will be posted on the property in a conspicuous place.

MR. SILVER: Other than those changes in the delivery system of the IFO and the courteousness of the workers, are there other changes that would take place under the new rule as opposed to what happened under the old program?

MR. GASKALLA: There might be some differences in strategy on which areas we cut trees in first depending upon what input we get back from the scientists as to where would it be best to put our resources, but basically that's it.

MR. SILVER: The 1,900 foot rule would remain unchanged, is that right?

MR. GASKALLA: Correct.

MR. SILVER: If you exceeded authority, if a judge found that you exceeded your authority before how would it be that this new program wouldn't exceed your authority? What's different about it?

MR. GASKALLA: Well, you're getting into the legal realm now and those are questions I can't answer.

MR. SILVER: Okay. Do you know how much damage occurs to the average person when their tree is cut down? Do you have any way of estimating that or calculating that?

MR. GASKALLA: I'm not sure that that's a fair question to ask. I mean you're painting it with a pretty broad brush there. I can't answer that question.

MR. SILVER: Do you have any estimate of how much damage has been caused to the people of Florida by having their trees cut down, all the trees that have been cut down in the eradication program so far?

MR. GASKALLA: I know the number of trees that have been cut down.

MR. SILVER: But do you have any way of calculating what the damages are to the people whose trees were cut down?

MR. GASKALLA: That's probably something that could be calculated, yes.

MR. SILVER: Have you ever attempted it?

MR. GASKALLA: We have considered it but we have not done any detailed calculations.

MR. SILVER: In your general calculations what figure would you place on that to the best of your ability to estimate?

MR. GASKALLA: Well, it depends on a variety of factors. It would be hard to make any one characterization.

MR. SILVER: So you don't know.

MR. GASKALLA: I'm just saying that it would depend on the circumstances.

MR. SILVER: Well, you know the circumstances, right? Are there some factors that you're unaware of in the program that you need to be made aware of that would help you to calculate that?

MR. GASKALLA: You give me the exact circumstances and I'll try to give you an answer.

MR. SILVER: Okay. From the inception of the citrus eradication program how much damage has been caused to the people whose trees were cut down?

MR. GASKALLA: Well, we're talking in circles here. I want you to give me a particular property, particular type of tree.

MR. SILVER: I'm talking about all the trees that have been cut down under the program since it started.

MR. GASKALLA: I can't do that. The short answer is I can't do that.

MR. SILVER: Can you estimate it? Is it closer to a million, a billion, a hundred billion? Do you know if it's closer to any of those numbers?

MR. GASKALLA: I can't give you that answer here tonight.

MR. SILVER: Do you know how much money has been spent by the attorneys that you've hired to defend the citrus eradication program?

MR. GASKALLA: I could find that out. I don't have that figure here tonight.

MR. SILVER: If the new rule that you're proposing now, if that's declared invalid ultimately by the administrative law judge will you propose another rule again or will you call it quits after that?

MR. GASKALLA: I can't answer that question here tonight either. That will depend upon a lot of different circumstances.

MR. SILVER: How many defeats do you have to suffer in court before you'll decide to call it quits and give up on this program?

MR. GASKALLA: I can't answer that question. Do you have any comments specific to the rule amendments?

MR. SILVER: I think these are applying to the rule amendments. Do you know what set of facts exist now that justify the declaration of the state of emergency in Florida?

MR. GASKALLA: Well, citrus canker is a serious threat to citrus production here in this state. That's the foundational issue.

MR. SILVER: What objectively is there that leads you to believe that the criteria for declaring with a state of emergency has been met by the threat of citrus canker?

MR. GASKALLA: It's an agricultural emergency.

MR. SILVER: Based on what?

MR. GASKALLA: Based upon the information that's in this notebook here as far as the science behind citrus canker, the research that's been done, the damage potential that the disease has.

MR. SILVER: What set of facts in general leads you to believe that there's an emergency?

MR. GASKALLA: Again we're talking in circles. I think I've answered the question as best I can.

MR. SILVER: Can you quantify the potential threat to the citrus industry?

MR. GASKALLA: Well, it's not just the commercial citrus industry. It's to citrus production in this state in general and the preponderance of the evidence that has been assembled by the department indicates that this disease has the potential to greatly harm citrus production in this state.

MR. SILVER: What I'm trying to find out is what is the potential, in other words, what are the odds that this potential will become realized and if it is worst case scenario how much money are we talking about that could potentially be lost by the citrus industry?

MR. GASKALLA: I'm sorry, you got here late because a lot of that was covered in Dr. Dixon's Power Point as to the impact this disease has had on other parts of the world and the potential impact that it has in Florida.

MR. SILVER: I guess you weren't listening. Could you tell me how much potential impact there is to the citrus industry, worst case scenario?

DR. DIXON: In the manual there are two publications by IFAS and economists and one by Kevin Keck and I forget, Florida Citrus Mutual. I'm not an economist so I can't give you precise numbers. There was one figure Kevin Keck I believe spoke of of cost to industry. The loss to industry would be \$345 million a year and that's with a 5 percent loss of crop.

MR. SILVER: So that's the worst case scenario.

DR. DIXON: No, I just said that under the situation of choosing five percent is the cost of 345. With evidence that's come in from Brazil and Argentina which they didn't do that analysis on something like Valencia.

We do know that for the young grove 50 percent crop loss, not 5 percent, 50 percent. So is that the maximum? I don't know. But it could be for certain groves, certain situations 50 percent. I don't know what the number's going to become in terms of the translated -- I don't have those equations myself to do that.

The other thing is also those countries who have had it longer and they have not eradicated is they've made that switch from having the more susceptible variety such as grapefruit, lemons, limes and they just -- either they don't grow it now where at one time it may have been a major proportion of their crop production. They just removed them from their market and switched over to less susceptible varieties.

So there is a cost. An economist could probably tell you it's a cost of loss of opportunities and I don't know that a calculation has been made on that, but again an economist could figure that out, what does that cost and the time delay.

We don't today grow grapefruit on a piece of property. We grow grapefruit isn't going to work because it's so susceptible. I'm going to grow Valencia or I'm going to grow tangerines, it's going to take him the cost of removing the whole grove and if he cannot damage his irrigation system and then coming back in with the new crop and it will take -- depends how much he can push it and how well the soil is and those things and the weather. Three or four years to start getting a new crop off the less susceptible. There's two, three, four years of no income.

MR. SILVER: I understand your point. I'm just trying to get a dollar amount.

DR. DIXON: All I can do is describe the circumstances and allow you to properly see the impact.

MR. SILVER: Dr. Gottwald indicated in one of his studies that eventually the canker spreading it will reach a point where it can't be eradicated. How much would that point be and have we reached it yet?

MR. GASKALLA: We certainly haven't reached it yet and I don't know that anyone can draw a line in the sand and say exactly when that point would be. We hope that we never reach it.

MR. SILVER: Do you have any grasp or formulas or figures that would explain how you came to the conclusion that 95 percent of the time that they eradicate within 1,900 feet they will remove all the diseased trees? Is there some graph that you have that would explain how you arrive at that number 1,900 feet?

DR. DIXON: I don't have that graph. Tim produced back a couple of years --

MR. SILVER: Tim Gottwald?

DR. DIXON: Yes. There's one table that has been produced for quite awhile and as with the early results one of the sites, and I believe it captured at that time what would be 90, 95, 99 percent.

MR. SILVER: So one of the sites that bore out that 95 percent of the time they'd remove all the canker if they cut to 1,900 feet. That's where you're getting that figure from.

DR. DIXON: That was the first time we had it, yes.

MR. SILVER: You don't have that data with you?

DR. DIXON: Not with me.

MR. SILVER: What are the other four sites? What do they say?

DR. DIXON: They can say -- and I'm just trying to answer your question -- where a similar table has not been produced by Tim -- this is his first publication. He has two more anticipated to go after all the things that can be elicited from the set of data and it may be that he's going to approach that in a subsequent one. The other ones are such that the distances are less than 1,900 feet and the distances are more than 1,900 feet for the same sort of approach.

MR. SILVER: What are the distances to capture 95 percent in all five studies?

DR. DIXON: I don't know. I haven't seen it calculated out so I don't know.

MR. SILVER: Has it been calculated?

DR. DIXON: If it's been calculated I haven't done it. I haven't seen it.

MR. SILVER: Do you know what the average is for all five sites?

DR. DIXON: No, I don't.

MR. SILVER: Do you know why he would have relied on one site and not all the other sites?

DR. DIXON: That one site was one that had as I remember in our discussion earlier not with you but with Tim is that it was a site that had -- it was a large site, large area, surface area. It had a large number of trees. It had a nice isolation. It had the wind events that are easily identifiable. It had a lot of things that to an epidemiologist made it optimal, something that he felt was representative of what was happening in the real world.

MR. SILVER: You said originally that he has five studies. Do you know why his study only referred to three sites?

DR. DIXON: The manuscript covers all five sites. There are results of all five sites.

MR. SILVER: Dr. Gottwald bases his findings on an average of all five sites.

DR. DIXON: Well, as I answered I believe to the gentleman earlier, there were parts of the manuscript that specifically go into a feature of one site. A feature common to all five sites would show a graph showing exactly what happened in each of the five sites and then even a composite that pulls all five sites together. He covers it.

MR. SILVER: If you presented this for an hour and a half or so now, about two hours down in West Palm to show the scientific basis I guess for the 1,900 foot rule, why would it be that you wouldn't bring the data that showed how you calculated 1,900 feet?

DR. DIXON: What I was doing tonight was attempting to make a digest of the manuscript written by Tim Gottwald and other scientists as requested by other people.

MR. SILVER: But the entire rule that the department has been defending, this 1,900 foot rule, how is it that you didn't bother bringing anything which would support that 1,900 foot rule?

DR. DIXON: I think the presentation supports the 1,900 feet.

MR. SILVER: But you have no calculations that show --

DR. DIXON: What was said in the manuscript was the 1,900 feet was felt to be the best balance of the resources available and what we found is a distribution of the disease.

MR. SILVER: That's what I'm trying to ask here is the 1,900 feet, was that arrived at because you just came up with this number and felt this would be a good balance or is it based on some estimate, mathematical formula which gets you to 1,900 feet?

DR. DIXON: Gets us close to 1,900 feet.

MR. SILVER: Is the 1,900 foot rule based on some number that you came up with as a balance or is it based on a mathematical formula?

DR. DIXON: It's both. It is both.

MR. SILVER: If it's based on both why is there no graph that you brought and nothing that anybody can look at that will show how you got to the calculation of 1,900 feet?

DR. DIXON: I don't have that data.  
I cannot make that analysis.

MR. SILVER: How can you possibly stand here and say 1,900 feet is what the science is showing and not have any data that will allow anyone to figure out how you got to 1,900 feet?

MR. GASKALLA: The conclusion, and it's written in the manuscript, I think it said the distance changed from 1,900 to 1,940 feet based upon the data that Dr. Gottwald used in that report.

MR. SILVER: I'm just astounded that you come here and support the 1,900 foot rule and bring no graph, no model, no data that allows anyone to see how you calculated 1,900 feet.  
How could you possibly leave that out?

DR. DIXON: I didn't have that information to present for you. I think what I was trying to do is characterize that it is certainly at least 1,900 feet and again bear in mind that this is a conservative distance.

If we had the ability to indeed determine what focal tree created what secondary tree it would assuredly be more than 1,900 feet, and I don't think anyone wants that.

MR. SILVER: The legislature passed Florida Statute 581.184 based on certain findings of fact. Those findings of fact included that citrus canker eventually kills a tree. Is that true?

DR. DIXON: I guess you didn't see the presentation. It can kill trees.

MR. SILVER: Is it true to say that citrus canker will eventually kill a tree?

DR. DIXON: No. Again, what you didn't hear in my earlier presentation was that I identified specifically where it was known to kill trees.

MR. SILVER: I want to know if it eventually does it.

DR. DIXON: Under the right circumstances yes. Under common circumstances in Florida will it kill trees, no.

MR. SILVER: So the statement that citrus canker eventually kills the tree is false, correct?

DR. DIXON: No, it is true.

MR. SILVER: If I said flu eventually kills a human being, is that true or false?

DR. DIXON: It depends on what we have as observations.

MR. SILVER: No, it doesn't, sir. Flu doesn't eventually kill.

MR. GASKALLA: You need to be a little more specific in addressing these rule amendments. We're 20 minutes past 9. I'll stay here till 11 if I have to but I would just appreciate if you'd try to be a little more succinct and to the point.

MR. SILVER: If I could get a straight answer. I'm almost done. I only have a few more questions.

Is it true that every tree within 1,900 feet of an infected tree will automatically develop canker?

DR. DIXON: Automatically, what do you mean by that?

MR. SILVER: Will every tree within 1,900 feet develop citrus canker?

DR. DIXON: If we have enough time and they are susceptible there could be the circumstances where that could happen. There could be circumstances where it may not happen.

MR. SILVER: Does citrus canker pose a threat to the health of the people at work? You don't have to wait too long. Look at your literature, it says no. But the Florida legislature says yes. Does citrus canker pose a threat to the safety of the people of Florida?

DR. DIXON: What I can address is what --

MR. SILVER: Has it posed a threat to the safety of the people of Florida?

MR. GASKALLA: Citrus canker poses a threat to the health, safety and welfare of this state.

MR. SILVER: How does it pose a threat to the health of the state?

MR. GASKALLA: Because citrus canker if it's allowed to spread will greatly impact the citrus industry to the point that there'll be a reduction in the food supply.

MR. SILVER: You mean like we're seeing now where all the trees are eradicated?

MR. GASKALLA: I'm not even going to respond to that.

MR. SILVER: So you believe that's a true statement that the citrus canker poses a threat to the health of the people in Florida even though your literature says the opposite.

MR. GASKALLA: I think I answered the question.

MR. SILVER: How does citrus canker pose a threat to the safety of the people of Florida?

MR. GASKALLA: Well, safety and welfare, I'll lump those two together and say that the economy in this state is based to a great deal on agriculture and if agriculture suffers then there'll be a domino effect on other parts of the economy and there will be some impacts.

MR. SILVER: Any threats to the economy of Florida constitutes a threat to the safety of Florida in your opinion?

MR. GASKALLA: To the welfare.

MR. SILVER: What about safety?

MR. GASKALLA: I don't know, maybe not. You're wearing me down.

MR. SILVER: Were there any lab tests performed on all the infected trees?

MR. GASKALLA: Yes.

MR. SILVER: On every one of them?

MR. GASKALLA: Yes.

MR. SILVER: How many infected trees are still up now?

MR. GASKALLA: I think somewhere around 1,500 maybe.

MR. SILVER: Why haven't these infected trees been cut down?

MR. GASKALLA: We're cutting them every day.

MR. SILVER: How many newly infected trees are being discovered on a monthly basis?

MR. GASKALLA: I don't know. I'll get that data when I respond to the question earlier that was posed about where these diseased trees are being found.

MR. SILVER: Is it about ten a month, a hundred a month?

MR. GASKALLA: It varies by area.

MR. SILVER: Approximately in all of Florida about how many newly infected trees are discovered a month, about ten a month, a hundred a month, a thousand a month?

MR. GASKALLA: How about down here in South Florida?

MR. SILVER: Hundreds of newly infected trees discovered every month?

MR. GASKALLA: It could be over a hundred a month depending on where they're surveying.

MR. SILVER: Thank you very much. I don't have any other questions.

MR. GASKALLA: Thank you. Mr. Lord and then Jack Hare.

MR. LORD: Hi. I'm David Lord. I have a website called [www.citruscanker.com](http://www.citruscanker.com). I'm glad to see Dr. Dixon is here.

DR. DIXON: We've corresponded.

MR. LORD: I wanted to begin by something that perhaps this late shouldn't be discussed but the maximum visibility 107 days, are you aware what the maximum visibility was in the Broward site?

DR. DIXON: No. All I'm reporting --

MR. LORD: Given the published manuscript there's a minus eight days. Do you have any explanation for that?

DR. DIXON: No, I don't.

MR. LORD: Do you understand how the 107 days was calculated?

DR. DIXON: Yes. I didn't pick that up.

MR. LORD: They calculate the coefficient for each of the labs and the one that's highest become the maximum visibility. Does minus eight days make any sense to you?

DR. DIXON: No.

MR. LORD: I wanted to pick up on lesion ages because lesion ages is critical to the back calculation of the initial incident date. Would you agree with that statement?

DR. DIXON: Yes.

MR. LORD: Did lesion ages -- what was the minimum lesion ages in the study? On the manuscript, and perhaps I have this wrong, I see five days, seven days.

DR. DIXON: You can pick it up, a trained pathologist can pick it up in that period of time.

MR. LORD: Am I reading it correctly on the manuscript?

DR. DIXON: I don't remember.

MR. LORD: Can I? I'm reading it down here these two columns.

(Thereupon, a discussion was held off the record, after which the following proceedings were held:)

MR. LORD: I'm really here for information and this helps me to understand how the study was done so this is not the minimum age.

DR. DIXON: No, it's not age. It's what of the 30 day time period, there being 25 time periods. It's indicating which time period in those two columns.

MR. LORD: Okay. So you don't know minimum lesion age used in the study.

DR. DIXON: What was the youngest lesion age in any one of them found in the study, no.

MR. LORD: Do you know the oldest?

DR. DIXON: Offhand the oldest would be the one that was used to start the study.

MR. LORD: I don't understand.

DR. DIXON: They found one lesion that by its positioning on the tree and counting back growth flushes they established the date for it.

MR. LORD: It could be the last one they discovered. If it was three years old that would be the first, the beginning of the study, right? I mean you could find a lesion tomorrow that was six years old and that would back date everything.

DR. DIXON: Yes.

MR. LORD: Would that be correct?

DR. DIXON: I think so.

MR. LORD: Well, you're familiar with the procedure. If they found one tomorrow that was six years old that would pre-date all known lesions in the study --

DR. DIXON: Then they would have to recalculate.

MR. LORD: Recalculate all results in the one site.

DR. DIXON: I would think they would.

MR. LORD: Is it complicated, the question?

DR. DIXON: No, I was agreeing with you.

MR. GASKALLA: Let me ask you a question Mr. Lord. How many questions do you have about this study tonight?

MR. LORD: Let me wrap it up and say four minutes.

MR. GASKALLA: That's fine. If there were a lot of them --

MR. LORD: I think four minutes because we're at 9:30 already. You wrote to me that the tabulated results are not generated from the complete and full set data. This is your letter to Mr. Gottwald. It appears that this question centers around tabulating results not generated from the complete and full set of data. Indeed this has been the case. Let me read it to you.

MR. GASKALLA: We've had a lot of correspondence.

MR. LORD: January 2000 showing the tabulated results. Would you concur with that?

DR. DIXON: I'm wondering what was the general day of that correspondence, David.

MR. LORD: August 15, 2001. I have the letter here.

DR. DIXON: I'm just trying to put it in context date that you were looking at it.

MR. LORD: It was --

DR. DIXON: The analyses had not been as I recollect talking with Tim in trying to answer these sorts of questions was that that particular time the data set had not been completely verified and so the analyses were still preliminary.

MR. LORD: It says the date, excuse me, it appears it centers around tabulated results not generated from the complete and full set of data. So it does refer to sets of data and not results not generated from the complete. I assume complete is something later on had to be collected.

MR. GASKALLA: I guess the question I have is what's your point?

MR. LORD: I'm just saying is this a correct statement?

MR. GASKALLA: But I mean what's your point to the statement because the full study's been made available now.

MR. LORD: You asked me what my point is and you're answering without understanding my point. If it's not complete data, if you publish the result not on complete data, that means as of January 2001 there's something

more to be collected. If it was not full it's partial. I'm just asking do you agree that it was partial selective?

MR. GASKALLA: I may have misstated it. My understanding was that he had not completely analyzed the data that he had before him at that point.

DR. DIXON: I think that's the case. It was still where Tim wouldn't say that it was completely analyzed and that was if it was for the letters to the editor. Now with this manuscript he's saying I'm done.

MR. LORD: When did collection complete?

MR. GASKALLA: When was the collection complete of the data? Is that your question? I don't know.

MR. LORD: Was it after Commissioner Crawford's initiation of cutting the trees in June of 1999 or did you continue the study after that?

DR. DIXON: No, it was finished before then.

MR. GASKALLA: I think all the data was collected at that point, just all the analysis had not been completed.

MR. LORD: We're talking about 2001, January 2001.

MR. GASKALLA: Yes.

MR. LORD: So you're not agreeing with the letter that you wrote about a month ago. Indeed this has been the case, the complete and full set of data.

MR. GASKALLA: I said I may have misstated that. What I meant to say was that the data was all in the house, it just hadn't all been analyzed to the point of a final manuscript.

MR. LORD: I mean to me you're just putting things in different shoeboxes or time slots in the past. I can pick up a thousand points and put them in boxes in a day. Is this basically what you're doing?

DR. DIXON: I don't follow that.

MR. LORD: You're taking data and you're parsing it back into prior windows. I used shoeboxes as places in the past and I can take a thousand points and put them in these different categories quite simply.

DR. DIXON: Right.

MR. LORD: One more minute. How accurately estimated -- if you have eight months could it be say five to seven, nine months?

DR. DIXON: Well, I think if you go to each pathologist you'll find different levels where they'll place it but it will be like they'll typically identify six to eight months as an example.

MR. LORD: So a couple of months. I think this is my final question.

I show two focal trees for that period. The first period -- if they have shifted to the following period if you shifted those focal trees to the following period you would have no results for that particular temporal -- that particular time slot.

Would that be a correct statement?

DR. DIXON: In other words, you took those two trees.

MR. LORD: Let's say there's a 15 day gap, error. There's a 50 percent chance of being in the next window. I mean there'd be a 50 percent chance those trees would be in the next window.

DR. DIXON: There's a chance it could be, yes, I agree.

MR. LORD: If there's a 15 day error mathematically it's a 50 percent error.

DR. DIXON: But I don't know that it's a 15 day.

MR. LORD: I know if it was a 15 day, a 50 percent chance it would lose all the results from that.

DR. DIXON: From the other time slot.

MR. LORD: If you have no focal trees how do you calculate? You can't calculate travel.

DR. DIXON: Part of it is also referring back to the oldest leaf's age found across all five study sites.

MR. LORD: Okay. That's it. Thank you.

MR. GASKALLA: Thank you. Jack Hare.

MR. HARE: Well, I guess you guys are glad to see me because I'm last, right?

MR. GASKALLA: Pretty much.

MR. HARE: A different subject. I wasn't going to speak but I thought it would be appropriate really to hear both sides of it. I really appreciate it, the meeting in Palm Beach today because we got to hear from the grove owners for the first time. It's a shame they didn't attend our meetings, the workshops before down in Broward and Dade. It would have been very informative.

What I got out of it though or rather what I heard really concerns me and what I heard from the groves today in Palm Beach is that, yes, we can live with canker but, there's also a but, but do not have the dollars to spend or wish to spend our own on treatments that would drive us out of a borderline business. It is less costly for us to eradicate using taxpayer than to spend our own on treatments they have admitted that they can.

MS. BACKMAN: I take issue with that. I did not hear one grove owner say that.

MR. GASKALLA: I think this is Jack's characterization of what he heard, not necessarily shared by others. So proceed.

MR. HARE: That's what I heard and I'll be glad to discuss that with you later or after I'm finished here. What I did hear from them was that you, the residents in South Florida, must give up your trees, your rights, your heritage in order that we may save our livelihoods, our rights.

Our businesses are more important than yours. Our losses are greater than yours.

The reason I came up here was I think Drew Meyers said it. We need to cooperate. We need to work together. There seems to be no middle ground here. We need to make one.

What I'm proposing is for you to consider subsidizing these people with the money you're spending on eradication for this treatment, the annual carrying charges on \$300 million alone that we spent on this program over seven years taking 2 million trees, et cetera, et cetera -- you know the numbers better than I do -- that even a very conservative annual carrying charge of 20 percent would account for \$60 million per year that you could have spent to assist these people in treatments and left us alone.

I think we would have contributed. I think everybody out here would have willingly given \$100, \$50. Every taxpayer in Dade and Broward County probably would have come out to about \$10 a piece to provide your treatment and you could have left us alone.

Would you please look at that? I'm making a request here, Richard, that if you could look at if that is a possibility to subsidize, to tax us.

MR. GASKALLA: Well, you got to keep in mind that wouldn't be my decision to make.

MR. HARE: I know but you need to look at it and as part of --

MR. GASKALLA: There seems to be a real reluctance in state government and at the federal government to have ongoing subsidies for any industry at this point.

MR. HARE: Excuse me, but I just saw that the U.S. Department of Agriculture agreed to subsidize I forget how many billions of dollars over the next ten days and it was a very controversial subject. The free trade agreement's a very controversial subject. That's all we're asking, to look at it instead of being sloughed off so to speak.

MR. GASKALLA: That would be a better request for you to make to your local legislative delegation because that's not something that I can look at it all day long.

MR. HARE: This is USDA. The majority of it is funded by the federal government. The taxpayers of Florida are paying for this.

I think Susan Booker represented from Palm Beach said it very well in the Miramar meeting when she says by your mismanagement, by your violating the rules, et cetera, that you have made every taxpayer in Florida, and she should have said in the United States of America, liable for these class actions and lawsuits that could run well over a billion dollars.

Take the annual carrying charges on a billion dollars you're talking 200 --

MR. GASKALLA: You're talking money that's not in the bank yet.

MR. HARE: I know but you have got to consider it and you apparently aren't concerned about it and you should be. Our legislators are. My question is would you please look at it. I think I didn't get up here to get into a spitting match up here.

MR. GASKALLA: I made a note.

MR. HARE: We appreciate you coming and I thank you very much.

MR. GASKALLA: Thank you. I hate to ask this but is there anyone else?

MR. STURAITIS: Since this is a workshop if you could entertain one more comment. The professor mentioned that there wasn't a reasonable model for exploring some of the ways of controlling and reproducing these results and actually isolating some of the vectors rather than just observing the end result and not really understanding, in fact, what the root cause is. Forgive me. That sounds like a very basic observation to me. I mean the other gentleman talked about flu and incorrectly he said he was I guess querying whether flu can kill. Sure it can under the right circumstances and much the same way in a healthy tree canker may not compromise a tree.

If it's somehow damaged after a hurricane I suppose logically, you know, by extension it seems that it would necessarily damage it but we don't know some of these other precipitating factors. I guess I'm dumbfounded because I don't see evidence that we're either excluding or we're accounting for, controlling everything from facetiously we're talking about birds and bees as carriers, I don't know, rodents as

carriers. You know, somehow it seems that wind and rain are very prominent but we haven't really isolated that.

If they can do modeling of nuclear tests on a super computer without necessarily having to take out a chunk of the planet and safely arrive at some factors of whether the assumptions are valid or if we can model a moonshot before we take it.

UNIDENTIFIED VOICE: I hate to tell you, both of those problems are substantially similar.

MR. STURAITIS: Perhaps I'm a simple minded person. I can't profess to know what is possible but it seems that model making is the whole pillar of science, isn't it? I mean could we not look at bonsai trees as an example and arrange them in a way --

MR. GASKALLA: I think I see where you're going here but I'll tell you this in dealing with this disease far longer than I ever wanted to or thought I would. All the evidence points out that this disease spreads and it spreads rather quickly under the right conditions and windy, rainy weather contributes to that.

It might be that people contribute. It might be that rodents, birds, even some unknown factor contributes to the spread but we see the spread, you know, in the study. We see it day-to-day when we're out there. So we've got to address that.

It appears that 1,900 feet of exposed tree around the focal points does that. That's the bottom line. And until somebody gives me something different that I can rely on as having some scientific validity that's what we've got to use as our foundational approach. I don't like it. The grove owners, I've had to condemn over 500 acres of groves over the last two weeks. It's no more pleasant than dealing with a homeowner.

UNIDENTIFIED VOICE: True, and I don't mean to be flippant. If this problem was discovered in the groves as such would you spearhead this effort to chop down the grove trees to prevent the spread to the homeowners' trees? I tend to think not.

MR. GASKALLA: We would factor that in. I mean that would be a part of the decision making process but a big part of this program is to protect the fruit supply.

People might say if the citrus industry dries up and blows away tomorrow that's not going to be the end of the food supply but it's a symptom of a bigger problem.

What if we get hoof and mouth disease next and we don't have the wherewithal to do what we need to do?

UNIDENTIFIED VOICE: Unquestionably the whole point though is we know a lot more about hoof and mouth disease than we do know about some of the factors in citrus canker.

DR. DIXON: It would go out three kilometers.

MR. GASKALLA: Let's do this. Unless anybody has an objection let's end the workshop and we'll continue this discussion as we wrap up.

UNIDENTIFIED VOICE: I'll leave it to whoever else.

MR. GASKALLA: Anybody else? Thank you.

MR. LORD: I'm going to make one last comment. It seems you're going to have to cut down a lot of healthy trees. This exposed thing is not a biological term.

DR. DIXON: That's where you stop things at a point in time, David.

MR. LORD: They're healthy trees you got to come down it's your belief and that's where it goes to the courts to figure out what that healthy tree person versus infected, and I'm hoping they're considered healthy trees and those homeowners get compensation. Thanks.

MR. GASKALLA: Thank you. All right. We're going to say omen, workshop ended, over, complete. We'll have a transcript of this available. We'll publish it on our website if anybody would like to take a look at it.

(Thereupon, the proceedings were concluded at 9:50 p.m.)

COURT CERTIFICATE WITH ACKNOWLEDGMENT STATE OF FLORIDA

I, SUSAN J. REICH, Registered Professional

Dated this 29th day of October, 2001.

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SUSAN J. REICH, RPR

Notary Public, State of Florida

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